# Task 3 Summary: Predictive Analytics with Random Forest

In this task, we implemented a predictive analytics model using the Kaggle Breast Cancer dataset to simulate issue prioritization in a software engineering context. The dataset was preprocessed by handling missing values, encoding categorical features, and performing a train-test split to prepare it for modeling. We selected a Random Forest Classifier due to its robustness and ability to handle feature interactions effectively.  
  
After training the model, we evaluated its performance using accuracy and F1-score, which are crucial metrics for understanding both overall correctness and the balance between precision and recall. The model achieved high performance, demonstrating its effectiveness in classifying the data into priority levels (e.g., high/medium/low risk).  
  
This task showcases how machine learning can be used to optimize resource allocation by predicting which issues or tickets might require urgent attention based on historical data. In a real-world setting, this approach could help DevOps teams prioritize bugs, support tickets, or incidents, thereby improving operational efficiency and response time.  
  
A screenshot of the model’s evaluation output is included to provide visual evidence of the results.