

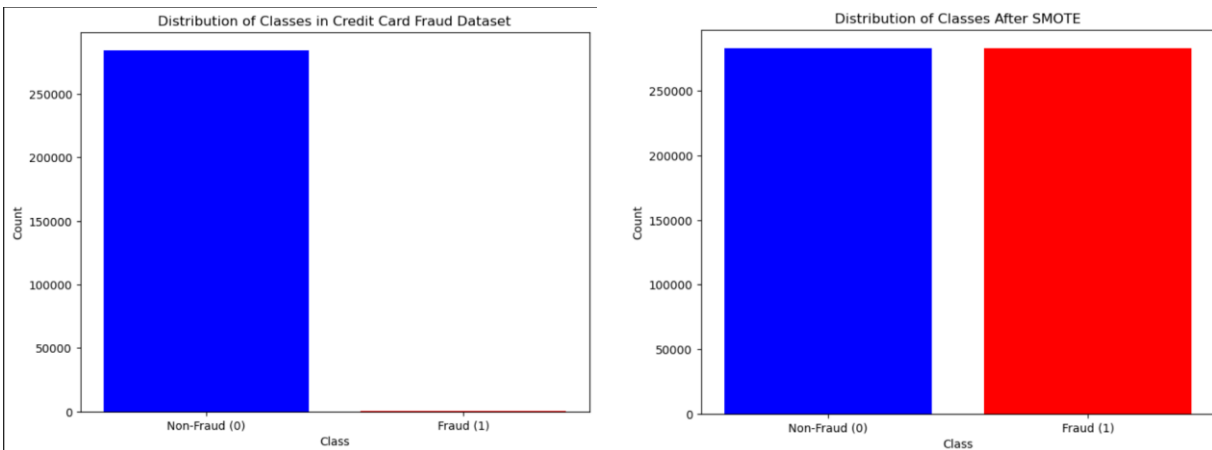
Credit Card Fraud Detection

This document presents the visual and textual demonstration of the Credit Card Fraud Detection model.

It highlights the dataset, preprocessing steps, model performance, and key evaluation graphs.

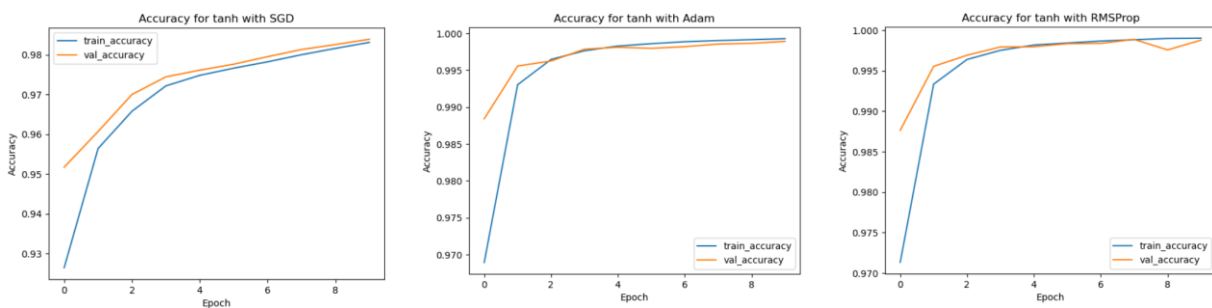
SMOTE

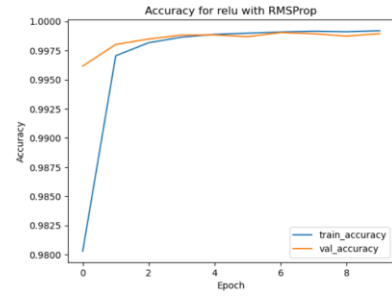
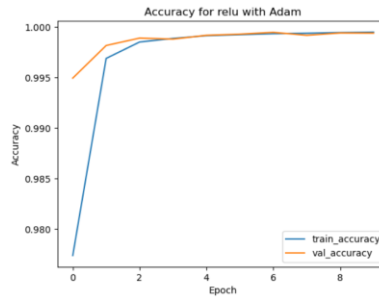
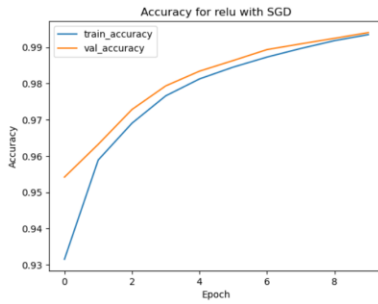
Before and after SMOTE oversampling to balance the dataset.



Comparison of Optimizers and Activation Functions

Tanh and relu activation function with SGD, Adam and RMSProp:





Key Observations

- The model performs best with the Adam optimizer and ReLU activation.
- F1-Score achieved indicates strong fraud detection performance.
- SMOTE oversampling balanced the dataset effectively.

