

Criteria 3

Research, Innovations and Extension

Key Indicator – 3.3 Research Publication and Awards

3.3.2 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years

S.No	Name of the Book	Page No
1	Signals and Systems	1
2	Computer networks and switching	7
3	Information and cyber security	17
4	Applications of nano materials in construction practices	22
5	Digital Signal Processing	25
6	Communication Theory	27
7	Digital Communication	33
8	Fundamentals of 3D Printing	35
9	Recent innovations and Research Advancements in Engineering	44
10	Characterization of the hydroxyapatite obtained from chicken egg shell applied in bioceramics	47
11	Employing IoT and Machine Learning to Minimize Industrial Structure Resource Utilization	48
12	E-Governance Services using Artificial Intelligence Techniques	49

13	A Novel orientation approach in artificial intelligence for mounting robots utilizing three dimensional framework of the broadcast tower	50
14	An efficient intelligent systems for low-power consumption zigbee based wearable device for voice data transmission.	51
15	AI based battery life estimation of electric vehicle.	52
16	AI based chatbox for physically challenged people	53
17	Automated hyperparameter tuned deep learning enabled reactive power distribution system.	54
18	Automated short term load prediction in power systems using collision bodies optimization with multi head deep learning model.	55
19	Design of electrical to circular dielectric resonator antenna for microwave imaging application	56
20	A prescribed paperless clinic to view the patient's documents	57
21	A hybrid security model for the protection of diagnostic text data in medical images over internet of things.	58
22	An automated glaucoma detection from fundus images based on deep learning network	59
23	Machine learning based cardiovascular disease prediction	60
24	An intelligent voice recognition wheelchair system for disabled persons.	61
25	Coyote optimization algorithm for enhancing connectivity and energy efficiency in WSN	62
26	Cyber forensic investigation using network security	64

27	Deep learning structural designs for IoT data analytics.	65
28	Image Colorization	66
29	Intelligent cursor control system for disabled people	67
30	Essentials of wireless sensor networks	68
31	Artificial Intelligence	69
32	Animal repellent system for smart farming using artificial intelligence and deep learning.	70
33	Brain tumor diagonation using machine learning	71
34	Extraction and plotting of special and temporal features of EEG rhymes.	72
35	Facial manipulation detection using U-net	73
36	Real time facial recognition based attendance system using computer vision and machine learning	73
37	Image processing based on optical character recognition with text to speech for visually impaired	74
38	Improving accessing efficiency of cloud storage using deduplication and feedback schemes.	75
39	Land registration using block chain method	76
40	On demand service system using SOA	77
41	Virtual cloth fitting in 2D using Deep learning	77
42	Vehicle collision detection and alert system using VOLVO v3 Approach	78

43	Mouth movement recognition using artificial intelligence.	78
44	Design of hybrid deep learning approach for Covid-19 infected using image segmentation.	79
45	Data obfuscation technique in cloud security	80
46	Information and communication technology for intelligent systems.	81
47	VR based underwater museum of Andaman and Nicobar islands.	83
48	Cryptography & network security	84
49	Computer architecture & organization	85
50	Ascertainable privacy-perpetuate profound research based on federal	86
51	Aadhar based secure biometric voting machine	86
52	An advanced information security system text based graphical password scheme using cloud computing	87
53	Lora integrated forest fire detection using ARDUINO	87
54	Automation system for irrigation using electronic devices and sensors.	88
55	Fakenews detection using natural language processing.	88
57	Keyloggers software implementation and detection	89
58	Streamlined representative privateset intersection on externalsingseparate data series	90
59	Finger recognition and gesture based virtual keyboard.	90

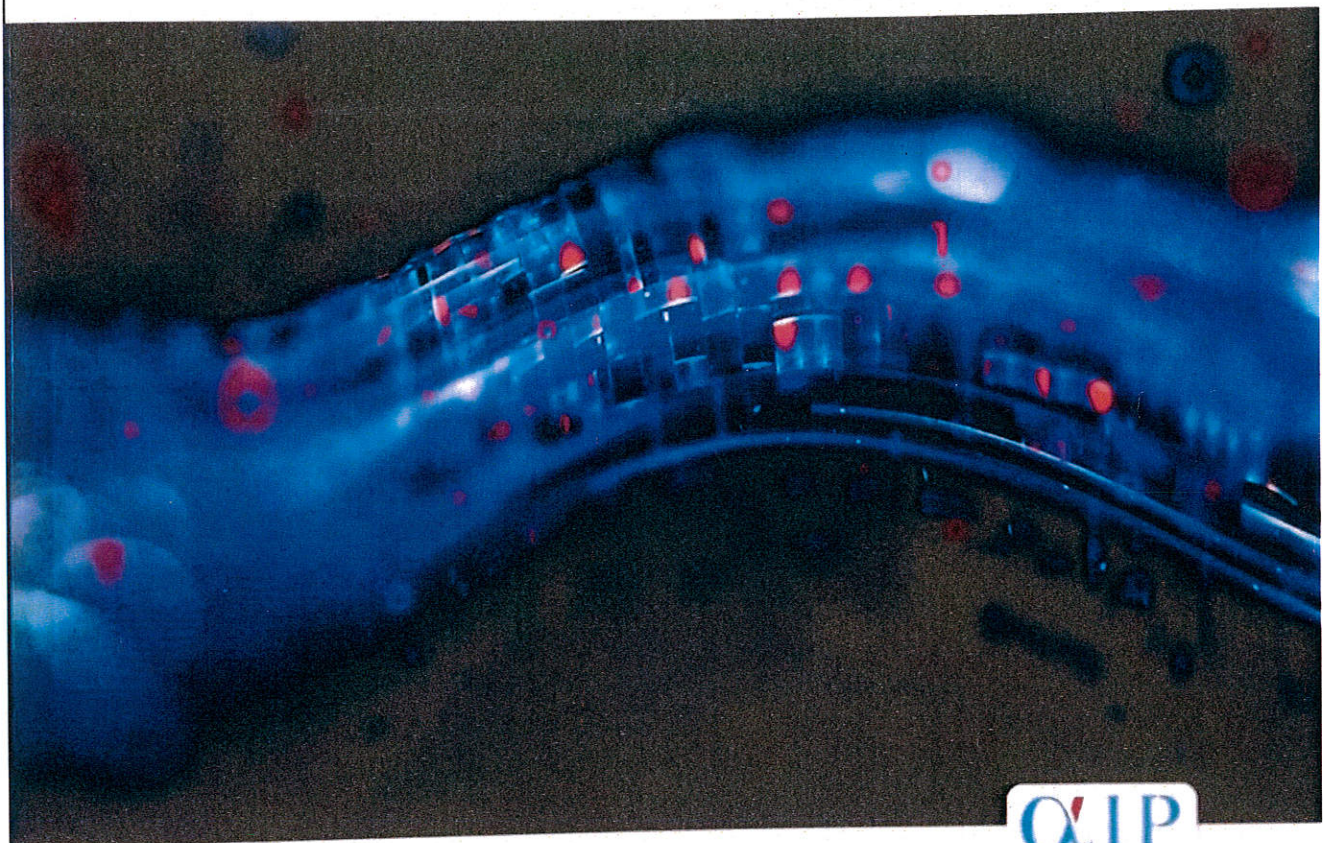
60	Prediction of heart disease diagnosis using machine learning	91
61	Detection of facial expression in real time using machine learning	91
62	WEB based android online auction application	92
63	Constitution of curb through scrambling of data	92
64	Women safety system using BEACONS signal in infrastructureless area	93
65	Real time fire detection and video alerting system using open-cv techniques.	93
67	Enhancing and evaluating the privacy of the user in BITCOIN transaction	94
68	Prediction of breast cancer stages using machine learning algorithm	94
69	Detection of leaf diseases and medication	95
70	Encoded polymorphic aspects of clustering	96
71	Combined approach of IoT, SDN, and edge cloud computing for efficient network resource use and IoT analytics	97
72	Problem solving & Python programming	98
73	Object oriented analysis and design	106
74	Hand gesture recognition to control various application using distance based analysis and computer vision	107
75	A three layer privacy protection using cloud storages	107

76	Efficient energy and data transmission using lava leach and hash algorithm in image feeding and recognition	108
77	Animal intrusion detection system in farm/forest corridor areas.	108
78	Budding prognostication of chronic condition through artificial intelligence using native bayes classifier	109
79	An android application to alert people and fire station via notification	109
80	Online billing and stock management system	110
81	Trainee information management system	110
82	An efficient dynamic learner behavior analysis using eye gaze detection	111
83	Implementation of sentimental analysis in messaging system using spark.	111
84	Indian air quality analysis and prediction	112
85	Privacy characterization and quantification in data publishing	112
86	A secured biometric data approach in cloud computing	113
87	Smart vehicle controller using IoT	113
88	Vision based object, gesture and speech recognition using AI	114
89	Priority queue based mechanism in vehicular ad hoc network	114
90	Fisherman border security using IoT	115


91	Predictive analysis of crop production	115
92	Real time authentication for entrance and security surveillance using IoT	116
93	Stoch market prediction using artificial neural network	116
94	Liver and Heart disease prediction using machine learning	117
95	Copy depletion in graph mining: Approaches, analysis and evaluation	117
96	Scrutiny facile as a service cache via deniable KP-ABE	118
97	Customized automation using modular system	118
98	Prediction of Parkinson disease by best accuracy using supervised classification machine learning approach.	119
99	Intellectual automobile document verification by barcode generation using IoT	119
100	Characterizing and predicting early reviewers for effective product marketing on E-commerce websites.	120



SIGNALS AND SYSTEMS



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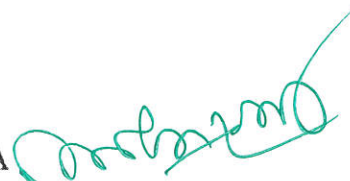



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Table of Content


UNIT NO.	DESCRIPTION	PAGE NO.
1.	CLASSIFICATION OF SIGNALS AND SYSTEMS	
1.1	Introduction	1
1.2	Standard Signals-Continuous Time Signals	8
	1.2.1 Unit Step Function	8
	1.2.2 Unit Ramp Function	10
	1.2.3 Unit Impulse Function	11
	1.2.4 Sinusoidal Signal	13
	1.2.5 Real Exponential Signal	13
	1.2.6 Complex Exponential signal	14
	1.2.7 Rectangular Pulse Function	15
1.3	Standard Signals-Discrete Time Signals	16
	1.3.1 Unit Step Sequence	16
	1.3.2 Unit Ramp Sequence	17
	1.3.3 Unit Impulse Sequence	18
	1.3.4 Sinusoidal Sequence	20
	1.3.5 Real Exponential Sequence	20
	1.3.6 Complex Exponential signal	21
1.4	Classification of Signals	22
	1.4.1 Continuous-time and Discrete-time Signals	22
	1.4.2 Even and Odd Signals	24
	1.4.3 Periodic Signals and Nonperiodic Signals	24
	1.4.4 Deterministic Signals and Random Signals	29
	1.4.5 Energy Signals and Power Signals	30


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UNIT NO.	DESCRIPTION	PAGE NO.
1.5	Systems	36
1.6	Classification of Systems	38
	1.6.1 Continuous-Time and Discrete-Time Systems	39
	1.6.2 Linear and Nonlinear Systems	41
	1.6.3 Time-Variant and Time-Invariant	44
	1.6.4 Causal and Noncausal Systems	47
	1.6.5 Stable and Unstable Systems	49
2.	ANALYSIS OF CONTINUOUS TIME SIGNALS	
2.1	Introduction	53
2.2	Fourier Series for Periodic Signals	54
2.3	Properties of Continuous-Time Fourier Series	64
2.4	Fourier Transform	67
	2.4.1 Properties of Fourier Transform	75
2.5	Laplace Transforms and Properties	96
	2.5.1 Properties of Two-Sided Laplace Transform	103
	2.5.2 Properties of Unilateral Laplace Transform	107
3.	LINEAR TIME INVARIANT CONTINUOUS TIME SYSTEMS	
3.1	Introduction	
3.2	Impulse Response	111
3.3	Solution of Differential Equation	114
3.4	Convolution Integral	116
3.5	Impulse Response of Interconnected Systems	124
	3.5.1 Systems in Parallel	
	3.5.2 Systems Connected in series	131
		132


Dr. R. PALSON KENNEDY, M.E., Ph.D.
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UNIT NO.	DESCRIPTION	PAGE NO.
4.	ANALYSIS OF DISCRETE TIME SIGNALS	
4.1	Baseband signal Sampling	135
4.2	Sampling Theorem	136
4.3	Discrete-Time Fourier Transform	147
4.4	Properties of Discrete-Time Fourier Transform	155
4.5	Z Transform & Properties	174
5	LINEAR TIME INVARIANT- DISCRETE TIME SYSTEMS	
5.1	Introduction	197
5.2	Solution for Difference equation	
	5.2.1 Natural Response (zero-input response)	199
	5.2.2 Forced Response (Zero State Response)	202
	5.2.3 Total Response	206
5.3	Impulse Response	208
5.4	Convolution Sum	212
5.5	DT Systems Connected in Series and Parallel	224
	REFERENCES	228


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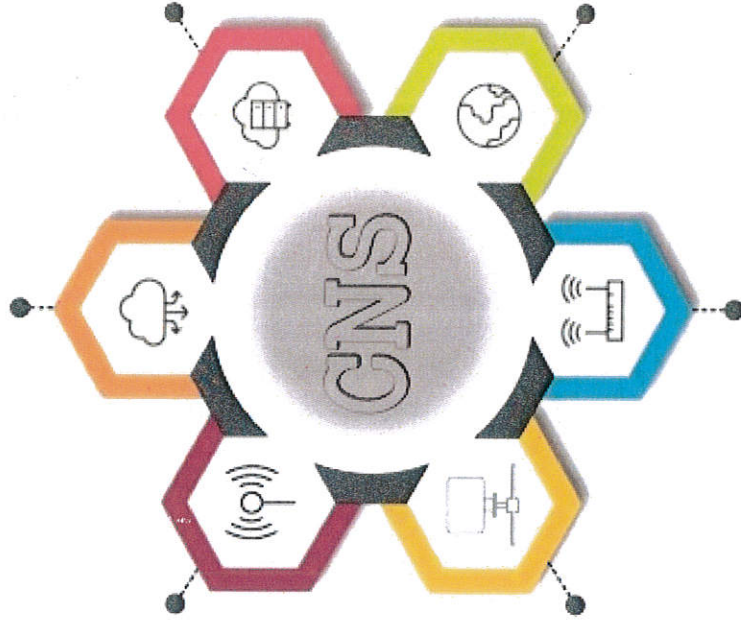
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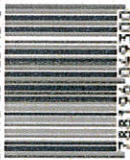
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CONTENTS

CHAPTER	TITLE	PG NO
CHAPTER 1	BASICS OF COMPUTER NETWORKS	1-62
1.1	INTRODUCTION	
1.2	COMPONENTS OF COMPUTER NETWORK:	
1.3	FEATURES OF COMPUTER NETWORK	
1.4	COMPUTER NETWORK ARCHITECTURE	
1.5	COMPUTER NETWORK TYPES	
1.6	NETWORK TOPOLOGY	
1.7	LAYERED ARCHITECTURE	
1.8	DIFFERENTIAL PCM	
1.9	DELTA MODULATION	
1.10	PREDICTIVE LINEAR CODING	
1.11	MULTIPLEXING	
1.12	MULTIPLEXING OF DIGITAL SIGNALS	
1.13	LINE CODES	
1.14	POLAR SIGNALING	
1.15	TECHNIQUES FOR DATA ENCODING	
1.16	PULSE SHAPING	
1.17	INFORMATION THEORY	
CHAPTER 2	PHYSICAL LAYER & DATA LINK LAYER	63-96
2.1	GUIDED MEDIA	
2.2	UNGUIDED TRANSMISSION	
2.3	NETWORK SWITCHING	
2.4	PHYSICAL LAYER AND ITS RESPONSIBILITIES	
2.5	DATA-LINK AND ITS RESPONSIBILITIES	
2.6	ERROR DETECTING TECHNIQUES	
2.7	ERROR CORRECTION	
2.8	DATA LINK CONTROLS	
2.9	ADDITIONAL DATA LINK LAYER PROTOCOLS	
CHAPTER 3	NETWORK LAYER AND ROUTING	97-106
3.1	NETWORK LAYER INTRODUCTION	
3.2	NETWORK LAYER ROUTING	
3.3	INTERNET PROTOCOL	
3.4	ERROR REPORTING	
3.5	ROUTING METRICS AND COSTS	
CHAPTER 4	SWITCHING SYSTEMS	107-138
4.1	INTRODUCTION	
4.2	ELEMENTS OF COMMUNICATION SWITCHING SYSTEM	
4.3	CLASSIFICATION OF SWITCHING SYSTEM	
4.4	REQUIREMENTS OF SWITCHING SYSTEM	


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- 4.5 SWITCHING TECHNIQUES
- 4.6 SPACE AND TIME SWITCHES
- 4.7 STS AND TST SWITCHING

CHAPTER 5 COMPUTER CONTROLLED SWITCHING SYSTEMS

139-150


- 5.1 INTRODUCTION
- 5.2 CALL PROCESSING
- 5.3 SIGNAL EXCHANGE DIAGRAM
- 5.4 STATE TRANSITION DIAGRAM
- 5.5 SWITCHING SYSTEM SOFTWARE ORGANIZATION
- 5.6 SOFTWARE CLASSIFICATION AND INTERFACING
- 5.7 MAINTENANCE SOFTWARE
- 5.8 DATA BASE/ADMINISTRATION SOFTWARE
- 5.9 ELECTRONIC EXCHANGES IN INDIA

CHAPTER 6 TRAFFIC ENGINEERING

151-181

- 6.1 INTRODUCTION
- 6.2 TRAFFIC PATTERN
- 6.3 UNITS OF TELEPHONE TRAFFIC
- 6.4 MODELLING OF TRAFFIC
- 6.5 THE BIRTH AND DEATH PROCESS
- 6.6 LOSS SYSTEMS
- 6.7 DELAY SYSTEMS
- 6.8 TELEPHONE NETWORK ORGANIZATION
- 6.9 NETWORK MANAGEMENT
- 6.10 NETWORK LEVELS
- 6.11 ROUTING PLAN
- 6.12 NUMBERING PLAN
- 6.13 SIGNALLING TECHNIQUES
- 6.14 SIGNALLING CLASSIFICATION
- 6.15 CLASSIFICATION
- 6.16 COMMON CHANNEL SIGNALLING

REFERNCES


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INTRODUCTION TO MACHINE LEARNING ALGORITHM

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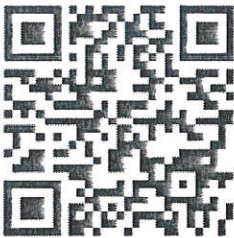
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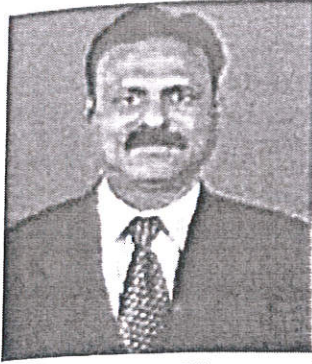
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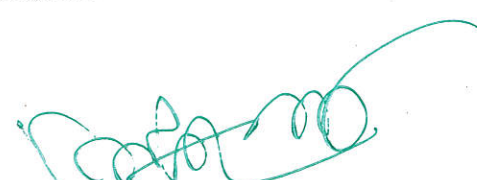


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Contents

1. Introduction	5
1.1 Introduction.....	5
1.1.1 Machine Learning: What is it?.....	5
1.1.2 Sources for Machine Learning.....	8
1.1.3 Different Types of Machine Learning	11
1.2 Recognizing Input-Output Parameters.....	11
1.2.1 Forms of Learning.....	12
1.2.2 Input Vectors.....	14
1.2.3 Outputs.....	15
1.2.4 Training Programs	16
1.2.5 Noise	17
1.2.6 Performance Assessment	17
1.3 Learning Necessitates Prejudice	17
1.4 Example Requests.....	21
2. Logic Functions.....	24
2.1 Illustration.....	24
2.1.1 Boolean Calculus	24
2.1.2 Diagrammatic Illustrations.....	26
2.2 Boolean Function Classes.....	27
2.2.1 Clauses and Terms	27
2.2.2 DNF Operations	29

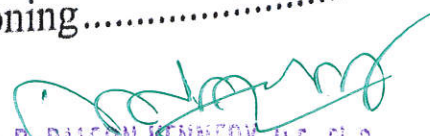
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2.2.3	CNF Operations	33
2.2.4	Lists of Decisions.....	33
2.2.5	Voting and Symmetric Functions	35
2.2.6	Functions that are Linearly Separable.....	35
2.3	In Summary.....	36
3.	Deep Learning.....	38
3.1	A Brief Overview of Neural Networks	38
	The Neural Network Education Process.....	40
3.2	Neural Networks That Feed Forward	50
3.3	Sequence Data: Recurring Neural Networks	61
3.4	Pre-trained Models	67
3.4.1	General Transfer Learning Process.....	68
3.4.2	Fine-Tuning Entails	69
3.5	Assessing the Hyper parameters	78
3.5.1	Assessment of the Model	78
3.5.2	Over parameter Adjustment.....	79
3.5.3	Verification by Cross-validation.....	80
3.5.4	Restrictions	83
4.	Supervised Learning.....	85
4.1	Introduction.....	85
4.2	Model of Classification.....	87
4.3	Steps for Learning Classification.....	89
4.4	Usual Algorithms for Classification	91

4.4.1	kNN, or the k-nearest Neighbor	91
4.4.2	Tree of Decisions	101
4.4.3	Model of Random Forests	119
4.4.4	Vector Machines for Assistance	123
4.5	Regression	134
4.6	Typical Regression Algorithms	136
4.6.1	Regression Using Simple Lines	137
4.6.2	Regression with Multiple Lines	149
4.6.3	Regression Analysis Assumptions	151
4.6.4	Issues with Regression Analysis	152
4.6.5	Linear Regression Model's Accuracy	154
4.6.6	Model of Polynomial Regression	158
4.6.7	Analysis of Logistic Regression	160
4.6.8	Calculating the Highest Probability	164
4.7	In brief	165
5.	Unsupervised Learning	170
5.1	Overview	170
5.2	Learning Under Supervision vs. Unsupervised ..	170
5.3	Unsupervised Learning Application	172
5.4	Reconciling	173
5.4.1	As a Machine Learning Task, Clustering	174
5.4.2	Various Kinds of Clustering Methods	175
5.4.3	Techniques for partitioning	178

3


Dr. R. PALSON KENNEDY, M.E., Ph.D.
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 PERI INSTITUTE OF TECHNOLOGY
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5.4.4	K-Medoids	190
5.4.5	Clustering Based on Hierarchy	194
5.4.6	Methods Based on Density - DBSCAN.....	198
5.5	Using the Association Rule to Find a Pattern	198
5.5.1	Common Terms Defined.....	199
5.5.2	Rule of the Association.....	201
5.5.3	The Association Rule of Apriori Algorithm .	203
5.5.4	Construct the Apriori Principle Guidelines...	205
5.6	Overview.....	210
6.	Real-World Data and Techniques for ML	212
6.1	Types of Real-World Data and ML Techniques.	218
6.1.1	Variations in Real-World Data Types.....	218
6.1.2	Methods for Artificial Intelligence	222


