

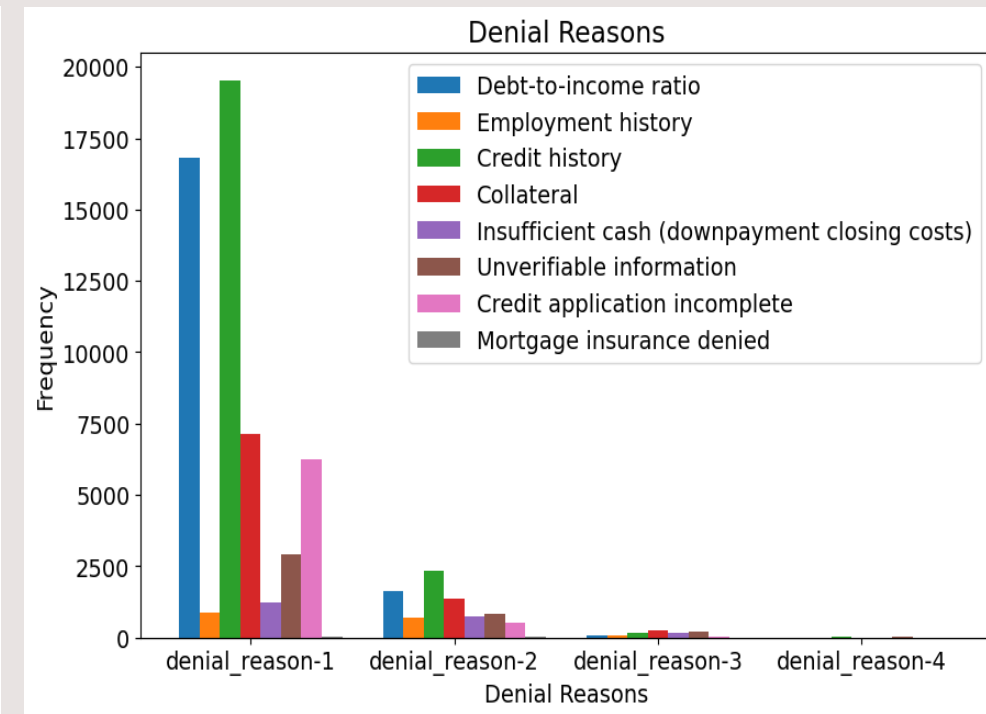
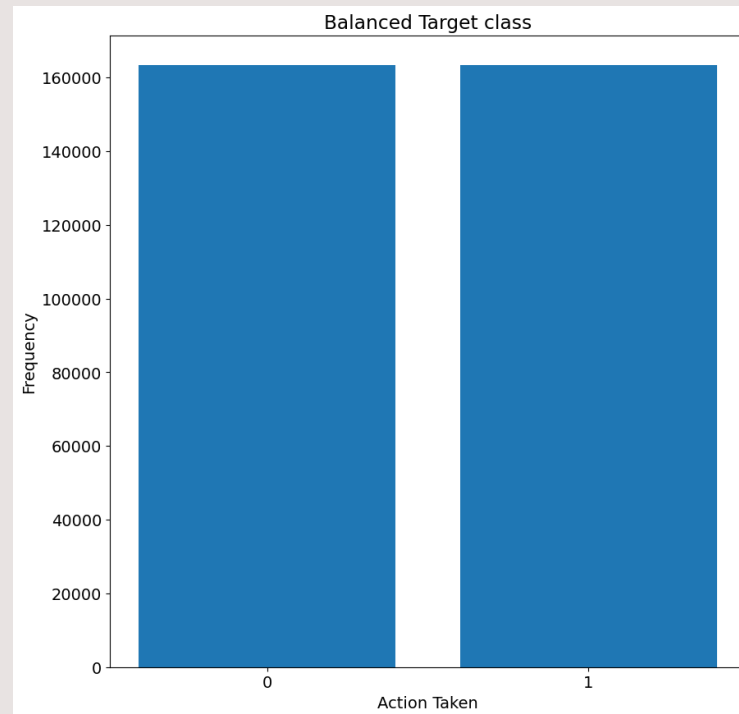
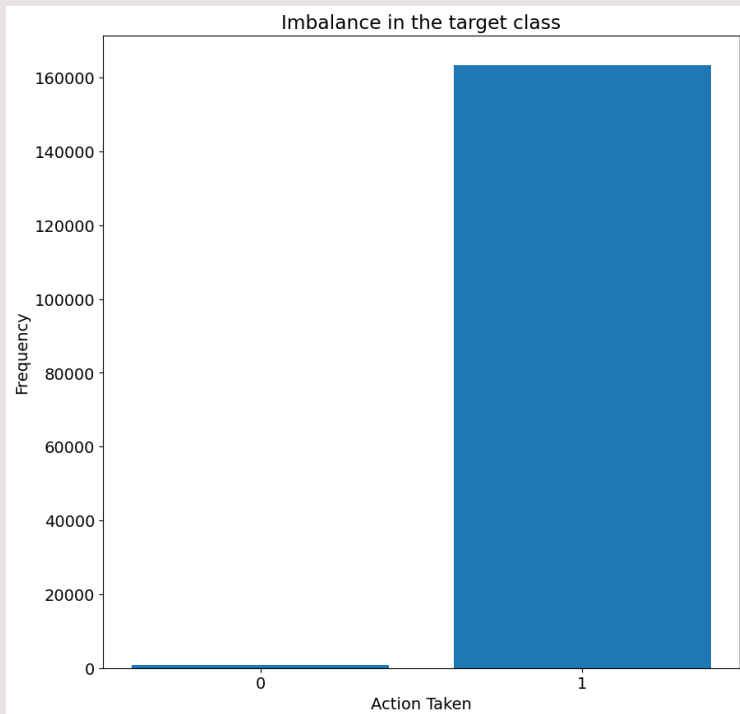


