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## **Breast Cancer Detection System**

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**Abstract:** "Breast cancer "is a major global health concern is breast cancer, for which early detection is essential to effective treatment and higher survival rates. In this work, we suggest a unique method for detecting breast cancer by using cutting-edge machine learning techniques on data from medical imaging tests, especially mammograms. Our approach combines feature extraction and deep learning methods to improve detection efficiency and accuracy. We performed tests on a sizable sample of mammography pictures, and the overall performance, sensitivity, and specificity showed promise. The suggested solution has the potential to improve patient outcomes and healthcare management by supporting radiologists in the early diagnosis of breast cancer..

**Keywords:** Breast Cancer Detection System, Mammography, Deep learning, Machine learning, Early detection, Feature selection, Clinical data integration, Accuracy

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