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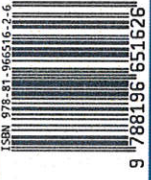
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CONTENTS

CHAPTER	TITLE	PG NO
CHAPTER 1	CYBERSECURITY INTRODUCTION	1-59
1.1	INTRODUCTION	1.1
1.2	LAYERS OF CYBER SECURITY	1.2
1.3	IMPORTANT OF CYBERSECURITY	1.3
1.4	HISTORY OF CYBERSECURITY	1.4
1.5	CYBERSECURITY TECHNIQUES	1.5
1.6	IDS	1.6
1.7	ACCESS CONTROL	1.7
1.8	STEGANOGRAPHY	1.8
1.9	TYPES OF CYBER ATTACKS	1.9
1.10	TYPES OF CYBER ATTACKERS	1.10
1.11	CYBER SECURITY PRINCIPALS	1.11
1.12	SECURITY STANDARDS	1.12
1.13	DATA SECURITY CONSIDERATION	1.13
1.14	CYBER SECURITY CHALLENGES	1.14
1.15	CYBER SECURITY RISK ANALYSIS	1.15
1.16	MITM ATTACKS	1.16
1.17	SECURE E-MAIL SERVICE PROVIDER	1.17
CHAPTER 2	BASIC INFORMATION THEORY	60-89
2.1	INTRODUCTION	2.1
2.2	EVOLUTION OF INFORMATION THEORY	2.2
2.3	CONVENTIONAL ANOMALOUS EXPLOIT DETECTION	2.3
2.4	CLASSICAL INFORMATION THEORY	2.4
2.5	DISCRETE, NOISELESS COMMUNICATION AND THE CONCEPT OF ENTROPY	2.5
2.6	BINARY SYMMETRIC CHANNEL	2.6
2.7	FOURIER ANALYSIS	2.7
2.8	APPLICATIONS OF INFORMATION THEORY	2.8


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CHAPTER 3 CYBERCRIME

90-115

- 3.1 INTRODUCTION
- 3.2 CYBERCRIME CHALLENGES
- 3.3 REASONS BEHIND CYBERCRIME
- 3.4 CLASSIFICATION OF CYBERCRIME
- 3.5 TYPES OF CYBERCRIME
- 3.6 EMAIL SPOOFING
- 3.7 SPAMMING
- 3.8 SALAMI ATTACK/SALAMI TECHNIQUE
- 3.9 CYBERCRIME: THE LEGAL PERSPECTIVES
- 3.10 CYBERCRIMES: AN INDIAN PERSPECTIVE
- 3.11 HACKING IN INDIAN LAW(S)
- 3.12 CYBERCRIME ON EXTENDED ENTERPRISE
- 3.13 CYBERCRIME ERA:

CHAPTER 4 CYBERTERRORISM

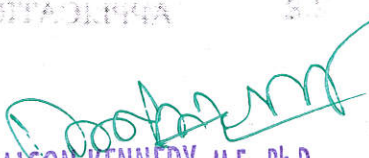
116-144

- 4.1 INTRODUCTION
- 4.2 TYPE OF CYBERTERROR CAPABILITY
- 4.3 HISTORY
- 4.4 INTERNATIONAL ATTACKS AND RESPONSE
- 4.5 CYBERCRIME EXAMPLE
- 4.6 CYBERSTALKING
- 4.7 CYBERBULLYING
- 4.8 CYBERCAFE AND CYBERCRIME
- 4.9 BOTNET
- 4.10 ATTACK VECTOR

CHAPTER 5 CYBERCRIME MOBILE AND WIRELESS DEVICES

145-175

- 5.1 INTRODUCTION
- 5.2 PROLIFERATION OF MOBILE AND WIRELESS DEVICES
- 5.3 MOBILITY TRENDS


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- 5.4 CREDIT CARD FRAUDS IN MOBILE AND WIRELESS COMPUTING ERA
- 5.5 SECURITY CHALLENGES POSED BY MOBILE DEVICES
- 5.6 REGISTRY SETTING FOR MOBILE DEVICES
- 5.7 AUTHENTICATION SERVICE SECURITY
- 5.8 ATTACKS ON MOBILE
- 5.9 MOBILE DEVICES AND ORGANIZATIONAL SECURITY
- 5.10 MOBILE DEVICE MANAGEMENT ORGANIZATIONAL MEASURES
- 5.11 ORGANIZATIONAL SECURITY POLICIES AND MEASURES IN MOBILE COMPUTING ERA
- 5.12 LAPTOPS
- 5.13 SPY PHONE SOFTWARE

CHAPTER 6 TOOLS AND METHODS USED IN CYBERCRIME


176-209

- 6.1 INTRODUCTION
- 6.2 PROXY SERVERS
- 6.3 PHISHING
- 6.4 PASSWORD CRACKING
- 6.5 KEYLOGGERS
- 6.6 VIRUS AND WORMS
- 6.7 BACKDOORS
- 6.8 DOS AND DDOS ATTACKS
- 6.9 SQL INJECTION
- 6.10 BUFFER OVERFLOW
- 6.11 ATTACKS ON WIRELESS NETWORKS
- 6.12 PII

CHAPTER 7 CYBERSECURITY: ORGANIZATIONAL IMPLICATIONS

210-221

- 7.1 INTRODUCTION


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- 7.2 PRIVACY DIMENSIONS
- 7.3 COST OF CYBER CRIME AND IPR ISSUES: LESSONS FOR ORGANIZATIONS
- 7.4 ORGANIZATIONAL CONSEQUENCES OF SOFTWARE PIRACY
- 7.5 WEB THREATS ORGANIZATIONS: DAGERS
- 7.6 CLOUD COMPUTING SECURITY AND PRIVACY IMPLICATIONS
- 7.7 KEEPING PEOPLE PRIVACY SAFE IN THE WORKPLACE

CHAPTER 8 CYBERSPACE AND LAW AND CYBER FORENSICS

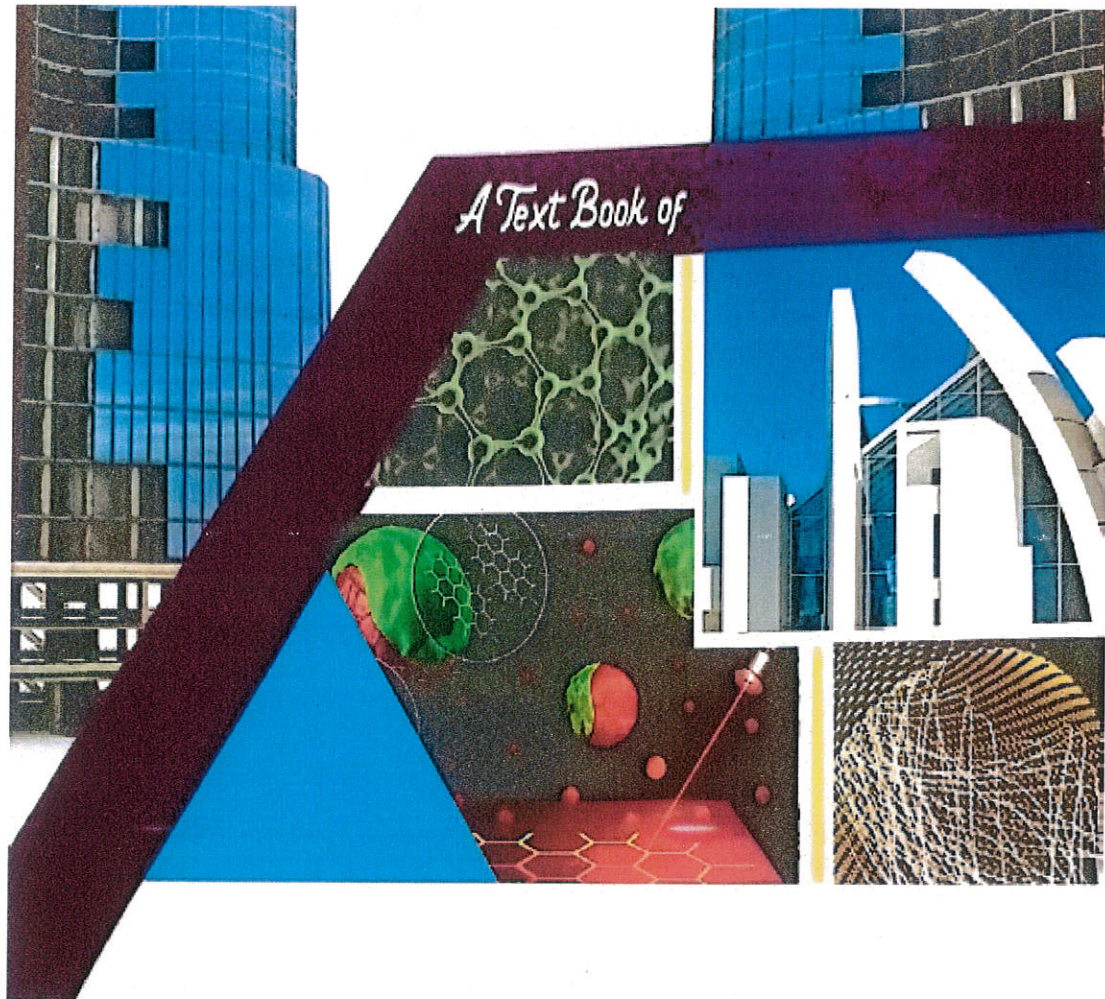
222-238

- 8.1 INTRODUCTION
- 8.2 REGULATIONS
- 8.3 NIST COMPLIANCE
- 8.4 ROLE OF INTERNATIONAL LAWS
- 8.5 THE INDIAN CYBERSPACE
- 8.6 POLICY ON NATIONAL CYBERSECURITY
- 8.7 CYBER FORENSICS
- 8.8 DIGITAL FORENSIC ANALYSIS
- 8.9 REQUIREMENTS FOR COMPUTER FORENSICS
- 8.10 EMAIL FORENSICS APPLICATIONS
- 8.11 DIGITAL FORENSIC LIFECYCLE
- 8.12 FORENSIC EXAMINATION

ACRONYMS

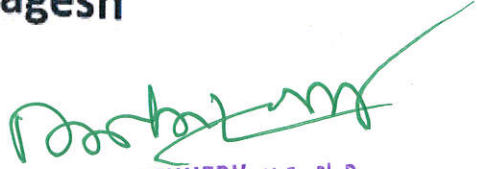
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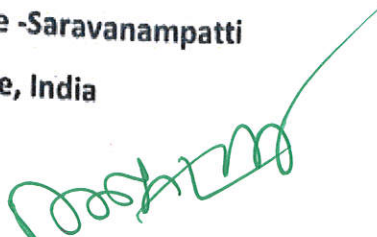
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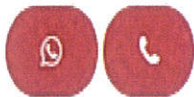
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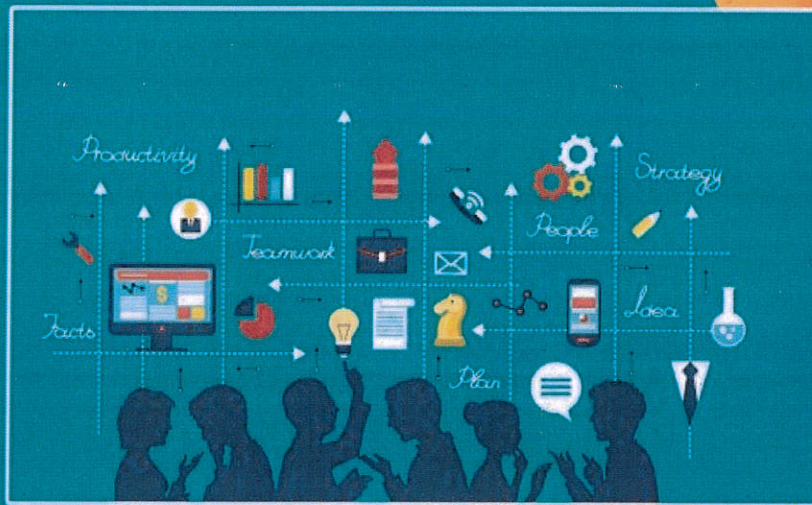
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COMMUNICATION THEORY



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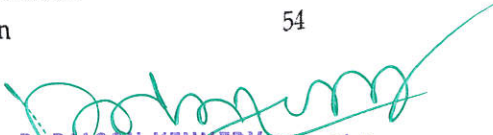

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Table of Content

UNIT NO.	DESCRIPTION	PAGE NO.
I	AMPLITUDE MODULATION	
1.1	Introduction to Basic Communication System	1
1.2	Modulation	2
1.3	Amplitude Modulation	3
	1.3.1 Mathematical Representation	3
	1.3.2 Analysis of Amplitude Modulation Carrier Wave	4
	1.3.3 Frequency Spectrum of AM Wave	5
	1.3.4 Modulation Index (m)	6
	1.3.5 Amplitude Modulated Carrier Wave	6
	1.3.6 Power Relations in an AM wave	7
	1.3.7 Frequency spectrum of AM	8
	1.3.8 Limitations of Amplitude Modulation	9
1.4	AM Transmitters	9
1.5	Types of AM Modulation	13
	1.5.1 DSB-SC Modulation	13
	1.5.2 SSB Modulation	21
	1.5.3 VSB Modulation and Demodulation	25
1.6	Comparison of AM Modulation Systems	27
1.7	Super Heterodyne Receiver	27
1.8	Hilbert Transform	32
	Solved Problems	34
II	ANGLE MODULATION	
2.1	Introduction	49
2.2	Frequency Modulation	49
2.3	Narrow Band FM Modulation	53
	2.3.1 FM Demodulation	54


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2.4	Wide-Band FM	56
	2.4.1 Generation of Wideband FM signals	57
2.5	Comparison of Various Modulations	65
2.6	Phase Modulation	66
	Solved Problems	70

III


RANDOM PROCESS

3.1	Introduction	79
	3.1.1 Basic Terms in Probability Theory	79
3.2	Random Variables	81
	3.2.1 Classification of Random Variables	82
	3.2.2 Distribution and Density Function	83
	3.2.3 Statistical Averages of Random Variables	84
	3.2.4 Types of Random Variables	86
3.3	Central Limit Theorem	89
3.4	Random Process	90
3.5	Classification of Random Process	92
	3.5.1 Stationary Process	93
	3.5.2 White Noise Process	95
	3.5.3 Wide-Sense Stationary Process (WSS)	97
3.6	Power Spectral Density (PSD)	97
3.7	Ergodic Process	98
3.8	Gaussian Process	99
3.9	Transmission of a Random Process Through a LTI Filter	102
	Solved Problems	103

IV

NOISE CHARACTERIZATION

4.1	Introduction: Noise	115
	4.1.1 External Noise	116
	4.1.2 Internal Noise in Communication	118
4.2	Noise Figure	123
	4.2.1 Noise Figure for Cascaded Stages	125
4.3	Noise Temperature	


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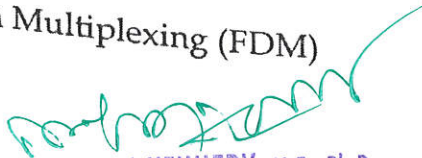
4.3.1	Equivalent Noise Temperature	125
4.3.2	Noise Equivalent Bandwidth	126
4.3.3	Noise in Cascade Systems	126
4.4	Representation of Narrow Band Noise	131
4.5	Noise in AM Receivers using Envelope Detection	133
4.6	Capture Effect, Threshold Effect Pre-Emphasis and De-Emphasis	138
	Solved Problems	144

V

SAMPLING AND QUANTIZATION

5.1	Sampling Theory	147
5.1.1	Frequency-Domain Description of Sampling	147
5.2	Types of Sampling	
5.3	Quantization	151
5.3.1	Types of Quantizers	153
5.3.2	Quantization Noise	154
5.3.3	Non-Uniform Quantization (Robust Quantization)	155
5.3.4	Logarithmic Companding of Speech Signal	158
5.4	Pulse Code Modulator	162
5.5	Time-Division Multiplex System (TDM)	166
5.6	Pulse Amplitude Modulation	168
5.7	Pulse Width Modulation	170
5.8	Pulse Position Modulation	172
5.9	Comparison between PAM, PWM, and PPM	174
5.10	Frequency-Division Multiplexing (FDM)	174
	Solved Problems	179

REFERENCE


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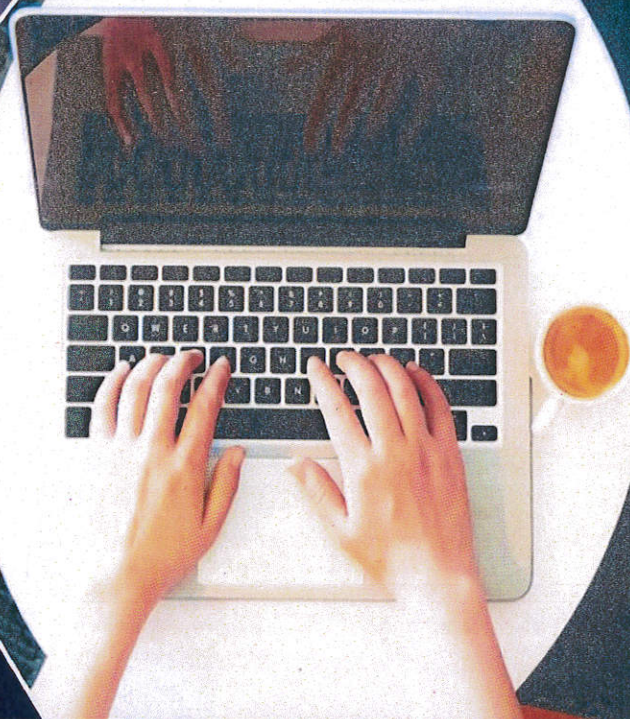
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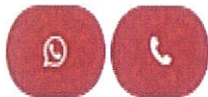
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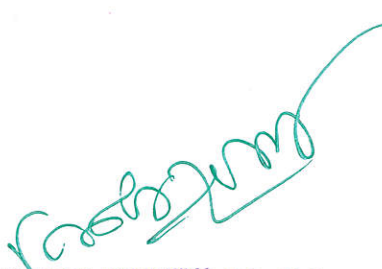
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UNIT NO	TITLE OF THE TOPIC	PAGE NO
I	3D PRINTING	
	1.1 Introduction to 3D Printing	7
	1.2 History of 3D Printing	9
	1.3 Types of 3D Printing	13
	1.3.1 FDM–Fused Deposition Model	13
	1.3.2 SLA–Stereolithograph	16
	1.3.3 SLS-Selective laser sintering	19
	1.4 3D Printing Technology	23
	1.4.1 How It Works	25
	1.5 3D Printing Processes	26
	1.5.1 Stereolithography	26
	1.5.2 Digital Light Processing	27
	1.5.3 Laser Sintering/Laser Melting	30
	1.5.4 Extrusion/FDM/FFF	33
	1.5.5 Inkjet: Binder Jetting	35
	1.5.6 Inkjet Material Jetting	38
	1.5.7 Selective Deposition Lamination	40
	1.5.8 Electron Beam Melting	43
	1.6 Current and future applications of 3D Printing	45
	1.6.1 Biomedical Engineering	46
	1.6.2 Aerospace and Automobile Manufacturing	46
	1.6.3 Construction and Architecture	47
	1.6.4 Product Prototyping	47
	1.6.5 Medical And Dental	48
	1.6.6 Aerospace	48
	1.6.7 Jewellery	49
	1.7 3D Printing Applications	49


Dr. R. PALSON KENNEDY, M.E., Ph.D.
 PRINCIPAL
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 Mannivakkam, Chennai - 600 048.

2.7.4 Hydrocolloid-based Food	72
2.7.5 Insect-based Foods	75
2.7.6 Customized Food Applications	76
2.8 Effects Of Food Properties On 3d Printing	76
2.8.1 Effect of Rheological Properties	76
2.8.2 Effect of Thermal Properties	80
2.9 Post-Processing	81
2.10 Food Ethics	82
2.11 Why Food Ethics	82
2.11.1 Territory of food ethics	85
2.11.2 Tools of Food Ethics	86
2.12 Advantages and Disadvantages of Food Additives	88
2.12.1 Advantages of Food Additives	89
2.12.2 Disadvantages of Food Additives	90
2.13 Future Aspects of Food Safety	91
2.14 Future of Food Safety –Foresight Report	93
2.14.1 Climate change	93
2.14.2 Changing consumer preferences and food consumption patterns	94
2.14.3 New food sources and food production systems	94
2.14.4 Agriculture within urban spaces	94
2.14.5 Exploring circular economy	95
2.14.6 Microbiome science	95
2.14.7 Technological innovations and scientific advances	95
2.14.8 Food fraud	96
3D PRINTING IN FASHION TECHNOLOGY	
III 3.1 Introduction	97
3.2 Direct Digital Manufacturing	98
3.3 A Conceptual Model for Integrating 3D Printing in	99

IV

3D PRINTING IN CONSTRUCTION TECHNOLOGY

4.1 Introduction	140
4.2 The 3D Printing Technology and Materials Information	140
4.3 3 D Printing Applications in Building Industry	142
4.3.1 Office of the Future in Dubai	142
4. 3.2 Apis Cor Printed House in Russia	143
4.4 BIM (Building Information Modeling)	143
4.5 3D Printing Overcomes Construction Constraints	145
4.6 What is an STL File?	146
4.7 Slicing	147
4.8. Layer Combine	148
4.9 Properties of 3D Printable Materials	149
4.10 Concrete 3D printing	152
4.11 Concrete 3D Printers	155
4.12 Challenges of concrete printing	157
4.13 Bio-inspired design and 3D printing	160
4.14 3D Printing of Bioinspired Geometrical Structures	164
4.15 3D Printing of Bioinspired Functional Structures	166
4.16 Surface Structures	168
4.17Fiber-Reinforced Structures	169
4.18 Shape-Changing Structures	170
4.19 Benefits Of 3D Printing In Construction	174
4.20 Challenges Of 3D Printing	175
4.21 Predictions For The Future Of 3D Printing	176
4.22 Case study1	178
4.23 Case study 2	180
4.24 Case study 3	182



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Chapter 5

Fused Deposition Modelling of Polylactic Acid (PLA)– Based Polymer Composites: A Case Study

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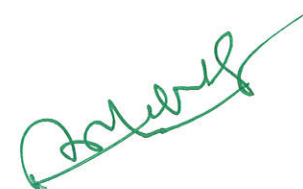
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ABSTRACT

In this chapter, a case study on polymer composites made using the fused deposition modelling (FDM) process is exemplified. The fundamentals of the additive manufacturing process, such as stages, applications, classifications, disposal methods, material selection, general principles of FDM, and selection process parameters, have been explained. The case study focuses on creating practical four-dimensional feedstock filament prototypes out of polylactic acid (PLA), polyvinyl chloride (PVC), wood powder,

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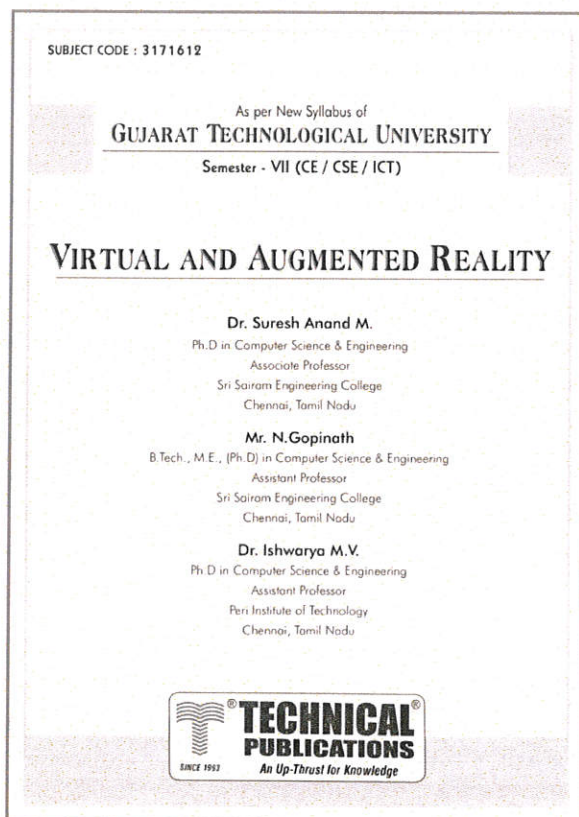
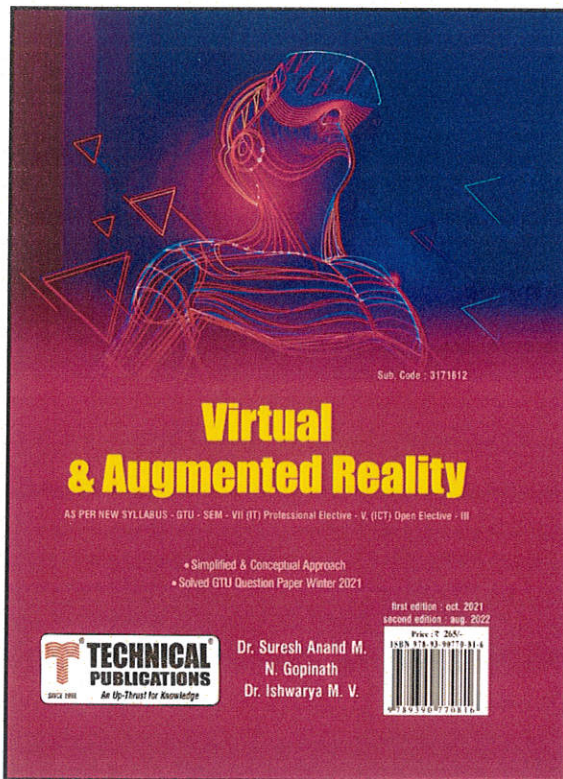



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Volume - 1

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Chapter - 1
Stability Analysis of Current Mode Controller
for Ultra Lift Luo Converter using
SMARTCTRL

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Chapter - 1

Stability Analysis of Current Mode Controller for Ultra Lift Luo Converter using SMARTCTRL

Dr. J. Raji, Dr. B.S. Nalina and Dr. M. Chilambarasan

Abstract

SMARTCTRL is a controller design tool used for power electronics applications. It is well known for its advantages such as user friendly interface, simple workflow and visual display of control loop stability and performance. Using SMARTCTRL, it is possible to design the controller for various power converters easily and quickly. In this paper, current mode controller is designed for ultra-lift Luo converter (ULC). ULC gives high voltage gain using voltage lift technique than all other Luo converters. The peak current mode (PCM) and average current mode (ACM) controller for ULC are designed using SMARTCTRL. The efficient controllers are designed using the values of the regulator components and the transfer function for specified phase margin in SMARTCTRL.

