

## **PREDICTION OF BREAST CANCER STAGES USING MACHINE LEARNING**

**Gayathri.M<sup>1</sup>, Poorviga. A<sup>2</sup>, Mr.VasanthaRaja S.S<sup>3</sup>**

Student<sup>1,2</sup>, Assistant Professor<sup>3</sup>,

Dept. of Computer Science & Engineering, PERI Institute of Technology

mg04061999@gmail.com<sup>1</sup>, poorviga2988@gmail.com<sup>2</sup>, ssvasanth@gmail.com<sup>3</sup>

### **ABSTRACT**

*Disease is the normal issue for all individuals on the planet with various kinds. Especially, Breast Cancer is the most regular ailment as a disease type for ladies. Along these lines, any advancement for analysis and expectation of malignant growth illness is capital significant for a solid life. AI methods can cause a colossal to contribute on the cycle of early analysis and expectation of disease. In this paper, two of the most mainstream AI methods have been utilized for characterization of Wisconsin Breast Cancer (Original) dataset and the arrangement execution of these procedures have been contrasted and each other utilizing the estimations of exactness, accuracy, review and ROC Area. The best exhibition has been acquired by Support Vector Machine strategy with the most elevated exactness.*

**Keywords— machine learning; breast cancer; classification; early diagnosis.**

### **I. INTRODUCTION**

Cancer is the second reason of human death all over the world and accounts for roughly 9.6 million deaths in 2018. Globally, for 1 human death in 6 can be said that is caused by cancer. Almost 70 percent of the deaths from cancer disease happen in countries that have low and middle income [1]. The most common cancer type among women are breast, lung and colorectal, which totally symbolize half of the all cancer cases. Also, breast cancer is responsible for the thirty percent of all new cancer diagnoses in women [2]. Machine learning (ML) methods ensure analyzing the data and extracting key characteristics of relationships and information from dataset. Also, it creates a computational model for best description of the data. Especially, according to in researches about cancer disease, it can be said that ML techniques can be handled on early detection and prognosis of cancer [3]. Asri et al. have compared some machine learning algorithms for the risk prediction and diagnosis of breast cancer. Support Vector Machine (SVM), k-Nearest Neighbors (kNN), Naive Bayes (NB) and Decision Tree (C4.5) have been applied Wisconsin Breast Cancer (Original) dataset. SVM

**Dr. R. PALSON KENNEDY, M.E., Ph.D.,**  
PRINCIPAL

Gayathri.M, Poorviga. A, Mr. VasanthaRaja S.S

PERI INSTITUTE OF TECHNOLOGY  
Mannivakkam, Chennai - 600 048.