

# Breast Cancer Prediction Using Machine Learning

Good [morning/afternoon], everyone.

Today, I am here to present my final-year project, Breast Cancer Prediction Using Machine Learning.

The aim of this project is to create a tool that can help in the early detection of breast cancer, which is crucial for timely treatment and better survival rates.

Let me give you an overview of how this project works.

## The Purpose

Breast cancer is one of the most common types of cancer affecting women worldwide.

Early detection plays a critical role in successful treatment. This project combines the power of machine learning and web technology to assist in predicting the likelihood of breast cancer based on medical data.

## Frontend with React

For the frontend, I have used React, a popular JavaScript library. React helped me create a fast, responsive, and user-friendly interface. Here's what the frontend does:

1. User Input: It allows doctors or users to enter medical details, such as tumor size, texture, and other features.
2. Real-Time Feedback: The interface sends this data to the backend and displays the prediction results quickly and clearly.
3. Ease of Use: The design is simple and intuitive, ensuring that anyone can use it without much training.

## How React Helped

React's component-based structure made the development process much smoother. I was able to build

reusable components, like input forms and result cards, saving time and making the app modular.

React's state management ensured smooth interaction between the input fields and prediction results.

## Backend and Prediction

While the frontend collects and displays the data, the backend is powered by a machine learning model trained on a breast cancer dataset. The model analyzes the input data and predicts whether the case is likely benign or malignant.

The frontend communicates with the backend using APIs. React handles this integration seamlessly, making the app fast and reliable.

## The Impact

This project demonstrates how technology can play a vital role in healthcare. With further development, tools like this can assist medical professionals and potentially save lives through early detection.

## Conclusion

In conclusion, this project is a step towards leveraging technology for social good. React allowed me to create a dynamic and user-friendly platform that complements the machine learning model.

Thank you for your attention. I look forward to your feedback and questions.