Keywords: SMARTCTRL, PSIM, average current mode, peak current mode, high voltage gain, voltage lift technique

1. Introduction

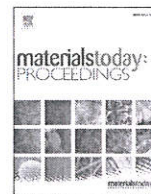
Ultra lift Luo converter produces high output voltage which increases in geometric progression at each stage by using voltage lift technique. This technique improves circuit characteristics and gives high output voltage with small ripples. In this converter, a capacitor is charged to a certain voltage (may be source voltage) and the charged capacitor voltage is arranged in such a way to lift the voltage higher. For the regulation of the power converter, a controller is designed in such a way that the system remains stable irrespective of the input and load variations [1-3].

In this paper, PCM and ACM controller are designed for ULC. PCM controller has inner current loop and outer voltage loop. The function of the outer voltage loop is to control the output voltage directly and to supply the control voltage to the inner current loop. This controller has advantages such as improved line regulation, cycle by cycle current limiting, good transient



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Characterization of the hydroxyapatite obtained from chicken egg shell applied in bioceramics

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ABSTRACT

This study aims to dispose of eggshells in an environmentally correct way, contributing to environmental preservation. The study is carried out on the characterization of chicken eggshell to obtain hydroxyapatite, it was found that both the shell and the calcined powder of the chicken egg are rich in calcium, carbon and oxygen. In addition, the shell has a porous morphology with carbon tangles. With regard to the morphology of the calcined powder, it can be noted that the calcium oxide particles have similar shapes and a regular surface. Thus, the results showed that eggshell can be a potential source of calcium for obtaining hydroxyapatite.

1. Introduction

The growing concern with the preservation of natural resources, a result of the world population's awareness of caring for the planet, has strongly influenced the direction of technological development, which must be encouraged in a sustainable way, without harming the environment [1]. Because of this concern, there is a greater demand for the functionality of materials, the cost and interaction of the material with the environment.

In this context, various wastes are generated daily. Agribusiness is responsible for part of this waste generation. Among these residues, chicken egg shells stand out. The food industries are the main consumers of chicken eggs [1,2] and their disposal occurs, most of the time incorrectly. Although it does not cause toxic and harmful damage to the environment, improper disposal can cause problems in terms of public health, as it favors the presence of animals that can be vectors of diseases such as cockroaches and rats [3]. The main alternatives to properly dispose of this waste are to reuse it in the process itself or use it as raw material for other activities.

Because they are rich in calcium carbonate, the possibilities for reuse are varied [2,3]. The eggshell is composed of organic and inorganic

substances. When in natura, it is composed of calcium carbonate in the form of calcite (94% by mass), calcium phosphate (1% by mass), magnesium carbonate (1% by mass) and organic matter (4% by mass), [two]. The inner pellicle that forms the shell lining consists of the organic part that is formed by glycoproteins, mucoproteins, collagen and mucopolysaccharides, while compounds such as CaCO_3 , MgCO_3 and $\text{Ca}_3(\text{PO}_4)_2$ form the inorganic part [4]. The presence of CaCO_3 makes eggshell a material that can be used as a source of hydroxyapatite, that is, a material that can be used as a bioceramic. These materials are composed of non-metals and metals linked together, mainly by ionic bonds and must present biocompatibility as their main characteristic. Hydroxyapatite, alumina, bioglasses are examples of this class of biomaterials.

With regard to hydroxyapatite, it is noteworthy that the source of obtaining raw materials for its production can be of artificial or natural origin, with chicken eggshell being the precursor of this bioceramic. In the field of biomaterials there is one more item of concern; acceptance of the material when inserted into the human body [5,6]. Due to the chemical composition of eggshells, there is the possibility of using them as a bioceramic, but processing is necessary to achieve the necessary properties.

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Employing IoT and Machine Learning to Minimize Industrial Structure Resource Utilization

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Abstract— Systems associated with the Internet of Things (IoT) must have long battery life, a large coverage area, and low implementation costs. The architecture of Heating, Ventilation, and Air Conditioning (HVAC) solutions in commercial buildings was created using LoRa and evaluated to short-range wireless signals in an indoor setting. This study has compared things like battery life, coverage area, and storage capacity. The sensor node's battery usage was also tested with the LoRa transmission power. LoRa was shown to have a 60.4% greater indoor coverage range than short-range communication. Up to 198% of the energy usage may be saved by the intelligent controller's ability to determine while the area is vacant and the HVAC is turned off. Despite using 7.23% additional power, LoRa exhibited no container failures besides providing a global over 58.98 percent more significant over the RFM 69HW detector, which is then compared with the RFM 69HW transceiver. LoRa is chosen for the implementation of smart controller in commercial buildings since it requires fewer base stations and hence has a lower cost because of the expanded exposure assortment inside structures.

Keywords— Machine Learning, power efficiency, Internet of Things, sensors, transmission power, Long Range Radio.

I. INTRODUCTION

A network of connected, RFID-equipped items was originally referred to as the "Internet of things" (IoT) at the beginning of the century. The Internet of Things (IoT) concept is best characterized as "a system of networks whereby, typically, a large number of things are connected via communication and data infrastructures and provide value-added services." The paradigm now covers a wide range of software architectures, communication methods, and application types. Over the past ten years, industry and academia have created a number of IoT technology for a range of applications, such as wearable technologies, home automation, and smart cities. The Internet of Items, or IoT, is a system of interconnected nodes, such as computers, digital and mechanical devices, things, people, or other objects, that may exchange information over a network without requiring direct human or technological interaction [1]. Each node is given a different identification. Most recent developments in a range of unrelated technologies can be attributed to the Internet of Things (IoT). These linkages have enabled us to

live in higher standards of comfort and to understand our environment and health better. As a result of scientific advancements like the Internet of Things, humanity is moving towards smart life. By 2022, Cisco predicts that 50 billion gadgets will be online. A wide range of systems may be associated with internet, since insignificant systems such as RFIDs and detectors to larger systems such as televisions, web cams, even cars. Using IoT, devices may communicate with one other and share data. An important component of LoRaWAN networks is how the data rate is distributed among the different EDs and how the channels are set up. In this situation, network optimization turns into a crucial management system component. Furthermore, context awareness of the environment within which the EDs work, based on ED profile and prediction systems, is a vital tool for a reasonable Spreading Factor (SF) allocation, like the one described [2].

IoT systems are becoming increasingly interested in adopting machine learning approaches as a result of algorithms' capacity to simulate an underlying process—typically unknown in closed form—with a limited collection of data. Machine learning models can learn without any specific application scenario restrictions or needs thanks to their data-driven peculiarity: As a consequence, machine learning may be viewed as a valuable set of techniques for simulating IoT systems at different scales, given that the data used to train the system appropriately matches the situation that is being studied. The Internet of Things relies on Machine to Machine (M2M) connectivity to transfer data between devices. ZigBee, Bluetooth, and RF communication have previously been used in the IoT to communicate between devices. ISM frequencies focused at frequency Band, reflect a variety GHz frequency, 432 MHz, and 169 MHz are used for short-range communication [3].

The specifications for LoRaWAN include three functional classes: Categories A, B, & C. For all LoRaWAN endpoints, the first one is necessary (EDs). After each uplink broadcast, Class AEDs only open (at most) two windows for reception, and they do so only at predefined times and frequencies. This is comparable to the ALOHA channel accessing strategy. They continue to function in sleep mode the remainder of the time. The primary difference between

E- Governance Services using Artificial Intelligence Techniques

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Abstract— In a wide variety of fields, AI technology (AI) has lately evolved to state-of-the-art levels. It still has a lot of obstacles to overcome before it can be ready for e-government applications, including setting up the systems and interacting with residents online. In this research, we tackle the problems with e-government systems & suggest a framework that makes use of AI technology to improve and streamline e-government operations. We first design a model for the administration of e- government information resources in particular. Second, we frequently create a variety of deep-learning algorithms with the intention of transforming numerous e-government services. Third, we tend to suggest an intelligent e-government platform architecture that facilitates the emergence and execution of AI e- government applications. Our overriding objective aims to advance this level of e-government services by using reliable AI approaches in order to shorten processing times, reduce costs, and raise public satisfaction.

Keywords- DDOS attacks , Dynamic path based approach, Flooding Attacks, Security, Networks

I. INTRODUCTION

AI (simulated intelligence) has been around for certain a very long time in a few hypothetical structures and convoluted frameworks; in any case, just late advances in computational powers and large information have empowered simulated intelligence to accomplish extraordinary outcomes in a steadily developing number of spaces. For instance, man-made intelligence has hugely progressed in the areas of PC vision

[1], clinical applications [2], natural language processing [3], reinforcement learning [4], and a few different spaces.

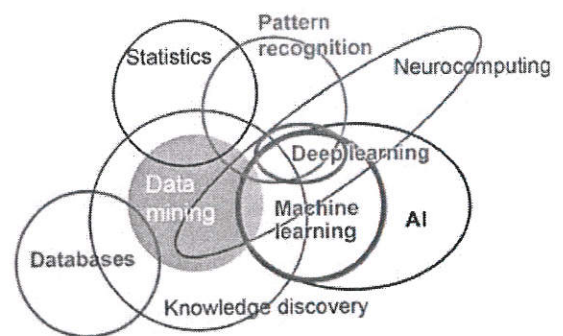


Fig 1: Intersectional diagram linked to AI

AI can be defined as a computer's ability to mimic the mental capabilities of human behaviour while simultaneously improving its own presentation. AI isn't simply sophisticated mechanics; it's a cunning way for an independent machine to behave that shows the machine's mind rather than its body; it can play games, operate cars, and conduct other sophisticated tasks. The field of artificial intelligence (AI) is at the nexus of a number of fields, including machine learning, deep learning, handling natural languages, context awareness, and information security and protection. The intersections and

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A Novel Orientation Approach in Artificial Intelligence for Mounting Robots Utilizing a Three-Dimensional Framework of the Broadcast Tower

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Abstract—Machines with adaptable behavior and certain humanlike physical traits have been designed for industry, but they do not resemble humans in any way. The study of specialized robots for certain difficult working conditions has steadily become a hot issue as robot technology has advanced and their use has spread. When deployed to transmission towers, the climbing robot serves as a replacement for people doing bolt tightening, detection, and other operations at dangerous heights, thereby enhancing the effectiveness of transmission tower maintenance while also protecting workers' lives. Yet, the transmission tower climbing robot's limited commercial uses may be largely attributed to its inability to independently find itself inside the transmission tower's complicated model. In order to ensure the operating precision of climbing robots, this study provides an Artificial intelligent placement strategy that combines the transmission tower with optical sensor information. Experiments have shown that the approach can pinpoint a location to within 2 cm.

Index Terms—3D Model; Mounting robot; transmission tower; sobel edge detection.

I. INTRODUCTION

Power plants provide power to cities and towns through transmission lines. Substations modify the power so that it may be sent over distribution lines and used by consumers. To safely transmit energy over long distances, the high-voltage transmission network relies on transmission towers to hold the high-voltage transmission lines at appropriate

distances [1]. Keeping transmission towers in working order and constructing new ones are both risky and physically demanding endeavors that require extensive periods of time spent using only human labor. The limited degree of automation, hard field operating environment, and substantial safety hazards for operators are all drawbacks. With the recent advances in robot technology, more and more scientists are interested in creating robots that can autonomously do tasks like maintaining and assembling transmission towers.

The THG robot is a multipurpose, wall-climbing device used for checking on and fixing the massive penstock. It may help keep workers safe and cut down on costly breakdowns while doing routine maintenance. Additionally, it is a heavy-duty robot that skid-steers on four tracks. Equipped with a 6R robotic arm and several accessory platforms, it is capable of a wide range of applications. THG's surface adaptability is guaranteed by the passive free joints of the chassis and drive unit. The governing structure of THG is based on a master-slave relationship. As a result, we devised a control technique that uses torque feedback to fine-tune the target speed of the four drive units. Because of the control algorithm, THG can now drive more effectively over very curvy terrain [2].

Many challenges must be overcome before climbing robots for transmission towers reach maturity, and

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An efficient Intelligent Systems for Low-Power Consumption Zigbee-Based Wearable Device for Voice Data Transmission

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Abstract—Instantaneous speech, audio, image, and video transmissions are all possible with short-range wireless technology. With the rise of portable and power-independent devices, the efficiency and range of such networks have become increasingly important in order to solve the challenges of reducing prices and energy use to make this model more useful to the common people. Information on the functioning of the network, such as wireless voice communication, is presented here. As a result, this action was taken to reduce the total manufacturing cost of such devices that are used in home automation systems and similar endeavors. The study's major focus was on developing a method of Zigbee-based voice communication. To reduce the high cost of equipment and communication by 25% without sacrificing security, we designed a Zigbee-based wireless sensor network (WSN) communication system for the safe transfer of voice data over a medium-range distance. To ensure the suggested ZigBee-based home network system works as intended, a testbed has been set up. Long-term wireless network monitoring energy savings, packet loss, and the efficiency of the proposed system were all analyzed.

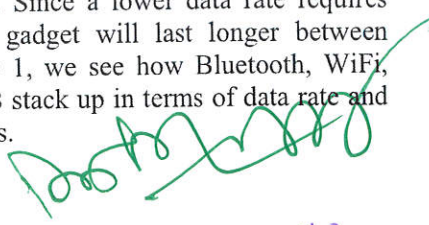
Index Terms— *Keywords: Zigbee, voice data, wireless sensor networks, microcontroller, media access control, and Wi-Fi protected access*

I. INTRODUCTION

Zigbee was created as an open worldwide market connection standard for the Internet of Things that aims to meet the specific requirements of these networks while being inexpensive and using little energy. Its primary objective is to help the public and commercial sectors that use wireless technology

develop more powerful, efficient, and low-cost wireless sensor and control systems that use less power, transfer data at slower speeds, and have fewer moving parts. In recent years, the Zigbee standard has become more popular. It will become the de facto norm in homes, hospitals, factories, and shopping malls throughout the world. Zigbee has a range of 75-100 m, supports bidirectional communications for command and control, and operates sensors that aid in a wide variety of jobs. Home use cases range from lighting control devices to smoke/CO₂ detectors/fire alarms/HVAC/security/wireless TV set-top box/remote control transmission. Mobile phones now include Zigbee, making it possible to use them as a universal remote control for devices like TVs and air conditioners.

Zigbee has emerged as a major player in several fields within business, including monitoring, automation, medical, and many more. Zigbee's flexibility makes it ideal for a wide variety of applications. Since Zigbee's data rate is far lower than Wi-Fi's, it doesn't need a greater rate or clearer transmission of data. In the case of an intrusion sensor, for instance, a very modest data transfer rate might be enough. Since a lower data rate requires less energy, our gadget will last longer between charges. In Table 1, we see how Bluetooth, WiFi, Zigbee, and UWB stack up in terms of data rate and range comparisons.


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AI based Battery Life Estimation of Electric Vehicle

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Abstract— Electric vehicles (EVs) is the most useful by-product of renewable technologies in transportation domain due to eco-friendly and user-friendly nature. EVs that run on batteries rely on Lithium-ion (Li-ion) cells due to their high capacity for energy and longer lifecycle. Over time or with continued use, any system, no matter how intricately constructed, the batteries will degrade. The expense associated with a failed Li-ion battery is considerable. For these uses, determining battery health and estimating battery life is the sole essential feature required to improve EV reliability and protection. Because of the nonlinear battery capacity fading with small fluctuation in early cycles, most previous research yielded unreliable predictions for the future. In this research, we present a comprehensive Artificial Intelligence (AI) based framework for making reliable predictions about battery life cycles. This is accomplished by acquiring data and then removing unwanted features, and extracting eight of the most salient features. Artificial Neural Networks (ANNs) and Convolutional Neural Networks (CNN) are the two types of AI models employed here. A total of 15 epochs are used to train both models. Using the accuracy and loss function, we determine which model performs the best. The CNN has a very good accuracy of 97.21% and a loss of 0.0913%.

Keywords— Battery, Electric Vehicle, Neural Network, Data, Features, Accuracy.

I. INTRODUCTION

When many people consider the environmental damage caused by automobiles, the first thing that comes to mind is pollution. The use of conventional automotive gasoline contributes significantly to environmental challenges such as global warming and smog. People's attention is once again being directed to the increasing trend of new energy vehicles, notably electric-powered ones, to achieve this goal [1]. Currently, every government in the world is researching EV, and some of them have noted that issues with Battery Management systems (BMS) are stifling progress. Advanced nations have implemented identical legislation to stimulate battery development [2]. China's EV industry has been strengthened by the passage of the nation's 10th, 11th, and 12th Five-Year Plans. The safety of EVs, the longevity of their batteries, cost savings, and increased driving range are all determined by how efficiently the batteries are handled [3]. Because of the many advantages of

lithium-ion battery packs, including their high discharge rate and lack of memory effect, many people are interested in EVs that use them as their primary power source [4]. Aged batteries limit the performance of EVs in terms of energy storage and power generation, as well as cost and lifespan [5]. The EV industry is battling with battery life management and asset appraisal. Finding an accurate battery pack life prediction method is crucial for improved performance detection and evaluation after EV installation. A battery's capacity and internal resistance are both variables in deciding how long it will survive. Estimating the SOH, or state of health, of the battery, is critical for evaluating how much the battery has declined with age. When a battery's capacity falls below a certain threshold, it reaches end-of-life (EOL) and ceases to function correctly. All experimental model-based and data-driven methods exist for making such predictions. Instead of taking into consideration the various physical and chemical relationships that occur within the batteries, the experimental model-based technique evaluates and predicts performance using experimental information. Because the generic empirical model is an open-loop model, the estimation results can be incorrect. As a result, the goal of this work is to provide a DL-based estimation of battery life. A summary of some studies that attempt to estimate battery life is provided below.

The key focus of this study's [6] examination will be machine learning strategies. Thermography and ANN or lithium-ion polymer battery lifespan prediction using support vector machines (SVM). After 70 and 60 minutes of charging and discharging, able to take 410 infrared photos at 1fps. Surface temperature profiles are utilized as input nodes in ANN and SVM models for charging and discharging operations. A thermal profile is required as input for the output. In less than 10 minutes of testing time, a reliable assessment of the current life cycle of a researched cell can be made. SVM and ANN will have equivalent accuracy, although testing will take longer. The research [7] provides an overview of ML-based battery state estimation approaches. Comparisons of methodologies provide readers with a thorough knowledge of the ML techniques for SOC and SOH estimates. Furthermore, by contrasting several neural network topologies, can acquire important insight into

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AI-based Chatbot for Physically Challenged People

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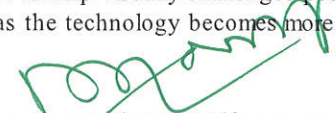
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Abstract—Blindness is a state where a person loses his/her ability to see completely or partially. It is also said to be one of the most widely found disabilities across the world. Most of the time, it is impossible to find a complete cure for this condition. Thus, people with blindness adapt themselves to living with this blindness as a part of them. To help visually impaired people, this study aims in developing a chatbot which uses artificial intelligence to predict the most relevant answers to the users' questions. This bot is designed in such a way that it allows the user to send voice notes instead of texts like the conventional chatbots. The chatbot is developed based on a particular architecture. The user-sent text is first converted to text by this architecture. Deep neural networks and APIs that are used for speech-to-text and text-to-speech conversion make up the chatbot's main architecture. The optimal response is then determined for the user from this text, and it is sent to the user. The inner parts of the architecture consist of an AI algorithm named the deep neural networks, speech-to-text, and text-to-speech APIs, libraries like GTTS, etc. This chatbot can be trained to add more functions, such as the ability to automatically order essentials from the websites indicated, transmit emergency signals, and remind users to take their medications, eat their meals, and drink their water in the future.

