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Mammography Using Machine Learning

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Abstract: *It shows evidence of breast cancer is an aspect in improvement of patient result, improves at regular interval and effective treatment, and increasing survival. Various screening methods, including imaging techniques such as regular self-examination, clinical breast examinations, and mammography, play an important role in identifying inefficiency in tissue. Mammography using Low- Power X-RAY techniques is generally considered to be the most reliable and accessible screening method, especially for women over 40 years.*

In certain cases, additional diagnostic tools such as ultrasound and MRI can be used to further examine suspected findings and improve the accuracy of the diagnosis. Sensitization, facilitating educational initiatives, and promoting routine testing are key strategies for strengthening individuals and health systems in early identification and treatment of breast cancer. Previous evidence shows that in many cases there are fewer aggressive treatment protocols and significantly improve patient predictions.

The purpose of this study focuses on using technology in machine learning to recognize breast cancer. In particular, we evaluate the effectiveness of four broad classification algorithms: SVM, RF, D T, and logistic regression. The performance of each algorithm was evaluated as the primary e valuation metric using accuracy.

After extensive experiments on data records, the support vector machine was developed as the efficient algorithm, achieving a 95% precision rate. In contrast, the random forest algorithm showed the lowest performance with 90% accuracy. These results suggest that SVM provides a high possibility of reliable and accurate recognition for breast cancer, thereby providing a promising approach to improving computer aided diagnostic systems in clinical practice..

Keywords: Breast cancer, Support Vector Machine, Logistics Regression, Random Forest, Decision Tree

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