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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

REAL TIME RESEARCH PROJECT (A405801)

Project Title	**Cancer cell classification using Scikit-learn**	
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ABSTRACT

Cancer diagnosis is a critical step in the treatment and management of the disease. Accurate and early classification of cancerous cells significantly improves patient outcomes. In this project, we utilize machine learning techniques implemented with Scikit-learn to classify breast cancer cells as benign or malignant using the Breast Cancer Wisconsin dataset. The dataset includes various features derived from digitized images of fine needle aspirates (FNAs) of breast masses. After preprocessing the data, including normalization and train-test splitting, we applied a Random Forest classifier to build a predictive model. The model achieved high accuracy and precision, demonstrating the effectiveness of machine learning in medical diagnostics. Evaluation metrics such as confusion matrix and classification report confirmed the robustness of the model. This work showcases the potential of machine learning to assist in automated, reliable, and scalable cancer diagnosis.

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SIGNATURE OF GUIDE HOD-CSE