Keywords— Artificial Intelligence, Chatbot, Preprocessing, Deep Neural Network, Speech Recognition

I. INTRODUCTION

A physical challenge is when a person lacks a particular ability like hearing, vision, speaking, etc. There are different types of disabilities like lack of sight, impairment in hearing, disabilities in motor skills, etc. However, lack of sight or blindness is considered one of the most widely feared disabilities as it may affect the day-to-day life of the victim to the fullest. Studies state that about 43 million people are affected by complete lack of sight and about 293 million people are affected by partial or color blindness. There are different types of blindness like color blindness, night blindness, partial blindness, etc. One of the worst facts about blindness is it is hereditary and it can also be extrinsic. There are various causes for this disability. Some of the most common reasons are glaucoma, cataract, age-related issues, and even unhealthy diets. Most of the time partial blindness can be helped using aids like glasses, contact lenses, etc. But for complete blindness, doctors may suggest surgery as a solution which is also not seen as the complete cure for it. One of the most promising solutions for blindness is retinal transplantation which is also found impossible in many scenarios due to its complexity. Due to the above-mentioned reasons, blind people often tend to adapt themselves to live with their disability. To help them, various researchers and non-profit organizations spend their time and effort to make their life easier. Braille is one of the best inventions as it helps the blind to learn a language and it even helps them to live their life on their own. However, in some cases, they can't use their knowledge of braille. One such scenario is smartphones. Though smartphone developers try their best to help visually challenged people, it becomes impossible as the technology becomes more and more high-end.


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Automated Hyperparameter Tuned Deep Learning Enabled Reactive Power Optimization Model for Power Distribution System

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Abstract—With a great quantity of Electric Vehicles and Distributed Generator (DG) complied in the power distribution system, the complications of distribution systems' function are higher, which generates the superior need for online Reactive Power Optimization (RPO). The RPO is a distribution network that could enhance the quality of voltage and the economical function, and diminish the power losses of a dispersal network. RPO could understand rational dispersal of reactive power in the dispersal network and decrease the node voltage deviations and power losses. Currently, only a few heuristic intellectual methods are broadly employed for RPO. Therefore, this article introduces a new Jellyfish Search Optimization with Deep Stacked Autoencoder (JSO-DSAE) model for RPO in power distribution systems. The proposed JSO-DSAE model enables the DSAE model to receive previous data from DGs to identify the connection among power control and system characteristics. To bolster the performance of the JSO-DSAE algorithm, the JSO method is used. The experimental validation of the JSO-DSAE model is tested and the outcomes are examined over distinct aspects. The simulation outcome demonstrated the supremacy of the JSO-DSAE model over the recent approaches.

Keywords— Power distribution; Reactive power optimization; Jellyfish search optimizer; Deep learning; Hyperparameter optimization

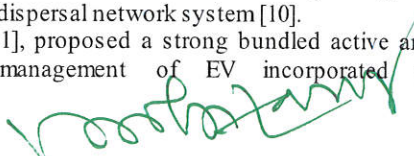
I. INTRODUCTION

The Reactive Power Optimization (RPO) of the distributed network eliminates the energy loss and enhances the quality of

voltage and the economic function of dispersed networks [1]. By controlling the reactive energy compensation apparatus namely online tap changing transformer, Static VAR Compensator (SVC), fixed shunt capacitor banks, and so on, the RPO could perceive rational dispersal of reactive energy in the dispersal network and diminish the node voltage deviations and energy losses [2]. The system is regarded as the main problem of the RPO of the dispersal network [3]. The nonlinear feature becomes important in RPO and contains multi-constraint, multivariate, continuous parameters, and discrete parameters [4]. The traditional optimization techniques are based on the variables and modules of the dispersal network, that consists of demerits of worst stability and convergence [5, 6]. In realistic implementation, the optimization computational price value was huge and the decision-making duration was longer, hence it was very hard to imply such techniques to the real-time control needs of the complex active dispersal methods [7].

Recently, few heuristic intellectual systems have been broadly employed for RPO and even though such techniques could operate the discrete parameters precisely, the primary values of such system have been implemented arbitrarily, that might outspread the computational duration, and fall in the local minima [8, 9]. Currently, Distributed Generators (DG) and Electric Vehicles (EV) are broadly utilized, although the energy flow of the dispersal network are destructed through the intermittency and randomness of DGs and EVs, raising the struggle of RPO of dispersal network system [10].

Pirouzi et al. [11], proposed a strong bundled active and reactive power management of EV incorporated in


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Automated Short Term Load Prediction in Power Systems using Collision Bodies Optimization with MultiHead Deep Learning Model

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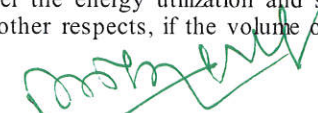
Abstract—Short-term load forecasting (STLF) of power systems is an important portion of the daily dispatch of the power industry. The preciseness of STLF straightforwardly disturbs the reliability, security, and economy of power system function. Thus, the research on STLF techniques is the main focus of researchers at abroad and home. Recently, artificial neural networks (ANN) were broadly studied as an intellectual method and implemented in the domain of short-term power load forecasting. Distinct methods like hybrid, conventional, and Artificial Intelligence (AI) methods were advanced to examine STLF. In this view, this study develops an Automated Short Term Load Prediction in Power Systems using Collision Bodies Optimization with MultiHead Deep Learning (ASTLP-CBMDL) model. The major intention of the ASTLP-CBMDL methodology is to predict the load in power systems which are adaptable to the time varying characteristics. To accomplish this, the ASTLP-CBMDL system model applies multihead attention based long short-term memory (MHALSTM) technique for performing load prediction. In addition, the colliding body's optimization (CBO) algorithm is utilized to optimally tune the hyperparameters related to the MHALSTM model to enhance the prediction efficacy. The experimental validation of the ASTLP-CBMDL model is tested using open access dataset and the outcomes are examined extensively. The comprehensive result analysis stated the enhanced performance of the ASTLP-CBMDL model over recent approaches.

Keywords— Short term load prediction, Machine learning, Deep learning, Power systems, Artificial intelligence

I. INTRODUCTION

The power sector is considered the lifeblood of the economy. The economy has to advance and power is the opening. Electricity acts as an important duty in national security, economic construction, quality of life, and social stability of China. With the constant advancement of the economy, needs of consumers for energy supply quality tend to be raised slowly, and power grid management turns to be very modern. Power load predicting research turns out to be specifically crucial and also has a significant research region in the energy sector [1]. The power load predicting data is the fundamental data which the dispatch planning section must have. With the consistent technological advancements and the constant development of the economic level, power industry of China has guided in an unparalleled advancement momentum [2]. Precise load predicting could assist the energy grid dispatching division to frame a reasonable and economic dispatching idea, that considers being a potential step for saving energy, improving social and economic advantages, and offering crucial progression and guarantees for healthy economic growth usual social life [3].

As an exceptional energy resource, electric energy is highly tough for storing in huge amounts, and the duration varies among consumption, production, and transmission is relatively smaller [4, 5]. Thus, from the point of view of safety and economy, it is essential to maintain the energy production of the power plant as per the energy utilization and sustain a dynamic balance. In other respects, if the volume of energy


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DESIGN OF ELLIPTICAL TO CIRCULAR DIELECTRIC RESONATOR ANTENNA FOR MICROWAVE IMAGING APPLICATION

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Abstract—In this article, a stacked elliptical to circular shape Dielectric Resonator Antenna (DRA) is designed to act as sensor in breast tumor detection in the imaging (MWI) technique. The novelty of the proposed article is different size of elliptical to circular shape DRA is excited by inset feed mechanism. Two different iterations are followed to improve the performance by varying the elliptical dielectric structure of dimensions in the x-axis by $= 3\text{mm}$, 6mm. Later, circular DRA of radius 9mm is proposed to improve the bandwidth of the antenna. The DRA substrate layer is designed using FR4 material ($\epsilon_r=4.2$) and the elliptical dielectrics iterations are made of alumina ($\epsilon_r=9.8$). In addition the improvement in bandwidth is due the invasion of wheel structure in the ground plane. From the result it is observed that the antenna resonates at nearly 1.7 GHz, 2.4 GHz, 3.7GHz and 10.1GHz which comes under X-band, S band and L-band frequency range. A significant variation of return loss is identified in the analysis when the dielectric structure is varied from elliptical to circular structure.

Keywords— DRA, microwave imaging, tumour, stack elliptical DRA, monostatic, wireless.

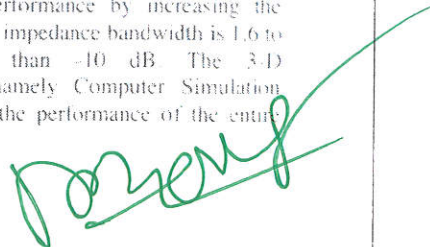
1 INTRODUCTION

Nowadays, one of the most threatening diseases for women is breast cancer [1]. The growth rate of the breast cancer cell is in tremendous nature compared to the normal cells. Breast cancer is difficult to cure if the final cancer stage is reached [2]. Therefore, early stage identification of breast cancer is very important for the survival of women who are affected by breast cancer. Many screening technique are followed to detect cancer in the early stages, namely Computer Tomography, Magnetic Resonance image, Ultrasound image [3-5]. The above screening techniques are affected by many limitations namely, ionizing radiation, less resolution, more time to process, costly etc [6-9]. Hence, many researchers are focused on new technology named as microwave imaging (MWI) technique. In MWI technique the cancer cell is identified by variations in dielectric property difference between the normal and cancerous cell.

The advantages of MWI techniques are non-ionizing radiation, easy to analyze, high resolution, analyze the cancer cells deep inside the breast. The entire breast is scanned by placing the high sensitive UWB array of antenna. Many researchers used UWB microstrip antenna having large bandwidth, low frequency of operation and directional pattern. At present, many researchers are analyzing the breast cancer diagnosis using DRA. The benefits of DRA over other microstrip antenna is compact size, wide bandwidth, generate high and low frequency applicable for high resolution image and deep penetration, efficient radiation, minimum surface wave losses.

Many researches are under progress for the enhancement of input impedance and bandwidth of the DRA [10]. The above vital characteristics can be varied by optimizing the dimensions of the antenna; material used for antenna design and various feed mechanisms. In the previous literature work, hybrid DRA, multi-segment DRAs, stepped patch with DRA, monopole patch have been analyzed for increasing the wide impedance bandwidth [11]. A band stop UWB DRAs have been designed to avoid the interference between the WiMAX and WLAN wireless application. Two notch bands are introduced in the operating frequency band by extruding two slots or adding stubs in the radiating patch. The notch band is obtained by etching the slots of length half or quarter Wavelength. Various shapes of slot namely C-shaped, L-shaped slots, U-shaped are extruded in the DRA structure [12]. Generally, DRA is the advanced version of the microstrip patch antenna.

In this paper, a compact eye and circular pattern DRA is designed, which uses elliptical and circular dielectric resonator (DR), mounted over the stub feed surface. The return loss of the DRA antenna is improved by optimizing the width of the elliptical structure. The proposed antenna improves the return loss performance by increasing the width and maximum acquired impedance bandwidth is 1.6 to 5.25 GHz, being lower than -10 dB. The 3-D Electromagnetic simulator namely Computer Simulation software is used to analyze the performance of the entire iteration of the antenna.


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A Prescribed Paper Less Clinic to view the Patient's Documents

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Abstract—Diseases are a significant aspect of human beings in modern times. It plays a vital role in a safe life in the present era. At the same time, registration, missing medication letter, scans, etc., is among the most significant issues when interacting with physicians. Here it has to overcome these problems with Smartphone app control with user engagement innovations for the wellness climate. The Rx List Pill Identifier Tool recognizes generic, OTC, and marketed medicines by coloring pill, size, type, and medication print. Align and quickly identify the drugs with the images in the medication imprint (pill ID). In addition, the health details of patients, such as ECG, temperature, and BP, which are provided for reference purposes to cloud stocking, can be stored. The existing frameworks' outcome is to give guidance for transforming these traditional health services into lean systems that will aid in the creation of a poor hospital with satisfied customers. The centralized medical complex skin temperature tracking system comprises the access point and various control terminals, comprising a power supply, thermal signal array, ESP8266 transmission and reception, display, alarm, and motion sensor, among other things. The STM32 heart controls and operates the software. During operation, the host delivers the signal with the necessary addressing data.

Keywords—Heartbeat, Temperature DS18B20, Paper less Clinic, Mobile App, IoT.

I. INTRODUCTION

Long waiting periods in clinics have adversely impacted the quality of healthcare services. In comparison, the rising cost of medical care, induced by a vast amount of people, leads to high price increases and increased requirements for capacity in health care. Health systems are looking into ways to do more with less, with public goods and rising population. A medical system comprises of all facilities offering directly or indirectly services to improve or preserve the health status of individuals. It plays an integral part in the life of a human. In medical systems, nevertheless, long waiting periods trigger customer frustration and decrease the quality of healthcare [1].

As the healthcare services declines, health organizations are seeking to run healthcare facilities at better prices. Healthcare costs are increasing due to the urgent need for better health care triggered by a growing aging population. As a result, healthcare providers have been under tremendous pressure to increase clinicians' performance, and more needs to be achieved with less. Recently, in healthcare, principles and techniques from the manufacturing industry have been introduced, such as lean manufacturing [2]. The emphasis in Lean is on smooth delivery while reducing duplication and optimising the value of the customer. Healthcare institutions can gain from enhancing patient care by implementing a lean model as well as reducing time and other resources [3]. Due to the powerful resonating success in the industrial world, the lean concept has been applied from conventional manufacturing to healthcare sectors. In recent years, researchers' interests in lean healthcare have grown years. Several healthcare areas are protected by current work, such as Emergency Departments (ED), outpatient clinics, colorectal department. While some milestones have been made, lean medical devices are fragmented and non-reproducible; most of them focus only on instead of a system wide deployment, selective instruments, such as Kaizen events [4].

In the following section 2 literature survey revised for various proposal, section 3 gives system architecture and work principle, section 4 will provide a result and discussion of the system followed by conclusion in section 5.

II. LITERATURE SURVEY

A health service offers facilities to promote or sustain the health needs of people anytime patients need them, such as healthcare services, hospital care, advanced community care services and pharmaceutical care, etc [5]. Hospital-based steps may be extended into non-appointment-based treatments medical programmes and appointment-based facilities. The Emergency Department, which inevitably has an unregulated in-flow of patients with a range of therapeutic interventions, is the most common non-appointment-based dept in the hospital. Customers come to the ED whether through own or by transportation, prioritised before care by staff or other medical professionals at many levels. In Canada, for instance, between levels I to level V, there are five levels: resuscitation, Emergent, Urgent, Less Urgent and

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A Hybrid Security Model for the Protection of Diagnostic Text Data in Medical Images over Internet of Things

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Abstract— As innovation for transmitting data has advanced exponentially, new avenues for protecting sensitive information have emerged up. Over the last several decades, many different strategies, such as steganography and cryptography, have been developed to safeguard sensitive information. As the use of IoT devices in healthcare has grown exponentially, concerns about patient privacy and confidentiality have surfaced as important roadblocks for healthcare service systems. Security in device-to-device communication is a challenging subject. There are a plethora of existing cryptographic techniques for use, such as Data Encryption Standard (DES), Rivest-Shamir-Adleman (RSA), and Advanced Encryption Standard. In this research, we provide hybrid security architecture for safeguarding medical image files that include interpretive text. The proposed scheme uses 2D-DWT to encrypt and conceal sensitive information. Both color and black-and-white photos are used as text covers. The proposed system's efficacy was evaluated using a battery of tests that included PSNR, SSIM, MSE, and Correlation. The suggested model disguised sensitive patient information in a way that was comparable to traditional methods in terms of throughput, invisibility, and damage to the received steno-image. To implement the suggested system, we turn to MATLAB, with throughput and execution time serving as key metrics for evaluation.

Index Terms— Wireless sensor network; target detection; encryption; decryption; stenography; cryptography; steno-image

I. INTRODUCTION

The Internet of Things (IoT) is a relatively new phenomenon that emerged not too long ago as a direct result of significant breakthroughs in computer science, wireless networking, and communication technologies. Because of the Internet of Things (IoT), it is now feasible to connect almost any physical object to a digital equivalent that can recognize its existence [1]. The establishment of this link may make use of a variety of technologies. The Internet of Things has the potential to have a beneficial effect on many different facets of

our day-to-day lives. Because Internet of Things devices send all that they gather from the physical world via the Internet, the data generated by these systems has become a primary target for cybercriminals and other forms of online assault. As a consequence of this, a protected line of communication is necessary in order to safeguard the information that is being sent.

It is now feasible to track the health of patients in real time utilizing innovative healthcare technologies [2]. These systems make it conceivable to do so. In a smart healthcare system, sensors monitor the whereabouts of patients as well as their movements and vital signs. The medical database is available to be accessed by anybody who has a need for medical information. Utilizing this technology may make it feasible to improve a variety of medical procedures, including clinical diagnosis and reaction to medical emergencies. Figure 1 presents an overall representation of the IOHT. By using a BSN, medical professionals may be able to swiftly detect and treat any abnormalities that occur inside the bodies of their patients. Sensors on the patient's body take readings once every ten seconds to record physiological data. Due to the reduced SNR of ECG, it is very difficult to design computer systems that can identify tiredness in drivers. This problem has been solved by a variety of unique approaches to extracting data from ECG signals, such as time-frequency analysis, complex network methods, and non-linear analysis [3]. These approaches have been shown to be effective. For the goal of finding subspace signals in homogeneous Gaussian clutter with an unexplained covariance matrix, the researchers of [4] presented a modified likelihood ratio test predicated on an adaptive detector.

Before continuing with the processing, it is necessary to clean the sensor data of any outliers, duplicates, and values that are missing. Once the model has rectified the sensor errors, the next step is to do algorithmic processing and comparisons with the normal range of data. In the event that anything goes wrong, it will inform both you and your attending physician. The database will be kept up to date by

An Automated Glaucoma Detection from Fundus Images based on Deep Learning Network

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Abstract— A condition known as glaucoma, is an eye illness brought on by high intraocular pressure, may lead to total blindness. On the other hand, prompt glaucoma screening-based therapy may keep the individual from losing all vision. Professionals manually analyze retina to pinpoint the areas affected by glaucoma using precise testing procedures. However, because of complicated glaucoma testing methods and a lack of resources, delays in detection are often experienced that may raise the global rate of visual impairment. Moreover, the significant resemblance between the lesion and eye color also makes the manual categorization procedure more difficult. Hence, there exists an urgent need to develop an effective smart approach that can precisely detect the Optic Disc as well as Optic Cup lesions at the early stage in order to address the difficulties of manual methods. Therefore, a Deep Learning based strategy called EfficientDet-D0 with EfficientNet-B0 serving as its foundation has been proposed in this paper. There are three phases in the conceptual methodology for the localization and categorization of glaucoma. First, the EfficientNet-B0 feature extractor computes the feature representations from the suspicious examples. Next, the top-down and bottom-up key points merging operations are repeatedly carried out by the Bi-Directional Feature Pyramid system modules of EfficientDet-D0 using the calculated characteristics from EfficientNet-B0. The resulting localized areas of a glaucoma lesion and its accompanying classification are anticipated in the last stage.

Index Terms— Fundus images, glaucoma, EfficientDet, EfficientNet, BDFP.

I. INTRODUCTION

Glaucoma, a neurodegenerative eye disorder, is a leading cause of blindness. It is typically connected to a buildup of tension within the eye. It worsens with time. Glaucoma is the second leading cause of blindness in the United States and globally. Glaucoma is often inherited from one generation to the next. In most cases, the condition does not manifest itself until much later in one's life. Increasing intraocular pressure,

often known as the pressure inside the eye, may cause harm to the optic nerve, which is responsible for transmitting pictures to the brain. Glaucoma has the potential to cause irreversible vision loss or even complete blindness in just a few years, should the damage get worse [1]. The discrepancy between the amount of intraocular fluid that is generated and the amount that is emptied from the eye leads to a buildup of Intraocular Pressure (IOP) in the retina, which in turn, has an effect on the nerve fibers. The injured nerve fiber produces disruption in the retinal nerve fiber layer, which in turn leads to higher amount of cupping as well as optic disc, as well as the optic nerve head [2]. In addition, the intraocular pressure is the root cause of peripapillary atrophy, which is a weakening of the periphery of the retinal pigment epithelium.

The findings of previous investigations have shown that an increase in the progression of peripapillary atrophy leads to an increase in the development of glaucoma [3][12]. Figure 1 provides a representation of glaucomatous eyes, from which it is possible to deduce that the obstruction of intraocular fluid causes damage to the optic nerve. Additionally, it is apparent that its optic disc volume of the eye that's also afflicted by glaucoma is much bigger in contrast to that of a human eye that is healthy.

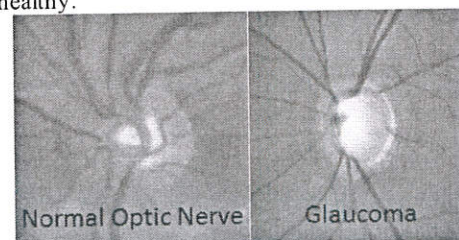
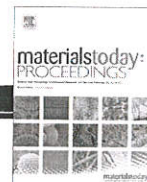


Figure 1. Pictures of the Optic Nerve Head (a) in a healthy eye (b) in a diseased eye

Glaucoma is often diagnosed after it has progressed to a more severe stage and this is when it is most likely to have caused the patient to lose their entire vision, despite the significant developments that have been made in recent years in the field of analysis of medical images [4]. Nevertheless,



Machine learning based cardiovascular disease prediction

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ABSTRACT

In past few years, one of the really tough situations in medicine is already making predictions cardiac dysfunction. Almost any moment, roughly one patient dies through myocardial infarction with in present era. Due to the difficulty of forecasting cardiac sickness, it is vital to systematize the procedure in place to minimize the risk associated with and to educate the patient well enough in preparation. The risk of cardiovascular disease in the World is tremendous. The accurate and thorough assessment of a physician's cardiovascular risk is critical for reducing the incidence and severity attack and stroke and improving cardiovascular protection. In order to solve this issue, we are proposing method to discover these heart abnormalities as soon as reasonably practicable to avert fatal consequences. The next step is to determine whether or not the user is at risk of developing cardiovascular disease. It also answers difficult problems concerning heart detection of diseases, allowing clinicians to make better clinical decisions. Medical specialists have accumulated a large number of medical data that can be analysed and important fact retrieved. Machine learning approaches can improve in the prognosis and early identification of heart illness after hypothesis testing.

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1. Introduction

The heart is the most important aspect of the human organism since this regulates circulation of the blood. Antihypertensive, which can lead to cardiovascular disease, can be caused by an unsustainable diet, cigarettes, drinking, and eating too much cholesterol. As per the World Health Organization, upwards of 10 million people worldwide die every year as a result of cardiovascular disease. In today's modern medicine, the key issue should be to provide world - class services as well as the most robust and appropriate diagnostic conceivable. Disease identification at the correct time is very important for total chronic disease effectiveness [6]. Preventing heart disease encourages a good diet and early intervention. There are actually archives of a large set of medical information generated by doctors that may be analysed and significant fact extracted therefrom. ML algorithms improve throughout the predictions and accurate intervention of cardiovascular dis-

eases through data processing. Data Analysis is a process of separating actionable information and information bias from massive amounts of information.

