**BREAST CANCER ACCURACY PREDICTION USING MACHINE LEARNING MODELS**

**Aim:**

To compare classification models in machine learning algorithms for predicting Breast cancer with good accuracy.

**Objectives:**

• To Prepare and Pre-process the dataset

• To Visualization the dataset

• To Perform Correlation Heatmap process

• To implement Different Classification model

• Analysing the data using performance metrics

• Evaluate using Ensemble model

**Study summary:**

The ensemble model has demonstrated remarkable promise in breast cancer prediction, showcasing the power of combining machine learning algorithms to achieve greater accuracy and reliability. A wide variety of clinical and gene expression profile characteristics were extracted from patient demographics and incorporated into the dataset utilized in this study. The accuracy of machine learning algorithms such as support vector machines, random forests, naive Bayes, and decision tree were evaluated. Random forest and support vector machine showed the highest accuracy 0.99%. Gradient Boosting, Voting Classifier and Stacking Classifier accuracy scores were compared in order to develop ensemble-based models, and it was found that Stacking Classifier had the highest accuracy of 0.99%. These findings offer valuable insights into the molecular and clinical factors that play a vital role in breast cancer development and progression. Further research and refinement of the ensemble models hold great potential in revolutionizing breast cancer diagnosis and management.