2. Related works

The Reddy et al [1] discussed many algorithms. In that, Logistic Regression has a better level of accuracy than other methods. A Data Mining Techniques-Based Medical Decision Support Framework is proposed. SVM is more reliable and consistent than those of other data analysis methodologies, and per the study. As per Myerburg et al [2], data analytic methods may help to predict and characterize the start of heart illness. The main goal is to forecast the emergence of cardiovascular problems in order to get an early auto diagnostic of disorders in a small space of time. They have used weka software to analysis the data by using different parameters like age, sex, blood pressure, and sugar level.

A non-linear detection model was already suggested by Labib et al [3] for the diagnosis of cardiovascular problems. It is recommended that Big-data methodologies operations such as hadoop

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An Intelligent Voice-Recognition Wheelchair System for Disabled Persons

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Abstract— This study illustrates the creation of an intelligent voice-recognition wheelchair for disabled persons who cannot manually man-oeuvre their wheelchairs. Using voice recognition, the patient operates the wheelchair, and a GPS device included in the wheelchair can track the patient's position and communicate the data to a Smartphone. To carry out the people's orders, the voice module V3 records and can recognize the patient's voice. This module converts the voice commands into letters, subsequently transmitted to the Wi-Fi module to operate the wheelchair. The Wi-Fi module sends commands to the motor drive for the wheels. In addition, three levels of motor speed adjustment are available: low, medium, and high. This device also utilizes an Infrared sensor to automatically identify obstacles, allowing the patient's family members to know exactly where they are. Disabled People can be used this device, which simultaneously provides a voice-controlled wheelchair, obstacle detection, motor speed control, and patient GPS tracking via mobile phone; it will be a successful solution for disabled people across the world.

Keywords—Wheelchair, Disabled people, Infrared Sensor, Voice recognition, GPS module,

I. INTRODUCTION

An artificial source of movement is necessary for those who are paralyzed, have polio, or have lost their hands and legs due to an illness or accident. They have created "smart wheelchairs" that respond to voice orders from the disabled user to move. The voice instructions of the disabled user will be maintained in the voice recognition system before usage to stop outsiders from controlling it. They integrate sensors and a joystick as additional features to give the user even more security. For many reasons, it will benefit those with impairments [1]. Using a basic wheelchair presents several difficulties for people with disabilities, which increases the risk of accidents. Most of the time, persons with disabilities use their hands to operate basic wheelchairs. To avoid typical mishaps, there are creating a wheelchair with extra safety measures. The number of errors will be reduced because users use voice commands, sensors, and a joystick [2]. There are developing a wheelchair similar to this one to make it more comfortable for those with impairments who reside in

nursing homes or hospitals. The voice recognition module will recognize the customer's voice. A sensor will be mounted on a wheelchair with intelligence. Two DC motors, an Arduino board, and a speech recognition module powered by a single battery. Ultrasonic sensors also give extra close-range protection against obstructions [3].

Modern technologies and the Internet of Things (IoT) have considerably streamlined daily life. This technology could produce new goods that will help those in need. People with physical disabilities are frequently disregarded, and as they cannot move independently, many see them as a burden on society. Physically disabled people can be helped in several ways to carry out their regular daily duties by merging motion gesture technologies with the typical wheelchair [4]. Nowadays, motion gesture technology is a commonly utilized sensor in a wide range of IoT applications. To help the physically disabled who are poor, it is crucial to build an intelligent wheelchair that is simple to use and economical. There are primarily driven by a desire to help the physically challenged who must research this area [5]. The suggested solution is simple and cost-effective, making it suitable for usage in underdeveloped countries like Bangladesh. This collaborative piece of research-based work will transform the medical business since it is easy to use and has detailed instructions.

Due to the regularly decreased changes brought on by limited mobility, many mental health problems and social isolation result. Even though many persons with physical limitations can get by with standard manual or self-automated wheelchairs, some of them find it difficult or impossible to use them independently [6]. People with quadriplegia and those with Multiple Sclerosis have significant disabilities that prevent them from operating wheelchairs with traditional joystick controls. Wheelchairs traditionally have their constraints in terms of their restricted usefulness, mass, and adaptability. The wheelchair may feature unique user controls that can be adapted to specific activities or refer to them [7]. The most well-known contrast is between electric wheelchairs, which are driven by battery and electric motors, and manually controlled wheelchairs,


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Coyote Optimization Algorithm for Enhancing Connectivity and Energy Efficiency in WSN

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Abstract— In Wireless Sensor Networks (WSNs), the sensor nodes determine the path to the sink to send data. Data transmission may occur straight to the sink node or through the intermediary nodes, depending on the chosen option. Because sensor nodes have a finite amount of energy, it is crucial to establish an effective routing mechanism to extend the network's life. This article introduces Coyote Optimization Algorithm for enhancing connectivity (COAC) in WSN. The network creates a rendezvous zone and develops a tree that is useful for time-sensitive applications since they minimize the delay. This mechanism uses Coyote Optimization Algorithm (COA) to decide the Mobile Sink (MS) stopping place at a rendezvous zone; thus, it improves the network performance. The MS improves network connectivity and reduces unwanted energy utilization in the WSN. The network simulator NS-2.34 is used to measure the network performance. Experimental results show that the COA based system improves energy efficiency and minimizes the network delay.

Keywords— Coyote optimization algorithm, Mobile sink, Connectivity, Rendezvous zone, Wireless sensor network.

I. INTRODUCTION

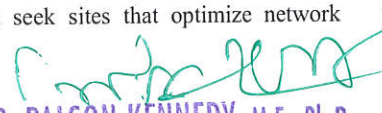
In a WSN, the routing mechanism is an essential component [1]. It is quite tough to assign the global IDs for many deployed sensor nodes when there are so many. WSN is a highly dynamic network tailored to the application's individual needs. The nodes physically close to the sink lose more energy and, as a result, ultimately perish [2]. This results in network splitting; consequently, the areas of the network where its lifespan is shortened are referred to as hotspots. The network that includes an MS distributes the load evenly among the sensor nodes, lowering the likelihood of hotspots [3]. This may assist in achieving consistent energy consumption and a longer lifespan.

A rendezvous-based routing protocol (RRP) is used since it will meet the criteria of having reduced end-to-end latency while still being energy-efficient [4]. A virtual cross area has been constructed. The nodes in this area are referred to as backbone nodes, while the region itself is called the rendezvous region. Within the rendezvous area, a tree is established, and each sensor node is able to connect with the rendezvous region. The data are sent from the source node to the sink through the rendezvous area in the first transmission type. The second way involves the sender retrieving the location of the destination then transmitting the information to the destination using a geographically-based protocol. However, this mechanism increases energy consumption and delay. To solve these issues, COA for enhancing connectivity and energy efficiency in WSN is introduced.

The COA is a nature-inspired metaheuristic algorithm that takes cues from how coyotes behave while hunting. It does this by simulating the cooperative hunting technique that a pack of coyotes would adopt [5]. This allows it to tackle optimization challenges. The COA algorithm acts as a stabilizing force between exploration and exploitation. When it comes to hunting, coyotes work in groups. An alpha male in each group oversees the hunting process, and they use covert methods whenever possible. COA has mostly been used for various optimization issues; however, it can also be utilized to improve network connection in wireless networks.

In the context of the connection of wireless networks, the COA may be used to optimize specific parameters or settings that affect the performance of the network, such as the following examples:

Placement of base stations (BS): The COA may assist in finding the ideal locations for base stations in a wireless network and help determine where those sites should be. The system can explore and seek sites that optimize network


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recommendation system. Based on locations every time the signal differs according to the locations and hence when a customer confronts the signal issues, the service provider equalizes the query of the customer by providing the signal to the requested customer based on the location. By doing this, we are not only efficiently solving the problem of the customer but also increasing the customer counts by providing the quality of the internet providing services using the recommendation system.

Keywords: Internet Signal, QoS, prediction System

CS049

Cyber Forensic Investigation Using Network Security ✓

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Abstract: The venture known as “Data-Driven Decision Support for Optimizing Cyber Forensic Investigations” is a web based application. This software provides facility for confirming criminal offenses, Problems, losing individuals to DIG. This software provide facility for reporting online crimes, online complaints, missing persons show criminal list and details on web page. Any number of public can complaint through online. Each user first makes their login to server to share their availability. An effective way to begin this task is to develop a mission statement that incorporates the core functions of the unit, whether those functions include high-technology crime investigations, evidence collection, or forensic analysis. However, Cyber forensic contains steps to investigate or collect the data It is defined as the processes and tools used in investigations and gathering evidence. Some of the instruction will be provided as a default such as category wise. By analyzing the investigation report, process will be optimized to reduce the investigation process.

Keywords: Disclose Framework, Bayes Algorithm, Network Security Model


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Deep Learning Structural Designs for IoT Data Analytics ✓R Palson Kennedy¹Professor¹rpalsonkennedy@gmail.com¹Department of Computer Science and Engineering,
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Abstract: Internet of factors (IoT) has advanced as a present day studies region because of the extended connected devices. This lets in multiple gadgets to attach over a net- work without human intervention. It has developed due to the merging of multiple technology that has been deployed in numerous fields of daily lifestyles, which includes smart home, elderly care to provide support to elder and bodily challenged people, and also towards the economic packages. IoT is a concept that allows gadgets to speak with each other, operate in co-ordination with extra matters to create novel applicability, and achieve mutual goals. Each linked tool must be taken into consideration a thing, in phrases of IoT. Things can be any physical sensors, actuators, and an embedded gadget with a microprocessor. Statistics col- lected from sensors deployed in IoT can be used to apprehend, monitor, and con- trol complicated environments around us, promoting greater mind, extra ahead choice-making, and more reliable performance. Entities speak with each other, known as a device-to-tool verbal exchange. Man or woman communication can either be short-range or long-variety. Short-variety communication can be found out working towards wi-fi technologies such as wi-fi, Bluetooth, and ZigBee, and wide-range has done using mobile networks consisting of WiMAX, GSM, GPRS, 3G, 4G, LTE, and 5G. The economic applications of IoT encompass medical fitness, transportation, business applications, and so on. Synthetic Intelligence is pres- ently a part of IoT considering it allows in computerized processing, manage of devices, nd produces promising effects. A significant quantity of connected devices are growing exponentially, and it's miles predicted to grow around 75 billion by using 2025. As a consequence, statistics management clarifications are wished for efficient management and transmission of statistics. ML has furnished a way to the management of a huge volume of statistics . The main fulfillment of DL contributed a brand new direction to tackle problems related to the management of space. That has the belongings to categorize a large extent of statistics sent and acquired by way of gadgets. DL renders assist to a large sensor information for effective getting to know of underlying capabilities in sensible gadgets. Explicit merge of IoT and DL has provided new packages of IoT consisting of disease analysis, fitness



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Image Colorization ✓**Karthick Raja¹, S.S.Vasantha Raja²**¹PG Student, ² Assistant ProfessorDepartment of Computer Science and Engineering
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Abstract: Previous approaches to black and white image colorization relied on manual human annotation, which frequently resulted in desaturated results that were not believable as true colorizations. The project attempts to generate a plausible color version of a grey scale photograph given as input. It's a fully automated process for creating beautiful, lifelike colorization. By framing the challenge as a classification job, it accepts the problem's underlying ambiguity and uses class re-balancing during training to increase the diversity of colors in the end result. The system is trained on over a million color images and is implemented as a feed-forward pass in a CNN during testing. By a large margin, this strategy surpasses earlier methods. It also shows that colorization can be an effective pretext task for self-supervised feature learning when employed as a cross-channel encoder. On a variety of feature learning benchmarks, this technique achieves cutting- edge results.

Keywords: Colorization, CNN, Deep Learning, Image Coloring.



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consumption for this purpose is an important point of concern. In this project we develop a system that automates this process which is based on computer vision and machine learning. The proposed system will capture the image which will be compared with image in the database. The database will be updated upon the enrolment of a new student. The system marks the attendance if the captured images matches the image in the database that is if both the images are identical.

Keywords: Facial Recognition, Machine Learning, Image Processing

CS023

Intelligent Cursor Control System for Disabled People ✓

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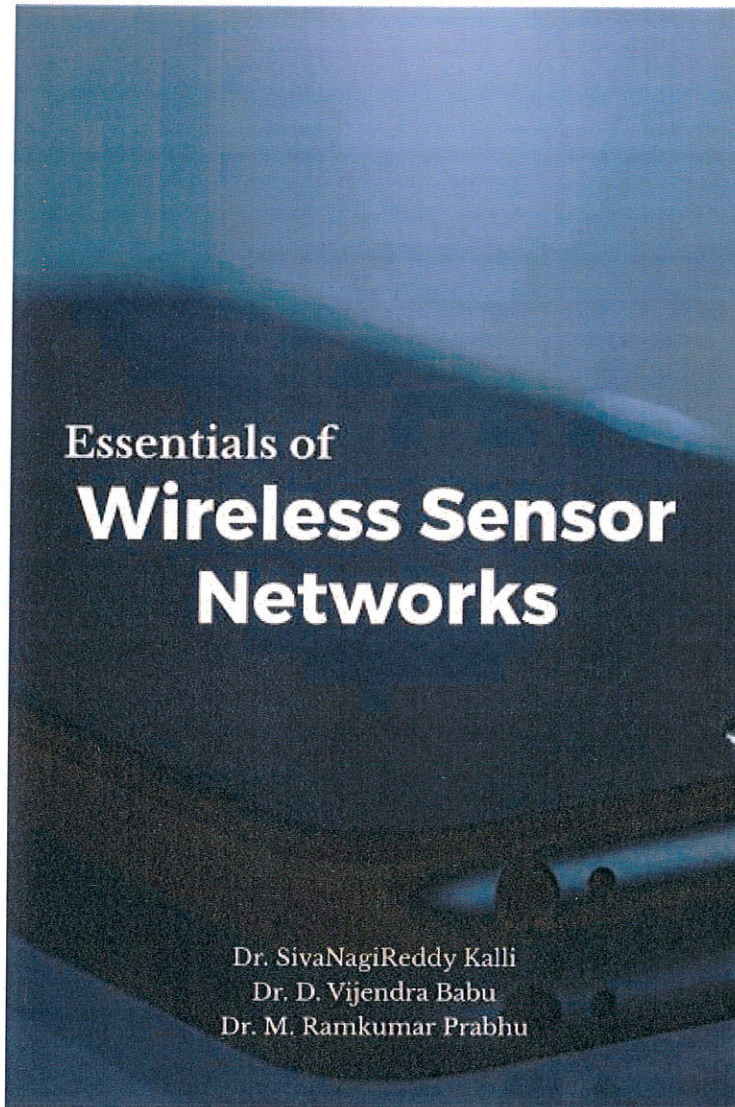
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Abstract: The basic goal of human computer interaction system is to improve the interaction between users and computers by making the computer more receptive to user needs . Human computer interaction with a personal computer is not just limited to keyboards and mouse interaction today .interaction between humans comes from different sensory modes like gesture ,speech, facial and body expression .our project shows the design and implementation of a gesture control system ,which determines the gesture from the movement of the hands the paper presents the literature survey conducted provides an insight in different methods that can be adopted and implemented to achieve the hand gesture recognition it also helps in the advantages and disadvantages associated with various techniques. Further in this paper we have two interfaces the distance sensor interface and the accelerometer interfaces the distance sensor interface translates the gesture for action between shuffling between different applications ,volume control ,keyboard shortcut and scrolling and so on: while the accelerometer interfaces realize with the typing part of the system


Keywords : Gesture Control ,Human Control Interface , Ultra Sonic Sensor and Accelerometer


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Essentials of
**Wireless Sensor
Networks**

Dr. SivaNagiReddy Kalli
Dr. D. Vijendra Babu
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Artificial Intelligence


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**Animal Repellent System for Smart Farming Using Artificial Intelligence
and Deep Learning.**

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Abstract: Agriculture Automation has been on the rise averaging. One of the main concerns of today's farmers is protecting crops from wild animal's attack. Develop a system, that combines AI Computer Vision using DCNN for detecting and recognizing animal species, and species ultrasound emission (i.e., different for each species) for repelling them. DCNN model to identify the 90 different animals provided in the data set. Finally, train and test the CNN model and visualize the results by plotting the confusion matrix. Alert the farmers by sending SMS.

Keywords: Animal relent, Agriculture Automation, DCNN

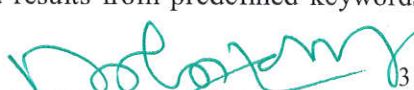
File Transfer During Virtual Machine Migration In Hybrid Cloud

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Abstract : Semantic searching over encrypted data is a crucial task for secure information retrieval in public cloud. It aims to provide retrieval service to arbitrary words so that queries and search results are flexible. In existing semantic searching schemes, the verifiable searching doesn't be supported since it is dependent on the forecasted results from predefined keywords



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Brain Tumor Diagonation Using Machine Learning ✓Sathiyaseelan.P¹ Sathish Kumar.P²,Nizamuddin.S³Vijay Narayanan⁴

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Abstract: Brain tumor means the aggregation of abnormal cells in some tissues of the brain. Brain tumor can be cancerous or noncancerous. The most common types of brain tumors are Glioma, Meningioma, and Pituitary tumor. Early detection of tumor cells plays a major role in treatment and recovery of patient. Diagnosing a brain tumor usually undergoes a very complicated and time-consuming process. The MRI images of various patients at various stages can be used for the detection of tumor. Support vector machine model algorithm helps in detecting the tumor at early stage with accuracy. We proposed Logistic Regression for detection of tumor cells which gives accuracy more than 90%. Both these models of machine learning help to detect brain tumor.

Keywords: Brain Tumor, Support Vector Machine, Machine Learning



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and are strategic in the advancements have led to an increase in the popularity of consumer-to-consumer product trading(c2c-pt). How c2c-pt affects the manufacturer (called the “firm”) and consumers in sense that they are forward-looking utility maximizes. The firm makes the optimal decision on the product selling price. we study the impacts of c2c-pton both the firm and consumers. We identify the optimal purchasing decision for the consumers and establish the optimal pricing policy for the firm. We show that the presence of c2c-pt may either benefit or hurt the firm and consumers, while the consumer’s strategic behavior will always bring harm the firm. most interestingly, We prove that strategic purchasing behavior is not always beneficial to consumers themselves.

Keywords: Consumer, Product trading, C2C.


CS033

Extraction and Plotting of Spectral And Temporal Features Of EEG Rhymes ✓

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Abstract: Despite the Medical Community’s Astronomical Expansion, Understanding The Activity of The Human brain remains a challenging work for medical specialists, and the quantum of difficulty in treating conditions like epilepsy grows limitless. As a result, an automatic system that can plot brain waves will be of tremendous assistance to medical personnel in mapping the same with human emotions, and the collected information may be utilized to heal and prevent neural disorders using Machine Learning. In this work, the brain waves are obtained in the form of EEG waves and the same is denoised and filtered using renewed techniques and the features such as temporal an spectral are extracted from the EEG data and fruitful insights are obtained from the same.

Keywords : Spectral features, Temporal Features, EEG Rhymes.


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Facial Manipulation Detection using U-net ✓

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Abstract: As advanced face synthesis and manipulation methods are made available, new types of fake face representations are being created which have raised significant concerns for their use in day-to-day life. Hence, it is crucial to identify the digitally altered facial images. A new method to identify the manipulated human faces and locate the region of manipulation is done using U-net Architecture. This manipulated image, created by altering the original image, along with the mask of alteration is used to train the model. Image padding, rectified linear activation, max pooling, up convolution are performed and thus output mask is obtained. The accuracy and dice score are calculated. Thus the area of manipulation done on the human face is found by using U-net.

Keywords : Facial Manipulation, U-net, Image Processing

Real Time Facial Recognition Based Attendance System using Computer Vision and Machine Learning ✓

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Abstract: The uniqueness of an individual in his face as it contains many vital features. There are different prevailing methods to capture a person's presence like biometrics to take attendance or calling out the individuals name to take attendance which is time consuming process time

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Abstract: To design a recommendation system for the users to recommend the best topics among the users. To develop a system that promotes the interest of the user by recommending them with customized topics. LDA model is used for extracting all the topics of the user. Popular topics are then analyzed and extracted. Influence analysis is carried out to find the influenced topics for the users and the topics are classified to positive and negative topics. Those topics are then ranked using SVM algorithm. Finally recommendation of topics are given to the users.

Keywords: Personalized Recommendation, SVM, LDA Model, Influence Analysis

CS041

**Image Processing Based On Optical Character Recognition ✓
With Text To Speech For Visually Impaired**


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Abstract: The major problem faced by visually impaired people all these days is that they are unable to do text recognition on their own, which force them to depend on others for their day to day activities such as reading newspaper, letters sent through post, referring books etc. The ultimate aim of the project is to help visually impaired people to recognize the text. When a printed text is shown in front of the webcam it has to capture image, extract the text from the image and should read out the text either through computer audio or headphone. The capturing of the image is done using the system's webcam and extraction of text is done using the built program and further the text is recognized for words and spoke out through headphone or system audio. This aim is achieved by developing a module that convert the text into speech and speak out through the headphone/Speaker provided.

Keywords: Visually Impaired, OCR, Image Processing


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Improving Accessing Efficiency of Cloud Storage Using Deduplication and Feedback Schemes ✓

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Abstract: Cloud computing brings a lot of information extraction security and privacy concerns arise as users sensitive data are susceptible to both inside and outside attacks in cloud storage. Traditional encryption, while providing data confidentiality, is incompatible with data deduplication. Specifically, traditional encryption requires different users to encrypt their data with their own keys. Thus, identical data copies of different users will lead to different cipher texts making deduplication impossible. Convergent encryption has been proposed to enforce data confidentiality while making deduplication feasible. It encrypts/decrypts a data copy with a convergent key, which is obtained by computing the cryptographic hash value of the content of the data copy. After key generation and data encryption, users retain the keys and send the cipher text to the storage. Since the encryption operation is deterministic and is derived from the data content, identical data copies will generate the same convergent key and hence the same cipher text. Data deduplication is one of important data mining techniques for eliminating duplicate copies of repeating data by it compares the data in cloud storage to reduce the amount of storage space and save bandwidth. To protect the confidentiality of sensitive data while supporting deduplication, the convergent encryption technique has been proposed to encryption the data before outsourcing. To better protect data security. This paper makes the first attempt to formally address the problem of authorized data deduplication.

Keywords: Deduplication, Encryption, Cloud Computing


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28

Abstract: Augmented Reality is a combination of a real and a computer-generated or virtual world. It is achieved by augmenting computer-generated images on real world. It is of four types namely marker based ,marker less, projection based and superimposition based augmented reality.It has many applications in the real world. AR is used in various fields such as medical,education, manufacturing,robotics and entertainment. Augmented reality comes under the field of mixed reality. It can be considered as an inverse reflection of Virtual Reality. This paper gives information about marker based Augmented Reality.It analyses various types of applications and its advantages and disadvantages. This paper also gives us knowledge regarding those major threads that augmented reality will face in the near future and about its current and future applications. It provides a comprehensive study of Augmented Reality.

Keywords: Augmented Reality, Hirocard, Marker Based , Virtual Reality

CS029

Land Registration using Block Chain method ✓

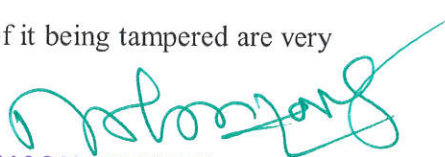
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Abstract: Land registration is an exhausting task, both physically and mentally as it involves effort and time of many parties often called as middlemen. It is possible to create a system which can make this process a lot more efficient as well as introducing an additional layer of security. The ownership can be transferred among parties while also keeping track of the entire process at each step. By making this process in a distributed smart contract, we can avoid middlemen such as land brokers and make this process a lot faster. This system reduces fraudulent activities and validation of the ownership becomes much simpler and the chances of it being tampered are very slim.

Keywords: Block Chain, Land Registration, Validation


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On-Demand Service System Using SOA ✓

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Abstract: The on demand home service system is incredibly useful for everybody who want home services. The services should be available near to the users. There are only three actors in our system, first is service providers, registered Us administrator. This entire system is formed using Service Oriented Architecture (SOA) which overcomes all the drawbacks of monolithic architecture. More over as per SOA' SA major advantage is that a interface can be integrated with type of backend service, this has been implemented in this proposed system using REST.

Keywords: On demand Service, Service Oriented Architecture, REST

Virtual Cloth Fitting In 2d Using Deep Learning

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Abstract: In online shopping, people would like to know how they look in a particular dress they tend to buy. To bring closer between in-store (offline) and online shopping and provide realistic


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Vehicle Collision Detection and Alert System Using YOLOv3 Approach ✓

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Abstract: According to worldwide statistics, Traffic accidents are the cause of a high percentage of violent deaths due to this and the wide use of video surveillance and intelligent traffic systems and automated traffic accident detection approach becomes desirable for computer vision researchers. Over the past years, automatic traffic accident detection based on video has become one of the most promising applications intelligent transportation and is playing a important role in playing traffic safety. Input is a video obtained via surveillance systems. Output results are acquired instantly in real time and we would be notified if there is a chance for collision or not. Our system is based on YOLO, Neural Network and Deep learning of object detection along with computer vision technology and several methods and algorithms.

Keywords : Vehicle Collision detection, YOLOv3, Deep Learning

Mouth Movement Recognition Using Artificial Intelligence ✓

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Abstract: Machine Learning techniques give computers the capability to train and learn by using sample inputs and provide outputs which leads a model to test the test cases instead of being programmed. Lip reading recognition is a task of converting speech (lip movements) to readable

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18

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Design of Hybrid Deep Learning Approach for Covid-19 Infected Lung Image Segmentation

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Abstract. Lung infection or sickness is one of the most common acute ailments in humans. Pneumonia is one of the most common lung infections, and the annual global mortality rate from untreated pneumonia is increasing. Because of its rapid spread, pneumonia caused by the Coronavirus Disease (COVID-19) has emerged as a global danger as of December 2019. At the clinical level, the COVID-19 is frequently measured using a Computed Tomography Scan Slice (CTS) or a Chest X-ray. The goal of this study is to develop an image processing method for analyzing COVID-19 infection in CTS patients. The images in this study were preprocessed using the Hybrid Swarm Intelligence and Fuzzy DPSO algorithms. The findings suggest that the proposed method is more dependable, accurate, and simple than existing methods.

Key words: Fuzzy logic, Classifier, Swam Intelligence

1. Introduction

The COVID-19 pandemic, according to the World Health Organization, is an infectious disease that has infected millions of people worldwide and killed thousands of people since December 19, 2019[2]. Because of the pandemic's widespread impact, COVID-19 offers a significant challenge to medical professionals. COVID-19 preparation and response must include rapid diagnosis and contact tracing in order to prevent the virus from spreading further[4]. As the number of new cases increases, particularly those requiring critical care, healthcare providers can use disease monitoring to make important treatment decisions. COVID-19 is a widespread disease that claims the lives of thousands of individuals every day. Early detection of this issue has proven to be one of the most effective strategies for infected tree cutting [8].

The rising number of COVID-19 patients is putting a strain on many countries' health-care systems. As a result, having a reliable automated approach for identifying and measuring infected lung regions would be invaluable. The creation of a system for linguistically segmenting medical lung scans of COVID-19 patients would help with the quantification of anomalies and research in this area [7]. It would aid front-line responders in better managing the situation of overwhelmed hospitals during the pandemic. While CT is a viable approach



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1

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Data Obfuscation Technique in Cloud Security

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Abstract—Cloud storage, in general, is a collection of Computer Technology resources provided to consumers over the internet on a leased basis. Cloud storage has several advantages, including simplicity, reliability, scalability, convergence, and cost savings. One of the most significant impediments to cloud computing's growth is security. This paper proposes a security approach based on cloud security. Cloud security now plays a critical part in everyone's life. Due to security concerns, data is shared between cloud service providers and other users. In order to protect the data from unwanted access, the Security Service Algorithm (SSA), which is called as MONcrypt is used to secure the information. This methodology is established on the obfuscation of data techniques. The MONcrypt SSA is a Security as a Service (SaaS) product. When compared to current obfuscation strategies, the proposed methodology offers a better efficiency and smart protection. In contrast to the current method, MONcrypt eliminates the different dimensions of information that are uploaded to cloud storage. The proposed approach not only preserves the data's secrecy but also decreases the size of the plaintext. The existing method does not reduce the size of data until it has been obfuscated. The findings show that the recommended MONcrypt offers optimal protection for the data stored in the cloud within the shortest amount of time. The proposed protocol ensures the confidentiality of the information while reducing the plaintext size. Current techniques should not reduce the size of evidence once it has been muddled. Based on the findings, it is clear that the proposed MONcrypt provides the highest level of protection in the shortest amount of time for rethought data.

Keywords—cloud storage, cloud service providers, cloud security, obfuscation, MONcrypt, protocol.

I. INTRODUCTION

Cloud Computing, as opposed to a local Server or a Personal Computer, is an online Network for storing, managing, and processing data. Grid Computing, Concurrent Computing and Distributed Computing have all influenced it [1,6]. It's a strategy known as pay as you go. It offers programs that are available on demand. Data

confidentiality is the most important topic in Cloud Computing. Safety and Privacy in present Cloud Technology and it has been a genuine concern in today's open Cloud World. The number of Cloud accounts has increased as more People move their Data to the Cloud for security, stability, and performance. Due to several protection challenges, Data were exposed by Cloud service providers and other unauthorized Cloud users.

To protect the Information in the Cloud from unauthorized uses, this research work considers using a confidentiality strategy known as MONcrypt SSA [3]. Data obfuscation is the foundation of this secrecy strategy. Data masking is another name for data obfuscation. To truly comprehend Information hiding and its establishment potential, initially its way of operation must be comprehended. Data masking is the method used for covering the original data with modified information, as the name implies (either with characters or other data) [4].

It is a technique for creating a primarily indistinguishable but fake depiction of an association's information for reasons like code checking and Clients training. The objective is to protect the genuine subtleties while also offering a useful substitute for when they aren't required. In Information masking, the awareness format remains the same; just the qualities are modified. The Data might be changed in an assortment of ways, including encryption, character rearranging, and character or word replacement.

Base32, Base64, and Hexadecimal encoding are the most widely used Obfuscation methods. MONcrypt is compared to other Obfuscation methods. In contrast to other Obfuscation strategies such as base32 and Hexadecimal, MoNcrypt SSA offers improved efficiency and protection [3]. Obfuscation of Data is similar to Encryption. The primary distinction between Obfuscation and Encryption is that encrypted information should be decoded before processing, whereas Obfuscated information can be processed without being decrypted. For Data storage

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Smart Innovation, Systems and Technologies 196

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Beyond Kirana Stores: A Study on Consumer Purchase Intention for Buying Grocery Online	599
R. Sowmyanarayanan, Gowtam Krishnaa, and Deepak Gupta	
Car Damage Recognition Using the Expectation Maximization Algorithm and Mask R-CNN	607
Aseem Patil	
Deep Learning Methods for Animal Recognition and Tracking to Detect Intrusions	617
Ashwini V. Sayagavi, T. S. B. Sudarshan, and Prashanth C. Ravoor	
VR Based Underwater Museum of Andaman and Nicobar Islands	627
T. Manju, Allen Francis, Nikil Sankar, Tharick Azzarudin, and B. Magesh	
Network Performance Evaluation in Software-Defined Networking	633
Shilpa M. Satre, Nitin S. Patil, Shubham V. Khot, and Ashish A. Saroj	
Performance Improvement in Web Mining Using Classification to Investigate Web Log Access Patterns	647
Charul Nigam and Arvind Kumar Sharma	
Array Password Authentication Using Inhibitor Arc Generating Array Language and Colored Petri Net Generating Square Arrays of Side 2^k	659
S. Vaithyasubramanian, D. Lalitha, A. Christy, and M. I. Mary Metilda	
sVana—The Sound of Silence	669
Nilesh Rijhwani, Pallavi Saindane, Janhvi Patil, Aishwarya Goythale, and Sartha Tambe	
Coreveillance—Making Our World a “SAFER” Place	681
C. S. Lifna, Akash Narang, Dhiren Chotwani, Priyanka Lalchandani, and Chirag Raghani	
Large-Scale Video Classification with Convolutional Neural Networks	689
Bh. SravyaPranati, D. Suma, Ch. ManjuLatha, and Sudhakar Putheti	
Saathi—A Smart IoT-Based Pill Reminder for IVF Patients	697
Pratiksha Wadibhasme, Anjali Amin, Pragya Choudhary, and Pallavi Saindane	
Predictive Analysis of Alzheimer’s Disease Based on Wrapper Approach Using SVM and KNN	707
Bali Devi, Sumit Srivastava, and Vivek Kumar Verma	
A Novel Method for Enabling Wireless Communication Technology in Smart Cities	717
Vijay A. Kanade	


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VR Based Underwater Museum of Andaman and Nicobar Islands



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Abstract Nowadays, world is full of technology and inventions. Many computer applications are developed in the favour of mankind and to ease human work. As a top trending, technology acts a human organ. Every day wakes up using technology and doze off using a technology. In short, technology is moving along with us in our day-to-day life. So it is all about how we are going to use the technology. Speaking of technology, we can see many technologies ruling the world. Like Big Data, Internet of Things, etc., virtual reality is also one of the promising fields. The term virtual reality is used to describe a 3D virtual environment created by sensors which allows interaction. The environment develops an immersive feel that the person is actually in a real environment and he can manipulate objects or perform some actions [1]. Using this virtual reality technology, our aim is to develop an underwater museum to experience the feel of being under the sea.

1 Introduction


Andaman and Nicobar Islands is a place to most spectacular species of marine life in the world. Over 560 different species of corals had been recorded until date, and variety of the sights underwater can leave you spellbound. One of the few tourist attractions in India for underwater activities, the corals in Andaman Islands, makes it a must visit for everyone. Apart from being mesmerized by the beauty of the world within your world, what do you really see underwater? This project takes you through some of the marine life and corals you may see during your dive or underwater walk.

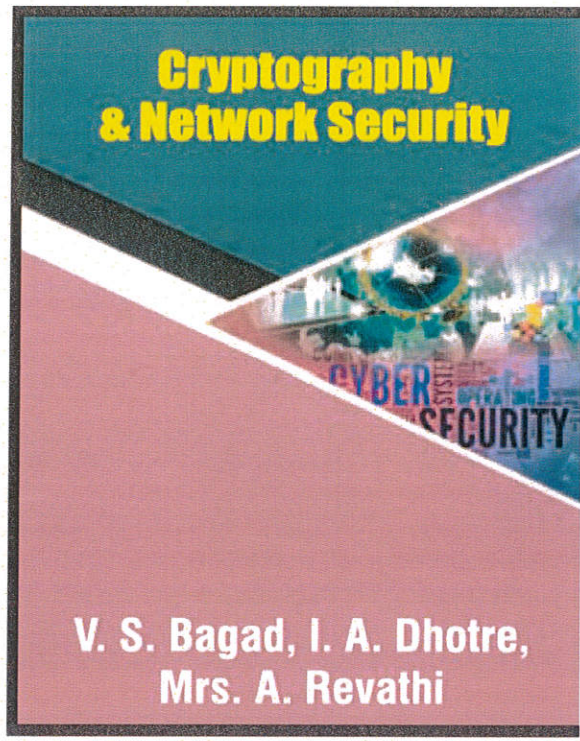
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627


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Strictly as per Revised Syllabus of
ANNA UNIVERSITY
 Semester - VII (CSE/IT)
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CRYPTOGRAPHY & NETWORK SECURITY

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TECHNICAL PUBLICATIONS
 An Up-Thrust for Knowledge

[Handwritten Signature]
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CHARULATHA PUBLICATIONS


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deceiving people to an extent which needs to be stopped. This Project comes up with the applications of NLP (Natural Language Processing) techniques for detecting the 'fakenews', that is, misleading news stories that comes from the non-reputable sources.

CS001/013

**ASCERTAINABLE PRIVACY- PERPETUATE PROFOUND RESEARCH BASED ON
FEDERAL**

K.A.MalavikaShreedevi¹, P.Dhatchayini², C.Anu³, Ms.M.Vaishnavi⁴

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PERI Institute of Technology

ABSTRACT: This project proposes the knowledge of sharing the data of their own, which is stored in a secured manner. Even though the data are stored in decentralized which record is a grouping transaction. A ledger is a database of recreating, shared and concur digital data that is geographically spread across several sites in a network. Rather than having a central administrator like a traditional database, the ledgers have a system of synchronized databases that provide an auditable history of information and are visible to anyone within the network. The reality is that they will need data for themselves, which means they need to share the details with others which can be handled by the distributed ledger. So, we proposed this method with the threshold paillier theorem to share the information and stored in the database. It will manage or decide all the information which is going to be shared with a person. Keywords - sharing the data, secured manner, digital data.

CS001/014

AADHAR BASED SECURE BIOMETRIC VOTING MACHINE

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ABSTRACT: Voting Machine plays an important role during elections. The election commission of India uses electronic voting machines which need more man-power, time consuming and also they are less trusted. The voting system is managed in a easier way all the

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CS001/020

AN ADVANCED INFORMATION SECURITY SYSTEM TEXT- BASED GRAPHICAL PASSWORD SCHEME USING CLOUD COMPUTING

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ABSTRACT: Support Vector Machine and distributed SVM are among the major threats to cyber-security, and client puzzle, which demands a client to perform computationally expensive operations before being granted services from a server, is a well-known countermeasure to them. However, an attacker can inflate its capability of dos attacks with fast puzzle-solving software and/or built-in graphics processing unit (GPU) hardware to significantly weaken the effectiveness of client puzzles. In this paper, we study how to prevent dos attackers from inflating their puzzle-solving capabilities. To this end, we introduce a new client puzzle referred to as software puzzle. Unlike the existing client puzzle schemes, which publish their puzzle algorithms in advance, a puzzle algorithm in the present software puzzle scheme is randomly generated only after a client request is received at the server side and the algorithm is generated such that: 1) an attacker is unable to prepare an implementation to solve the puzzle in advance and 2) the attacker needs considerable effort in translating a central processing unit puzzle software to its functionally equivalent GPU version such that the translation cannot be done in real time. Moreover, we show how to implement software puzzle in the generic server-browser model.

CS001/021

LORA INTEGRATED FOREST FIRE DETECTION USING ARDUINO

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ABSTRACT: This paper presents a fire detection and alert system alert system based on IOT. Here a specific environment is monitored 24x7 and the user is alerted in case of any fatal situation. This can be implemented using a nodemcu and a number of sensors for detecting different physical parameters that can go high during a fire related accident. Arduino is an IOT based controller board. Here two parameters are being monitored continuously temperature and presence of smoke. For sensing temperature LM35 temperature sensor is used. For sensing presence of smoke a gas sensor called MQ6 is used, this sensor can detect and measure any

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shuffling problem has two phases: workers communicate with each other during the data shuffling phase, and then workers update their stored content during the storage phase. The main challenge is to derive novel converse bounds and achievable schemes for decentralized data shuffling by considering the asymmetry of the workers' storages (i.e., workers are constrained to store different files in their storages based on the problem setting), in order to characterize the fundamental limits of this problem. For the case of uncoded storage (i.e., each worker directly stores a subset of bits of the dataset), this paper proposes converse and achievable bounds (based on distributed interference alignment and distributed clique covering strategies) that are within a factor of $3/2$ of one another. The proposed schemes are also exactly optimal under the constraint of uncoded storage for either large storage size or at most four workers in the system.

CS001/011

AUTOMATION SYSTEM FOR IRRIGATION USING ELECTRONIC DEVICES AND SENSORS

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Assistant Professor¹, Student^{2,3,4}

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ABSTRACT : Watering systems ease the burden of getting water to plants when they need it. To make the gardener works easily, the irrigation watering system is created. India is an agricultural country, wherein about 70% of the population depends on agriculture. Farmers have wide range of diversity to select suitable fruits and vegetables crops. However, the cultivation of these crops for optimum yield and quality produce is highly technical. Watering the plant is the most important cultural practice and one of the labor intensive tasks in daily greenhouse operation. Automating the watering systems based on moisture content of the soil and the available water stored ease the burden of getting water to plants when and how much they need. To make the gardener works easily, the irrigation watering system is created.

CS001/012

FAKENEWS DETECTION USING NATURAL LANGUAGE PROCESSING

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ABSTRACT: Fake news one of the biggest new-age problems has the potential to mould opinions and influence decisions. The proliferation off ake news on social media and Internet is

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crops. Many farmers are facing the problem to choose approximate amount of fertilizer depends on the soil and climate condition. This paper provides recommendation to increase the productivity by applying data mining techniques in agriculture. Fertilizer Recommendation is based on minerals of soil parameter like Nitrogen, Phosphorus and Potassium by using K-mean clustering, The Nearest neighbour and decision tree and neural network algorithm.

Keywords: Agriculture, Soil Fertility, Fertilizer Recommendation, Data Mining, Clustering, Classification, Neural Network

CS001/003

KEYLOGGERS SOFTWARE IMPLEMENTATION AND DETECTION ✓

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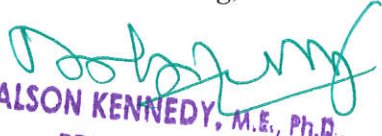
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ABSTRACT:It is likely that about one out of many large companies systematically monitors the computer, internet, or email use of its users' employees. There are over hundred's different products available today that will let organizations see what their users do at work on their "personal" computers, in their email, and on the internet. But what do such numbers really mean? What does company monitor of user/employee? email, internet, and computer usage actually look like? What sorts of things can an organization/company? see users do at their computers, and what sorts of computer activities are currently invisible to workplace monitoring? This admittedly document attempts to propose, as concretely as possible what "Informational Flow" on internet and computer usage looks like: its extent, the key concepts involved, and the forces driving its adoption. The keylogging program logs all keystrokes (aka Keystroke Logging) along with the name of the application in which the keystrokes were entered. Using keylogger we prevent the miscellaneous use of system. Using this we capture all information in text and image form.

Keywords: Email monitoring, Internet monitoring, Computer monitoring, Chats/IM is monitoring, Network monitoring, Document monitoring, Web site monitoring, Productivity monitoring, keylogging.


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CS001/004

STREAMLINED REPRESENTATIVE PRIVATESET INTERSECTION ON EXTERNALISINGSEPARATE DATA SERIES

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ABSTRACT: Many data-driven personalized services require that private data of users is scored against a trained machine learning model. In this paper we propose a novel protocol for privacy-preserving classification of decision trees, a popular machine learning model in these scenarios. Our solution is composed out of building blocks, namely a secure comparison protocol, a protocol for obliviously selecting inputs, and a protocol for multiplication. By combining some of the building blocks for our decision tree classification protocol, we also improve previously proposed solutions for classification of support vector machines and logistic regression models. Our protocols are information theoretically secure and, unlike previously proposed solutions, do not require modular exponentiations. We show that our protocols for privacy-preserving classification lead to more efficient results from the point of view of computational and communication complexities. We present accuracy and runtime results for seven classification benchmark datasets from the UCI repository

Keywords: Private classification, decision trees, support vector machines, logistic regression, secure multiparty computation, secret sharing, privacy-preserving computation

CS001/005

FINGER RECOGNITION AND GESTURE BASED VIRTUAL KEYBOARD

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ABSTRACT: Hand gesture recognition is very significant for human computer interaction. In this work, we present a novel real-time method for hand gesture recognition. In our framework, the hand region is extracted from the background with the background subtraction method. Then, the palm and fingers are segmented so as to detect and recognize the fingers. Finally, a rule classifier is applied to predict the labels of hand gestures. The experiments on the data set of 1300 images show that our method performs well and is highly efficient. Moreover, our method

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shows better performance than a state-of-art method on another data set of hand gestures. In this study, by using image processing (IP) and CV techniques, with interpreting the hand movements of the user that enter the vision field of the camera, it can be used more functionally and the user can manage the computer without any physical contact and as being away from the monitor.

Keywords: Image Processing (IP), Computer Vision (CV), Machine Learning

CS001/006

PREDICTION OF HEART DISEASE DIAGNOSIS USING MACHINE LEARNING ✓

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ABSTRACT:A popular saying goes that we are living in an “information age”. Terabytes of data are produced every day. Machine learning is the process which turns a collection of data into knowledge. The health care industry generates a huge amount of data daily. However, most of it is not effectively used. Efficient tools to extract knowledge from these databases for clinical detection of diseases or other purposes are not much prevalent. The aim of this paper is to summarize some of the current research on predicting heart diseases using machine learning techniques analyze the various combinations of mining algorithms used and conclude which techniques are effective and efficient. Also, some future directions on prediction systems have been addressed. We apply SVM, Random Forest& ANN algorithms.

CS001/007

DETECTION OF FACIAL EXPRESSION IN REAL TIME USING MACHINE LEARNING ✓

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Human emotions are natural expressions that people tend to make naturally, instead of any conscious effort that is accompanied by the reflexing of facial muscles. Some of the common emotions are happy, sad, surprised, anger and stable (normal) which a human face can make according to the different situations one may find itself in. We present the software which

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CS001/009

WEB BASED ANDROID ONLINE AUCTION APPLICATION ✓Mrs.K.Varalakshmi¹, B.Priyadharshini², K.SasiRekha³, C.Shubhada⁴*Associate Professor¹, Student^{2,3,4}**Department of Computer Science Department**PERI Institute of Technology*

ABSTRACT:Recently there has been a rapid growth of online auction in e-commerce platform. This paper presents experience with designing and implementing the auction system design. An Auction is a method of buying and selling products by presenting them for a bid, accepting the bid, and then selling the items to the highest bidder. This project is based on the android online auction application, DealDaddy. It presents a online service based platform for buying and selling products. This application works on the basis of product auction (Bidding). Every product will be assigned a base price for bidding. The user with the highest bid price will buy the product and E-mail notifications will be sent. The buyer and seller details are concealed with each other. The English Auction being the most popular auction, this application deals with it. In this application, the buyer and seller are encrypted with each other. Here the buyer and seller both can set the geographical limit according to their convenience for buying and selling their products. The overview of DealDaddy is presented in this paper.

CS001/010

CONSTITUTION OF CURB THROUGH SCRAMBLING OF DATA ✓Mrs. R.Selvi¹, R. Aksshaya², J.Indumathy³, S.Nivetha⁴*Assistant Professor¹, Student^{2,3,4}**Department of Computer Science Department**PERI Institute of Technology*

ABSTRACT:Decentralized data are received and those data are shufflingData shuffling of training data among different computing nodes (workers) has been identified as a core element to improve the statistical performance of modern large-scale machine learning algorithms. Data shuffling is often considered as one of the most significant bottlenecks in such systems due to the heavy communication load. Under a master-worker architecture (where a master has access to the entire dataset and only communication between the master and the workers is allowed) coding has been recently proved to considerably reduce the communication load. This work considers a different communication paradigm referred to as decentralized data shuffling, where workers are allowed to communicate with one another via a shared link. The decentralized data

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users should login by Aadhar card number and password and click on his/her favorable candidates to cast their vote. In this paper we will review on Aadhar based biometric voting machine survey, the research conducted by various researchers related to the discipline of biometric voting machine are taken into consideration and discussed in chronological order.

CS001/015

**WOMEN SAFETY SYSTEM USING BEACONS SIGNAL IN INFRASTRUCTURE-
LESS AREA**

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ABSTRACT: The Project Provides a Complete Safety to Women in the area where there is No Infrastructure, This Project Combines two different concept. The First Concept deals with Infrastructure area If abnormal Condition is Detected using Two Sensor (Namely Galvanic Skin response sensor and Heartbeat Sensor) then by using GSM Infrastructure alert signal sent to home and Police Station, If there is no infrastructure there Comes beacon Concept (Beacon - Bluetooth which pairs nearby Smart devices up to 200 - 300m) By Using Beacon - alert Signals Sent to home and Police station in even Infrastructure less areas, If there is no causes of emergency, the alert signal can be paused / Stopped using constipated switch.

Keywords: Beacon, Infrastructure less areas, Galvanic skin response sensor, Heartbeat Sensor, LED

CS001/016

**REAL-TIME FIRE DETECTION AND VIDEO ALERTING SYSTEM
USING OPEN-CV TECHNIQUES**

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ABSTRACT: Fire detectors play a very important role. It helps in detecting fire at an early stage. Commercial fire detecting systems usually have an alarm signaling, with the help of a buzzer. In this paper, computer vision-based fire detection is used. In the proposed model a webcam is used as an alternative of surveillance camera for monitoring the interiors of building.

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The video is processed using open CV techniques using fire detection (Hue, Saturation, Value (HSV)) algorithms and if a fire is detected, a short duration of the live video is sent to the security or the higher officials followed by an alert message. Thus the number of people stuck in the fire blazing area can be rescued. In existing system, MATLAB tool is used for processing. While in the proposed system, Open CV Techniques is used for processing. Open CV has more functions for computer vision, and its processing time is less. Using this project, fire can be detected at early stage without any false alarming strategies, and peoples can be rescued thereby.

Keywords: Fire detection, Open CV Techniques, HSV (Hue, Saturation, Value) Algorithm, Alert message, Short duration Video alert, Rescue Strategy.

CS001/017

ENHANCING AND EVALUATING THE PRIVACY OF THE USER IN BITCOIN TRANSACTION

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ABSTRACT: Bitcoin and Blockchain plays a vital role that shares the amount in a cryptocurrency manner. It protects the transaction from the third party. Bitcoin has been criticized for its use in illegal transactions. To overcome the illegal transaction blockchain concept is used to protect the transaction from illegal purpose. Blockchain technology allows for verification without having to be dependent on third-parties. The transactions stored in the blocks are contained in millions of computers participating in the chain. Hence it is decentralized. There is no possibility that the data if lost cannot be recovered. Transactions that take place are transparent. The individuals who are provided authority can view the transaction.

Keywords: bitcoin, blockchain, transaction, stored, decentralized, authority.

CS001/018

PREDICTION OF BREAST CANCER STAGES USING MACHINE LEARNING ALGORITHM

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ABSTRACT: Breast cancer (BC) is one of the most common cancers among women worldwide, representing the majority of new cancer cases and cancer-related deaths according to global statistics, making it a significant public health problem in today's society. In recent years, machine learning has been widely used in detection and achieved favorable performance. Our analysis provides a comprehensive guide to sensitivity analysis of model parameters with regard to performance in detection of breast cancer stages by predicting result in the form of dataset attributes. BC is the mostly common cancer among women and the second leading cause of cancer death. Early diagnosis of cancer is critical. The sample obtained by an invasive technique can be easily digitized and used for computationally based diagnostic. Using machine learning methods for diagnostic can significantly increase processing speed and on a big scale can make the diagnostic significantly cheaper. The analysis of dataset by supervised machine learning algorithm to capture several information's like, variable identification, uni-variate analysis, bi-variate and multi-variate analysis, missing value treatments etc. The main objective is to predictive analytics model to diagnose breast cancer stages of patients. Additionally, discuss the performance from the given hospital dataset with evaluation classification report and identify the confusion matrix. The data validation, data cleaning/preparing and data visualization will be done on the entire given dataset. So, aim of categorizing data from priority and the result shows that the effectiveness of the proposed machine learning algorithm technique can be compared with best accuracy, precision, Recall and F1 Score.

Keywords: Dataset, python, Prediction of Accuracy result.

CS001/019

DETECTION OF LEAF DISEASES AND MEDICATION


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Abstract – The field of agriculture is in a great threat which includes the diseases that attack the plant leaf. Our system helps in finding out the areas that has been affected and also the disease that attacked the leaf. This is done by using Image Processing, there are many existing systems that detect the diseases in the leaf. Our system uses K-means clustering and Random Forest algorithms to accurately detect the disease in the plant leaf. And finally provide the respective Medication.


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carbon based gas smoke produces CO₂ this makes it possible to detect smoke using MQ6. Also a PIR sensor is used for detecting presence of any human. Both gas and temperature sensor is analog so cannot be connected to a digital pin but an analog pin that is input to an ADC (analog to digital converter). Also forest area can be monitored through a camera using this camera fire can be detected using image processing. For this we can run a python program from PC and using opencv library fire can be detected. This can be used as a contingency system if the sensors malfunction. If any fire is detected then a water sprinkler will be turned on to prevent fire also an alert is sent to concerned personal for further action. PIR sensor is used for detecting presence of any human, camera fire can be detected using image processing, python program from PC and using opencv library, fire is detected then a water sprinkler will be turned on to prevent fire also an alert is sent to concerned personal for further action.

Keywords: Detection and alert system based on IOT, sensors for detecting, physical parameters, LM35 temperature sensor, gas sensor called MQ6, PIR sensor.

CS001/022

ENCODED POLYMORPHIC ASPECTS OF CLUSTERING

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ABSTRACT: Multi-view Clustering performs effectively on multi-view data by considering the diversity and complementary of different views. We consider clustering problems in which the available attributes can be split into two independent subsets, such that either subset suffices for learning. In a multi-view clustering algorithm, the mixture components have a smaller overlap when the views are concatenated. A principled binary multi-view clustering method, dubbed BMVC, was proposed for solving the challenging problem of multi-view clustering on large-scale image data, which can greatly reduce the computational complexity as well as the memory requirement.

Keywords: Binary conversion, Clustering, Collaboration discrete representation learning, binary clustering learning, Optimization, Memory management


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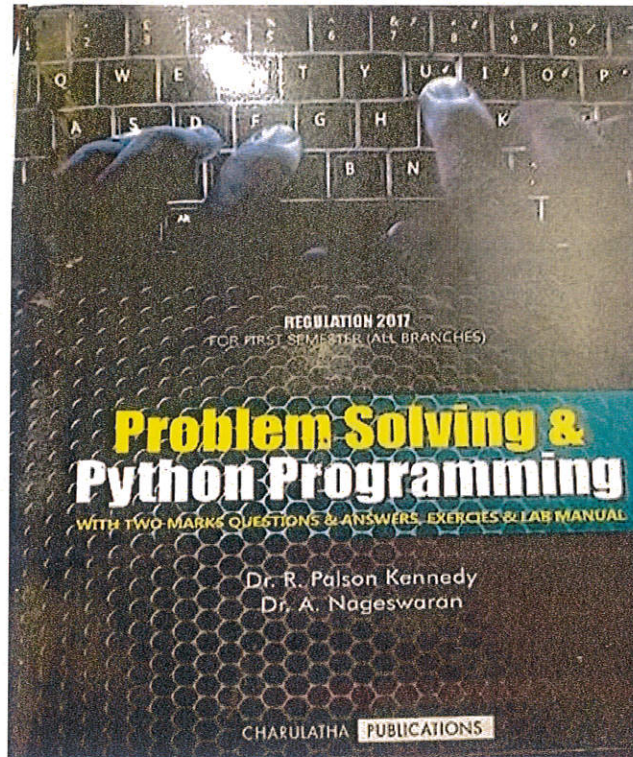
CS001/023

**COMBINED APPROACH OF IOT, SDN, AND EDGE/CLOUD COMPUTING FOR
EFFICIENT NETWORK RESOURCE USE AND IOT ANALYTICS**¹V.Karthik, ²Dr.R.Palson Kennedy, ³Dr.D.Rajiniginath.²Principal, PERI Institute of Technology, ³Prof & HOD, Department of CSE,
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Abstract— Massive amount of data collection, process, store and analysis form traditional numerous IoT devices to centralized cloud computing is infeasible because of serious bottlenecks problem of internet bandwidth limitations and network latency. In order to overcome this problem, combined approach of edge/fog computing and Software Defined Network (SDN) with IoT, provide scalable and efficient solutions, Edge computing provide decentralize distribute computing at the network edge (near the end user). Thus a number of computation node distributed across the network can offload the computational stress away from centralized cloud and can significantly reduce latency in data/message transport. Software Defined Network(SDN) provide intelligent routing decisions and deployment. This paper presents IoT – aware multi-layer SDN and edge/cloud orchestration architecture that deliver an IoT- traffic control and congestion avoidance mechanism for dynamic distribution of IoT processing to the edge of network based on the actual network resource state.

Index Terms— Internet of things(IoT), Software Defined network(SDN),edge Computing,Cloud computing, Cloud orchestration.


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Problem Solving & Python Programming

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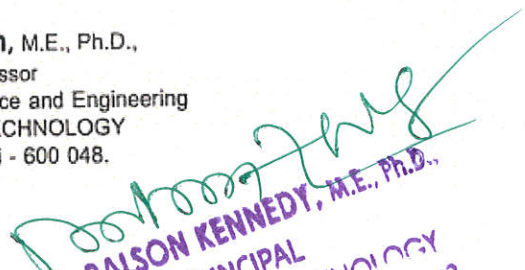

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TABLE OF CONTENT

UNIT - 1 ALGORITHMIC PROBLEM SOLVING

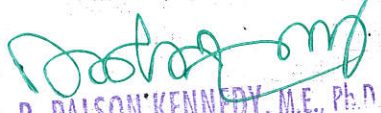
1.1.	Algorithm	1.1
1.1.1	Basic Building Blocks of Algorithm	1.2
1.1.1.1	Sequence Structure	1.2
1.1.1.2	Selection Structure	1.3
1.1.1.3	Iteration Structure	1.4
1.2	Flowchart	1.6
1.2.1	Types	1.7
1.2.1.1	High-Level Flowchart	1.7
1.2.1.2	Detailed Flowchart	1.7
1.2.1.3	Deployment or Matrix Flowchart	1.7
1.3	Pseudocode	1.11
1.3.1	Three Basic Constructs for Flow of Control	1.11
1.3.1.1	Sequence	1.11
1.3.1.2	Selection	1.12
1.3.1.3	Repetition	1.14
1.3.2	Nested Constructs	1.17
1.4	Illustrative Problems	1.19
1.4.1	Algorithm to Check Whether a Number Entered By User is Prime or Not	1.19
1.4.2	Algorithm to Find Minimum and Maximum Elements in the List.	1.19
1.4.3	Algorithm to Print Numbers From 1 to 20.	1.20
1.4.4	Algorithm to Convert Temperature From Fahrenheit to Celsius	1.20
1.4.5	Algorithm to Determine and Output Whether Number n is Even or Odd	1.20
1.4.6	Algorithm to Determine Whether a Student Passed the Exam or Not	1.21
1.4.7	Flowchart to Print Numbers From 1 to 20	1.21
1.4.8	Flowchart to Convert Temperature From Fahrenheit to Celsius	1.21
1.4.9	Flowchart to Determine and Output Whether Number n is Even or Odd	1.22
1.4.10	Flowchart To Determine Whether A Student Passed The Exam or Not	1.22
1.4.11	Towers of Hanoi	1.22

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 PRINCIPAL
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1.4.12	Guessing Game	1.24
1.4.13	Flow Chart for Finding Minimum Number in a List.	1.26
1.4.14	Flowchart for Inserting a Card in a List of Sorted Cards	1.26
1.4.15	Pseudo Code to Find Minimum in a List	1.27
1.4.16	Pseudo Code to Insert a Card in a List of Sorted Cards	1.27
1.4.17	Pseudo Code to Guess an Integer Number in a Range	1.28
1.4.18	Pseudo Code for Towers of Hanoi	1.28
	Two Marks Question & Answer	1.29

UNIT - 2 DATA, EXPRESSIONS, STATEMENTS


2.1.	Introduction: Python	2.1
2.1.1	Values And Types	2.2
2.1.1.1	Number Data Type	2.2
2.1.1.2	String Data Type	2.3
2.1.1.3	List Data Type	2.3
2.1.1.4	Tuple Data Type	2.4
2.1.1.5	Dictionary Data Type	2.5
2.1.1.6	Boolean Data Type	2.5
2.2	Variable	2.5
2.3	Expressions And Statements	2.6
2.4	Comments	2.6
2.5	Operators	2.7
2.5.1	Types of Operator	2.7
2.5.1.1	Arithmetic Operators	2.7
2.5.1.2	Comparison (Relational) Operators	2.8
2.5.1.3	Assignment Operators	2.9
2.5.1.4	Logical Operators	2.11
2.5.1.5	Bitwise Operators	2.12
2.5.1.6	Membership Operators	2.13
2.5.1.7	Identity Operators	2.14
2.5.1.8	Unary Arithmetic Operators	2.14
2.5.2	Operator Precedence	2.15


 Dr. R. PALSON KENNEDY, M.E., Ph.D.
 PRINCIPAL
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 Mannivakkam, Chennai - 600 048.


2.6	Functions	2.16
2.6.1	Types of Functions	2.16
2.6.1.1	Built-In/Pre-Defined Function	2.16
2.6.1.1.1	Type Conversion Functions	2.17
2.6.1.1.2	Math Functions	2.19
2.6.1.2	User Defined Function	2.20
2.7	Illustrative Programs	2.24
2.7.1	Function to Exchange the Values of Two Variables	2.24
2.7.2	Python Program to Test for Leap Year	2.25
2.7.3	Python Program to Test for Leap Year Using Calendar Module	2.25
2.7.4	Python Function to Sum All the Numbers in a List	2.26
2.7.5	Python Program to Reverse a String	2.26
2.7.6	Python Function to Check Whether a Number is in a Given Range	2.26
2.7.7	Python Program to Print the Even Numbers From a Given List	2.27
2.7.8	Function that Circulates/Rotates the List Values for Given Number of Times (Order)	2.27
2.7.9	Function that Takes a Number as a Parameter and Check the Number is Prime or Not	2.28
2.7.10	Function to Check Whether a Number is Perfect or Not	2.28
2.7.11	Function that Checks Whether a Passed String is Palindrome or Not	2.29
2.7.12	Function that Checks Whether a Number is Palindrome or Not	2.30
	Two Marks Question & Answer	2.21

UNIT - 3 CONTROL FLOW, FUNCTIONS

3	Conditionals	3.1
3.1	Boolean Values and Operator	3.1
3.2	Conditional Execution	3.3
3.2.1	Condition Statement (If)	3.3
3.2.2	If...Else Statement	3.5
3.2.3	Chained Conditionals (If-Elif-Else)	3.6
3.2.4	Nested Conditionals	3.8
3.3	Iteration	3.9
3.3.1	State of a Variable	3.9


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 PRINCIPAL
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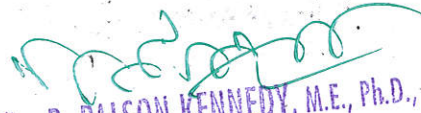
3.3.2	Looping Statements	3.11
3.3.2.1	While Loop	3.11
3.3.2.2	For Loop	3.12
3.3.3	Loop Control Statements	3.18
3.3.3.1	Break Statement	3.18
3.3.3.2	Continue Statement	3.20
3.3.3.3	Pass Statement	3.21
3.4	Variables and Scope	3.22
3.4.1	Scope Rules in Functions	3.23
3.4.2	Stack Diagrams	3.26
3.4.3	Fruitful Functions	3.28
3.4.4	Void Functions	3.28
3.4.5	Importing Modules	3.28
3.4.6	Input From Keyboard	3.30
3.4.6.1	The Input() Function	3.30
3.4.6.2	Input With Raw_Input()	3.30
3.4.7	Incremental Development	3.31
3.4.8	Function Composition	3.32
3.4.9	Boolean Functions	3.33
3.4.10	Recursion	3.34
3.4.10.1	Stack Diagram for Recursive Functions	3.35
3.4.10.2	Infinite Recursion	3.36
3.5	Strings	3.37
3.5.1	Subscript Operator	3.37
3.5.2	Len Function	3.38
3.5.3	In Operator	3.38
3.5.4	String Slices	3.38
3.5.5	Immutability	3.39
3.5.6	String Methods	3.39
3.5.7	String Module	3.42
3.6	Arrays	3.44
3.6.1	Lists as Arrays	3.45


 Dr. R. PALSON KENNEDY, M.E., Ph.D.,
 PRINCIPAL
 PERI INSTITUTE OF TECHNOLOGY
 Mannivakkam, Chennai - 600 048.

3.7	Illustrative Programs	3.47
3.7.1	Find Sum of Natural Numbers Using Recursion	3.47
3.7.2	Sequential Search	3.47
3.7.3	Binary Search	3.49
3.7.4	Program to Compute GCD, Square Root, and Exponentiation of a Given Number	3.51
3.7.5	Program to Compute Sum of Array Elements	3.51
3.7.6	Python Function that that Prints out the First N Rows of Pascal's Triangle	3.52
	Two Marks Question & Answer	3.54

UNIT - 4 COMPOUND DATA: LISTS, TUPLES, DICTIONARIES


4.1	Lists	4.1
4.1.1	Accessing Elements in Lists Using Subscript Operator	4.1
4.1.2	List Operations	4.2
4.1.3	List Slices	4.2
4.1.4	List Methods	4.3
4.1.5	List Loop	4.7
4.1.6	Mutability	4.8
4.1.7	Aliasing	4.9
4.1.8	Cloning Lists	4.11
4.1.9	List Parameters	4.13
4.1.10	Deleting List Elements	4.14
4.1.11	Python Functions For List Operations	4.15
4.1.12	List Comprehension	4.16
4.2	Tuples	4.18
4.2.1	Advantages of Tuple Over List	4.18
4.2.2	Accessing Values	4.20
4.2.3	Updating Tuples	4.21
4.2.4	Delete Tuple Elements	4.22
4.2.5	Tuple Assignment	4.23
4.2.6	Tuple Methods	4.25
4.2.7	Other Tuple Operations	4.26


Dr. R. PALSON KENNEDY, M.E., Ph.D.,
 PRINCIPAL
 PERI INSTITUTE OF TECHNOLOGY
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4.2.8	Tuples as Return Values	4.26
4.2.9	Built-In Functions with Tuple	4.27
4.2.10	Variable-Length Argument Tuples	4.28
4.2.11	Comparing Tuples	4.29
4.3	Dictionaries	4.30
4.3.1	Built-In Dictionary Functions & Methods	4.32
4.3.2	Access, Update, and Add Elements in Dictionary	4.33
4.3.3	Delete or Remove Elements from a Dictionary	4.33
4.3.4	Sorting a Dictionary	4.34
4.3.5	Iterating Through a Dictionary	4.35
4.3.6	Reverse Lookup	4.35
4.3.7	Inverting a Dictionary	4.36
4.3.8	Memoization (Memos)	4.37
4.4	Illustrative Programs	4.38
4.4.1	Python Program to Sort a List of Elements Using the Selection Sort Algorithm	4.38
4.4.2	Python Program to Sort a List of Elements Using the Insertion Sort Algorithm	4.40
4.4.3	Python Program to Sort a List of Elements Using the Merge Sort Algorithm	4.41
4.4.4	Python Program to Sort a List of Elements Using the Quick Sort Algorithm	4.43
	Two Marks Question & Answer	4.46

UNIT - 5 FILES, MODULES, PACKAGES

5.1	Files	5.1
5.1.1	Persistence	5.1
5.1.2	Reading and Writing	5.1
5.1.3	Format Operator	5.6
5.1.4	Filenames and Paths	5.11
5.2.	Errors and Exception	5.12
5.2.1	Errors	5.12
5.2.2	Exceptions	5.14


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5.2.2.1	Handling Exceptions	5.15
5.2.2.2	Raising Exceptions	5.18
5.2.2.3	The Else and Finally Statements	5.19
5.2.2.4	User-Defined Exceptions	5.20
3	Modules	5.21
5.3.1	Writing Modules	5.23
5.3.2	Locating Modules	5.26
3.4	Packages	5.27
5.4.1	Steps to Create a Python Package	5.27
5.5	Command Line Arguments	5.28
5.6	Illustrative Programs	5.29
5.6.1	Python Program to Handle Exception When File Open Fails	5.29
5.6.2	Python Program to Raise an Exception When the User Input is Negative.	5.29
5.6.3	Python Program to Count Number of Words in a File.	5.30
5.6.4	Python Program to Count the Frequency of Words in a Text File	5.30
5.6.5	Python Program to Copy a Content of one File to Another	5.30
5.6.6	Python Program to Append Text to a File and Display the Text	5.31
5.6.7	Python Program to Count the Number of Lines in a Text File	5.31
5.6.8	Random Access File - Python Program to Read a Random Line From a File	5.32
5.6.9	Program that Asks the User to Input Customer Information, Call Write to file Method to Write Data to the File and Call Getall Method to Retrieve Customer Information From File	5.32
5.6.10	With Reference to Previous Program, Write a Method to Search for a Customer By Name	5.33
5.6.11	Using Previous Search Method, Write a Program to Delete a Customer Name From File	5.34
	Two Marks Question & Answer	5.35
	Python Download and Installation Instructions	1-7

Appendix – A Lab Programs

App-A.1

Appendix – B Solved Programs in Python

App-B.1


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Object Oriented Analysis and Design

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model was built, and a series of experiments were executed and their results analysed against a number of metrics to assess if this type of algorithm presents and improvements when compared to other Data Mining methods and investment strategies. The results that were obtained are promising, getting up to an average of 65.9% of accuracy when predicting if the price of a particular stock is going to go up or not in the near future.

Keyword: Prediction, Neural Networks, Algorithm, Stock Market, Future, Analyze, Historical Data, Data Mining.

CS002-P32 Hand Gesture Recognition to Control Various Application Using Distance Based Analysis and Computer Vision

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Abstract-This paper proposes a novel camera vision based cursor control system along with Arduino based controls to control the keyboard, using hand gestures captured from a webcam through a color detection technique. The system will allow the user to navigate the computer cursor using their hand bearing color caps or tapes and left click, right click, and dragging will be performed using different hand gestures. And also it performs file transfer between two systems in a single same network. The proposed system uses webcam and ultrasonic sensor to track hand gestures. The system will be implemented using the Arduino, python and OpenCV. The hand gesture is the most effortless and natural way of communication. The output of the camera will be displayed on the monitor. Position hand will be detected using colour detection and distance based analysis.

Keyword – Computer vision, Hand Gesture, Distance Based analysis.

CS002-P33 A Three-Layer Privacy Protection using Cloud Storages

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Abstract-Here in existing system now a days everyone have a lands in different place .whenever they are buying that land they have to register that all details in paper it self .if we are registering in paper itself some of the persons can forgery that documentation as like a same original document they have to do that document .if they did like that they also have a chance to get the file same like a original document. if the complaint was raised in court, they don't know that which document is the original document .so these is the

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the Apps in the popularity list. In fact, Application developers are using tricky means frequently for increasing their Apps sales. The main aim is to develop such system that find ranking, rating and review behaviors for investigating three forms of evidences they are review based evidences, rating based evidences and ranking based evidences and then aggregation based on optimization to combine all the evidences for detection of the fa ke apps and also optimization of the genuine applications.

Keywords-Android market, Search rank fraud, Malware detection.

CS002-P1 Efficient Energy and Data Transmission Using Lava-Leach and Hash Algorithm In Image Feeding and Recognition

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Abstract- A LAVA-LEACH Algorithm is typically used for efficient data transmission which consumes less energy and faster data transmission through a network. Here we use this algorithm for faster image feeding and getting information about the image. For image recognition, it uses HASH function algorithm. This whole system was deployed in the developer board as an implementation platform. With the use of this technology, we aim to make the system cost-effective, eco-friendly and easy to maintain with future proof also this technology can be combined with an artificial intelligence for realistic interactions with humans.

Keywords: Lava-Leach Algorithm, Hash Algorithm and Hash Tables.

CS002-P2 Animal Intrusion Detection System in Farm / Forest Corridor Areas

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Abstract- The process of monitoring wildlife and feral animals is a complex, laborious and sometimes expensive task which require careful planning and execution. Remote sensors (thermal camera), advanced path planning and image processing algorithms can be used to provide low cost approaches to determine critical requirements for spatial and spectral distribution of wildlife. Thermal images to identify animals from their surroundings, the system are capable of identifying heat signatures of a target animal from a predetermined distance and determine what that target's body temperature using image processing tool in Matlab. Processed data via UART will be given has input to controller which create an alert to the surrounding to intimate the animal navigation and its mental condition.

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Keywords- Monitoring Wildlife, Remote Sensors, Image Processing, Thermal Image, Universal Asynchronous Receiver Transmitter (UART), Matlab, Animal navigation, Alert System.

CS002-P3 Budding Prognostication of Chronic Condition through Artificial Intelligence Using Naive Bayes Classifier

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Abstract: Chronic kidney disease (CKD), also known as chronic renal disease, which is progressive loss in kidney function over a period of months or years. It is defined by the presence of kidney damage or decreased glomerular filtration rate (GFR). The estimated prevalence of CKD is about 9-13% in the general adult population. Individuals with CKD have a far greater likelihood of cardiovascular death than progression to end-stage renal disease. CKD is more prevalent in patients with CVD or with CVD related risk factors, such as hypertension, diabetes mellitus, dyslipidemia, and metabolic syndrome. Classification is an important data mining task and the main purpose of classification is to propose a classification function or classification model (called classifier). The classification models can align the data in the database or dataset to a specific class. In this paper existing Naive Bayes algorithm is modified to obtain better execution speed and computational complexity. The algorithms namely Decision tree algorithm, C4 Class Algorithm, Naïve Bayes Classifier algorithms were simulated for various look directions and target class based on Cross validation and the detection of the level of kidney disease of the patient and phase transients are compared. Performance of Naïve Bayes algorithm is studied by varying the step size and compared with simulation result.

Keywords: Chronic kidney disease (CKD), glomerular filtration rate (GFR), cardiovascular death (CVD).

CS002-P4 An Android Application To Alert People And Fire Station Via Notification

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CS002-P8 Online Billing and Stock Management System

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Abstract- *The business-to-consumer aspect of electronic commerce (e-commerce) is the most visible business use of the World Wide Web. The primary goal of an e-commerce site is to sell goods and services online. This project deals with developing an e-commerce website for online shopping It provides the user with a catalog of different product available for purchase in the store In order to facilitate online purchase a shopping cart is provided to the user. The system is implemented using a 3-tier approach, with a backend MySQL database, a middle tier apache server and a web browser as the front end client. In order to develop online shopping application use HTML, CSS, JAVA Script, server side scripting language PHP and relational database MySQL This is a project with the objective to develop a basic website where consumer is provided with a shopping cart application and also to know about the technologies used to develop such an application.*

Keywords- Customer satisfaction, cost-effectiveness, supply chain management, software application.

CS002-P9 Trainee Information Management System

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Abstract- *Training institution depends at present on the use of the Training Information Management System (TIMS) to manage materials. And it would be good to involve trainee in learning activities with peers through direct learning, platform provided by National Institute Of Technical Teacher Training and Research (NITTTR).Trainer trains a trainee with traditional education environment in the form of virtual classrooms. Enables trainee to organize their work and get feedback from trainee, to encourage trainee to tackle the situations. Although there are several available features in the training system, it does not provide the automatic generation of the trainee information. Therefore, constraints and challenges facing the training system ,the features that are lacking in training system is storing and retrieval of database , attendance of the trainee, calculating the pocket allowance, certificate generation. This is done through TIMS using LAN connection. Instead of doing all above works manually, the invented TIMS will automatically entitled as it required. So, it reduces the manpower and time will be saved.*

Keywords- TIMS, LAN, NITTTR.


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CS002-P10 An Efficient Dynamic Learner Behavior Analysis Using Eye Gaze Detection

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Abstract- Exact real-time pupil tracking is an important step in a live eye gaze. Since pupil centre is a base point's reference, exact eye centre localization is essential for many applications. In this project, we extract pupil eye features exactly within different intensity levels of eye images, mostly with localization of determined interest objects and where the human is looking, since it's a digital world and digital transformation, everything is becoming virtual. Hence this concept has a huge scope in e-learning, class room training, analyse human behaviour. This project covers main process like Eye Ball and mentality & mood Recognition of Human Beings. Feature extraction method named Kalman filter is used for gaze movement process. Harr's cascade classifier was used to first locate the eye's area, and once found and support vector machine (SVM) for classification with the trained datasets. We also include the state of emotions facial landmarks of the salient patches on face image using automated learning-free facial landmark detection technique

Keywords- Kalman filter, Harr's cascade classifier, support vector machine.

CS002-P11 Implementation of Sentimental Analysis in Messaging System Using Spark

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Abstract- Goal of this project is to control or prevent the threats occurring via messaging systems through Sentimental Analysis. The primary focus is to monitor the messages sent by the teenagers and below age group and intimate their parents in case any abnormalities found in their Messages. Sentimental Analysis is generally used for Twitter analysis, Predictive Analysis, product evaluation where the words will be analyzed to promote the business. Our model uses this approach to create an alert mechanism to prevent the threats like MOMO, Blue whale attack. The idea is to build a separate version of Messaging System which provide children oriented services like Parenting Control, so that parent can review their children's day to day mood and set the threshold limit to control the alert mechanism. Thus, by using the proposed solution, the threats can be minimized to a greater extent. This is a necessity in present social media era where the usage of Messaging system is increasing enormously with the threats.

Keywords: Lexicon based methodology, Scala, Spark, Hive, HDFS, Messaging system.

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CS002-P12 Indian Air Quality Analysis and Prediction

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Abstract-*In this paper, the air quality of India can be forecasted using machine learning. Air quality is a measure of effect of pollutants (SO₂, NO₂, RSPM, SPM... etc..) on the respected regions. Over a period of time using previous historical data, we can predict the air quality index for the upcoming years as a Gradient Decent Boosted Multivariable Regression problem. The efficiency of this predictive model can be achieved using Cost Estimation. By implementing proposed parameter-reducing formulations, we can achieve better performance than the Standard Regression models. Our model as 96% of accuracy in predicting air quality index overall India or any particular boundary regions.*

Keywords-Air quality index, Machine Learning, Predictive model, Historical data, Gradient Decent Boosted Multivariable Regression, Parameter Reducing Formulations.

CS002-P13 Privacy Characterization and Quantification in Data Publishing

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Abstract-*The expanding enthusiasm for gathering and distributing a lot of people's information to open for purposes, for example, therapeutic research, showcase examination and practical measures has made significant security worries about person's delicate data. To manage these worries, numerous privacy-preserving data publishing (ppdp) systems have been proposed in writing. In proposed system here the government is decide top design smart examination it should be conduct in online. First as a government they have to allocate ten papers about exam who is going to prepare they need well experience in paper preparation so after preparing all those files should be in encryption for each and every file different key will be generate to different papers after that entire folder they will set one key to access that . after they can share that file to college so collage they can login and see that key if they enter that key correct then they can that key by using of automatic technic here while sharing time any one of the key will be share to student while sending time that key will be merged in one QR code if the student registered in that college they can login and they can scan that QR code then they can get the key if they enter that key correctly then one request should be send to government. Related to that key government will send that file to that college student. In encrypted mode if they want to decrypt that file they have to enter that key correctly.*

Keywords-Dataprivacy, datasecurity, datapublishing, bigdata, datamining, privacy quantification, privacy leakage.


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25

CS002-P14 A Secured Biometric Data Approach In Cloud Computing**S.Lingesh¹, S.Venkateshprasad², R. Mohamed Ansari³, M.Preetha⁴**

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Abstract--Cloud computing is the ability to utilize the immense power of distributed storage and computation. Due to the advantages such as flexibility, mobility, and costs saving, the number of cloud users is expected to grow rapidly. Biometrics is proved to be the best authentication method. However, It consists of biometric authentication such as palmprint to extract and stored in the database. To obtain secure and accurate authentication system using most accepted biometrics. SIFT Algorithm guarantees the highest potential detection efficiency than all other existing techniques. Biometrics authentication is used to control realistic identification and is unique for every person or individual.

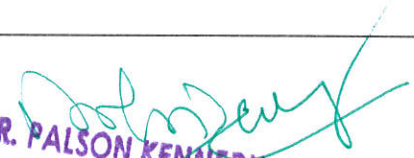
Keywords—Cloud Computing, Biometric Authentication, Palmprint Extract, SIFT Algorithm.

CS002-P15 Smart Vehicle Controller using IOT**Karthikeyan¹, Santhosh kumar², Sarath Kumar³, Mr.J.S.Richard Jimreeves⁴**

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Abstract--Smart vehicle controller is for vehicles is a project undertaken to increase the rate of road safety among motorcyclists and four wheelers. There are many countries enforcing regulations to wear a helmet while riding. India is an example. The idea is obtained after knowing that the increasing number of fatal road accidents over the years is cause for concern among motorcyclists. The accident detection system communicates the vibration values to the processor which continuously monitors for erratic variations. When an accident occurs, the related details are sent to the emergency contacts by utilizing a cloud. The vehicle location is obtained by making use of the global positioning system. In this project the motorcycle starts only if the rider wears the helmet and cars the vehicle starts only if the driver wears the seat belt. In our project we also included zonal speed control. The vehicle automatically detects the various zones and reduce the vehicle speed according to the zones.

KEYWORD- Gps tracking, IR sensor, Zigbee, Arduino.


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 PRINCIPAL
 PERI INSTITUTE OF TECHNOLOGY
 Mannivakkam, Chennai - 600 048.

26

CS002-P16 Vision Based Object, Gesture, and Speech Recognition Using AI

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Abstract- V.O.G.S. (Vision-based Object, Gesture, and Speech recognition) is designed using the Raspberry Pi, integrated with a camera for detection purpose. The product is succor for impaired individuals (visual, vocal and hearing-impaired people). The pi-camera recognizes the object or the hand gesture of the user, then generate a message with the camera input and transmits them via the earpiece. A mic is used to receive the speech, and the device converts it into text. It'll be helpful for the user in navigation and communication.

Keywords: object detection, hand gesture, vision guide, speech recognition, neural networks, yolo algorithm

CS002-P17 Priority Queue Based Mechanism In Vehicular Ad-Hoc Network

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Abstract- The Vehicular Ad Hoc Network (VANET) is an emerging technology in the network and communication. However for the large scale VANETs their has to be efficiency transmission between the two states of vehicle. The data in the network can be divided into ordinary and time-critical emergency data which must be carried with minimum delay to the destination and before a deadline for the data to be useful. In this paper we propose the routing algorithm with could be more efficient during the time of emergency data transmission. For that we use the Spider Web-Like Transmission Mechanism for Emergency Data (TMED) in which we propose which routing algorithm could be more efficient for data transmission. Destination-Sequenced Distance Vector (DSDV) is a routing protocol which uses the latest sequence number for sequence selection. DSDV mechanism allows protocol to avoid routing loops. Ad Hoc On-Demand Distance Vector (AODV) is a routing protocol which built route between the nodes only when they are requested by the source node , so which doesn't allow any extra traffic between the nodes. AODV supports the multicasting and unicasting within the uniform framework. We use the ns2 to simulate the scenario and compare the performance of the DSDV and AODV based on the packet delivery ratio, average transmission delay and routing overhead.

Keywords - Vehicular Ad Hoc Network (VANET), Spider Web-Like Transmission, Destination-Sequenced Distance Vector (DSDV), Ad Hoc On-Demand Distance Vector (AODV), NS2.

DR. R. PALSON KENNEDY, M.E., Ph.D.
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PERI INSTITUTE OF TECHNOLOGY 27
Mannivakkam, Chennai - 600 048.

Abstract- This paper provides the automated method for automobile document verification. The automated verifications that could be done using RFID sensors and any other algorithms will be more complex and time consuming. This paper deals with the automated vehicular document verification to be done by generating the barcode for each vehicle at the time of registration. While scanning the barcode the details necessary for verification by the RTO department could be viewed. This method uses the concepts and devices of IOT for verification process. This method is faster and simple when compared to other complex ones. This system provides an error free means for verification process. Uniqueness is ensured. This system is also an user friendly one.

Keywords - Barcode, IOT devices, faster, error free, uniqueness.

CS002-P24 Fisherman Border Security using IOT

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Abstract- Fisherman can identify the national and international borders by using of Received Signal Strength Indicator (RSSI) to provide localization based positioni.ng, exact location and time details in all climatic conditions, even any where any time. Though it comprises two units namely Transmitter and receiver units is used for time, sensitive tracking, localization and many more security applications. The marine security systems and devices became a revolutionizing tool for fisherman boat maritime border issues. The proposed system coins low cost alert system for maritime issues. It is a continuous monitoring scheme that tracks, alerts and controls the activities of fishermen from the control unit located in the shore.

Keywords — Fisherman, RSSI, IOT, Zigbee.

CS002-P25 Predictive Analysis of Crop Production

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Abstract- Agriculture plays a presiding role in the growth of country's economy. Many environmental aspects have become a major threat to the every year crop production. In the proposed project, we are going to predict the forthcoming crop yields based on the prior and commenced data. Crop yield prediction involves predicting yield of the crop from the available data that are present such as weather reports, soil parameters and crop yield in the earlier years. Machine learning is an necessary solution for this issue. This prediction will help the farmers in predicting the yield of the crop before cultivating the crop and thus help in better yields. This also delivers various intelligence such as river water routing, seasonal water needed for a

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Mannivakkam, Chennai - 600 048.
31³

Here first thing proprietor need to trade that thing by making on id to check all air the thing was saled or not. Here distributer need to keep up all the thing subtleties with various id . First patient need to went to in emergency office relies upon the patient daises ace will make clear deal with of things with various id here by arrangement of that Id it is verifiably not hard to see the shop individual and the patient can check with id condition they gave the right thing or not. Here by creation of id star can discover whether that things are selling or not if that things are not offering it is unquestionably not genuinely hard to see by utilizing of id and how quick the things are selling or not.

Keywords—orchestrate server accreditation, partnership prescription, and sensible security.

CS002-P30 Real Time Authentication for Entrance & Security Surveillance Using IOT

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Abstract - *There are various security systems consuming large power are available in market nowadays, robbery rate is very high. We are proposing a novel system to prevent robbery in highly secure areas with lesser power consumption. This system has finger print technology which grants access to only authorized people to enter that area. If others enter the place without access using some other means, then the system alerts the personnel and details are sent to the security person and send to the authorized person through server.*

Keyword: Face detection, Face recognition, Security, Internet of things, Electronic door strike, Home security system.

CS002-P31 Stock Market Prediction using Artificial Neural Network

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Abstract-*Predictions on stock market prices are a great challenge due to the fact that it is an immensely complex, chaotic and dynamic environment. There are many studies from various areas aiming to take on that challenge and Data Mining approaches have been the focus of many of them. There are many examples of Data Mining algorithms been able to reach satisfactory results when doing that type of prediction. This project studies the usage of Artificial Neural networks on that scenario, to predict future trends of stock prices based on the price history, alongside with technical analysis indicators. For that goal, a prediction*

CS002-P20 Liver and Heart Diseases Prediction using Machine Learning

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Abstract-Heart and liver disease is one of the major issues deaths. This is because of the inequality in knowledge and skills among medical practitioners to treat the patients, this can result in poor decision making and ultimately leading to death. Some of the major factors of heart and liver disease is imbalanced high blood pressure etc. The most common type of liver disease in the United States is fatty liver disease To overcome this problem, machine learning and data mining is used. This technique is used to predict the disease in the initial stage and automatically diagnose the disease. The goal of this project is to predict heart and liver disease using machine learning algorithms. Machine learning provides systems the ability to automatically learn and improve from without being explicitly programmed and results with high accuracy rate, low cost and time. There are various algorithms in machine learning. In project we use python language for both front and backend and logistics regression algorithm and random forest algorithm. This model is based on training and testing.

Keywords-Heart and liver, disease prediction, logistic regression algorithm, random forest algorithm.

CS002-P21 Copy Depletion in Graph Mining: Approaches, Analysis, and Evaluation

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Abstract-At the center of diagram mining lies autonomous extension of substructures where a substructure (likewise alluded to as a sub chart) freely develops into various bigger substructures in every emphasis. Such a free extension, perpetually, prompts the age of copies. Within the sight of chart allotments, copies are produced both inside and crosswise over parcels. Wiping out these copies (for accuracy) brings about age and capacity cost as well as extra calculation for its end. Our essential point is to outline procedures to lessen creating copy substructures as we demonstrate that they can't be wiped out. This paper presents three imperative based advancement strategies, each altogether enhancing the general mining taken a toll by decreasing the quantity of copies produced. These options give adaptability to pick the correct procedure in light of diagram properties. We set up hypothetical rightness of every system and its examination regarding chart qualities, for example, degree, number of interesting marks, and name dispersion. We additionally explore the appropriateness of their mix for enhancements in copy lessening. At long last, we talk about the

CS002-P6 Scrutiny Facile As a Service Cache via Deniable KP-ABE**M. Abila¹, T. Angeline², B. Pavithra³, Mr.D.Dhinakaran⁴**^{1,2,3}Students of Computer Science Department⁴Assistant Professor of Computer Science Department

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Abstract- For the importance of privacy, many cloud storage encryption schemes have been proposed to protect data from those who do not have access. All such schemes assumed that cloud storage providers are safe and cannot be hacked. However, in practice, some authorities may force cloud storage providers to reveal user secrets or confidential data on the cloud, thus altogether circumventing storage encryption schemes. So, the proposed scheme greatly reduces the user's computation and storage overhead in cloud storage applications. In this paper, we present our design for a new cloud storage encryption scheme named Attribute based encryption that enables cloud storage providers to create convincing fake user secrets to protect user privacy.

Keywords Privacy, cloud storage, encryption schemes, storage overhead, Attribute based encryption, fake user secrets.

CS002-P7 Customized Automation Using Modular System**Ronald Lanton¹, Shrihari Prakasam², M Praveen Raj³, K Varalakshmi⁴**^{1,2,3} Students, CSE, PERI Institute of Technology, Chennai.⁴Assistant Professor/CSE PERI Institute of Technology, Chennai.

Abstract-The smart devices being sold in the market can be used solely for its own specific purpose and doesn't adapt to the change in users requirements, which makes it a substandard investment in long run. Moreover Machine Learning is perceived to be a technology of the future and it is currently constrained to only certain applications. Project MT (Modular Things) breaks the confinement of conventional smart devices which are tied up to a single use case, this is done by making components truly modular and abstracting complex programs into a simple interface for use by an average person unacquainted with programming. By the use of modular components the users can build their own smart devices and deploy machine learning on them for simplified control and automation for day-to-day use. The user can easily swap modules depending on their use case.

Keywords: Automation, Machine Learning, Internet of Things (IoT), Modular.

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impacts of the limitations as for the parceling plans utilized as a part of diagram mining. Our investigations exhibit critical advantages of these limitations as far as capacity, calculation, and correspondence cost (particular to parceled approaches) crosswise over diagrams with shifted qualities.

Keywords-Graph mining, substructure discovery, constraint-based heuristics, duplicates reduction, partitioning of graphs.

CS002-P22 Prediction of Parkinson Disease by Best Accuracy using Supervised Classification Machine Learning Approach

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Abstract-Parkinson's disease is the most prevalent neurodegenerative disorder affecting more than 10 million people worldwide. There is no single test which can be administered for diagnosing Parkinson's disease. Because of these difficulties, to investigate a machine learning approach to accurately diagnose Parkinson's, using a given dataset. To prevent this problem in medical sectors have to predict the disease affected or not by finding accuracy calculation using machine learning techniques. The aim is to investigate machine learning based techniques for Parkinson disease by prediction results in best accuracy with finding classification report. The analysis of dataset by supervised machine learning technique(SMLT) to capture several information's like, variable identification, uni-variate analysis, bi-variate and multi-variate analysis, missing value treatments and analyze the data validation, data cleaning/preparing and data visualization will be done on the entire given dataset. To propose, a machine learning-based method to accurately predict the disease by speech and tremor symptoms by prediction results in the form of best accuracy from comparing supervise classification machine learning algorithms. Additionally, to compare and discuss the performance of various machine learning algorithms from the given transport traffic department dataset with evaluation classification report, identify the result shows that the effectiveness of the proposed machine learning algorithm technique can be compared with best accuracy with precision, Recall and F1 Score.

Keywords-Dataset, Machine learning-Classification method, python, Prediction of Accuracy result.

CS002-P23 Intellectual Automobile Document Verification by Barcode Generation using IOT

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CS002-P35 Characterizing and Predicting Early Reviewers for Effective Product Marketing on E-Commerce Websites


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Abstract- Online reviews became a vital supply of data for users before creating Associate in nursing wise purchase call .Early reviews of a product tend to possess a high impact on the next product sales .during this paper, we tend to take the initiative to review the behavior characteristics of early reviewers through their announce reviews on 2 real-world gaint e-commerce platforms, i.e., Amazon and Cry . In specific, we tend to divide product life into 3 consecutive stages, Specifically early, majority and laggards. A user WHO has announce a review within the early stage is taken into account as Associate in Nursing early reviewer .we tend to quantitatively characterize early reviewers supported their rating behaviors, the utility scores received from others and also the affiliation of their reviews with product quality. We've got found that (1) Associate in Nursing early reviewer tends to assign a better average rating score ; Associate in Nursing (2) an early reviewer tends to post a lot of useful reviews .Our analysis of product reviews conjointly indicates that early reviewers rating and their received helpfulness scores area unit possible to influence product quality . By viewing review posting method as a multiplayer competition game ,we tend to propose a completely unique margin-based embedding model for early reviewer prediction .intensive experiments on 2 totally different e-commerce datasets have shown that our planned approach out performs variety of competitive baselines.

Keywords- Early reviewers, early review, embedding model.


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37