Home Mortgage Approval

Ankit Mistry and Shivam Mistry

Dataset

- The dataset used for this project was sourced from the Home Mortgage Disclosure Act (HMDA) for the year 2022, specifically focused on the state of Tennessee.



ML Methods

- The MLP Classifier:

- Hyperparameters: *learning_rate_init, hidden_layer_sizes*

- Random Forest Classifier:

- Hyperparameters: *max_depth*

- AdaBoost Classifier:

- Hyperparameters: *n_estimators*

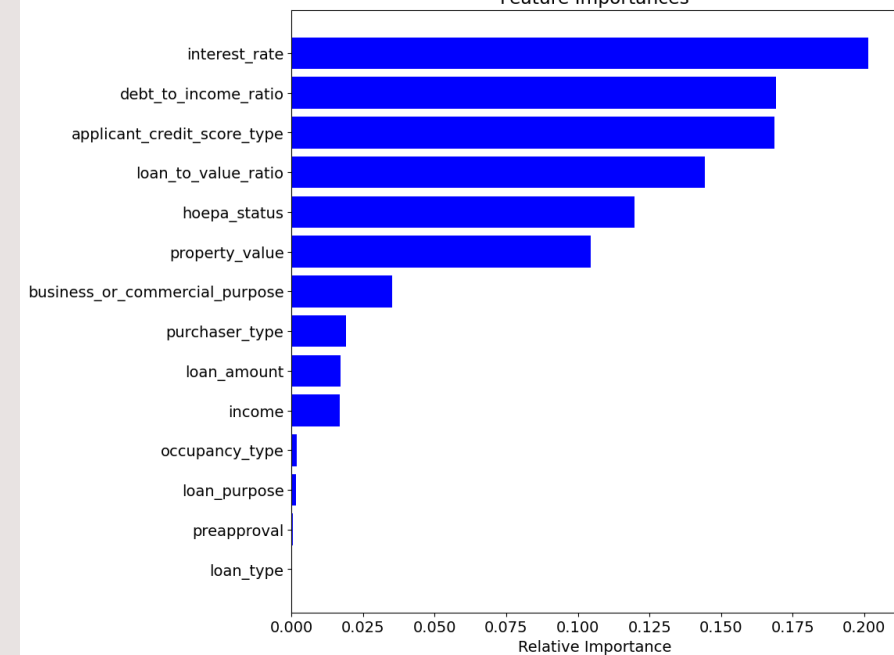
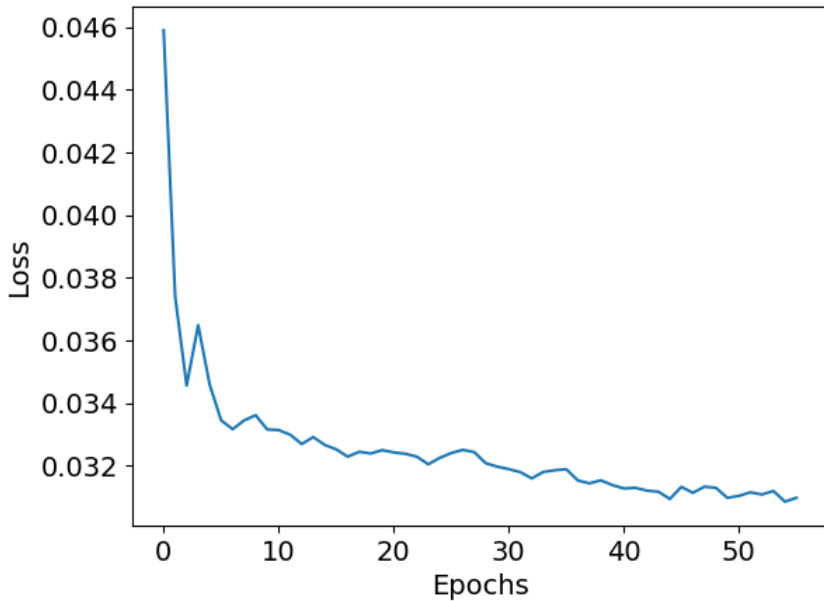
	MLP Classifier	Random Forest	AdaBoost
Training Accuracy	99.3%	99.9%	99.3%
Testing Accuracy	98.8%	99.6%	98.8%
F1 Score	99.4	99.8	99.4

RESULTS

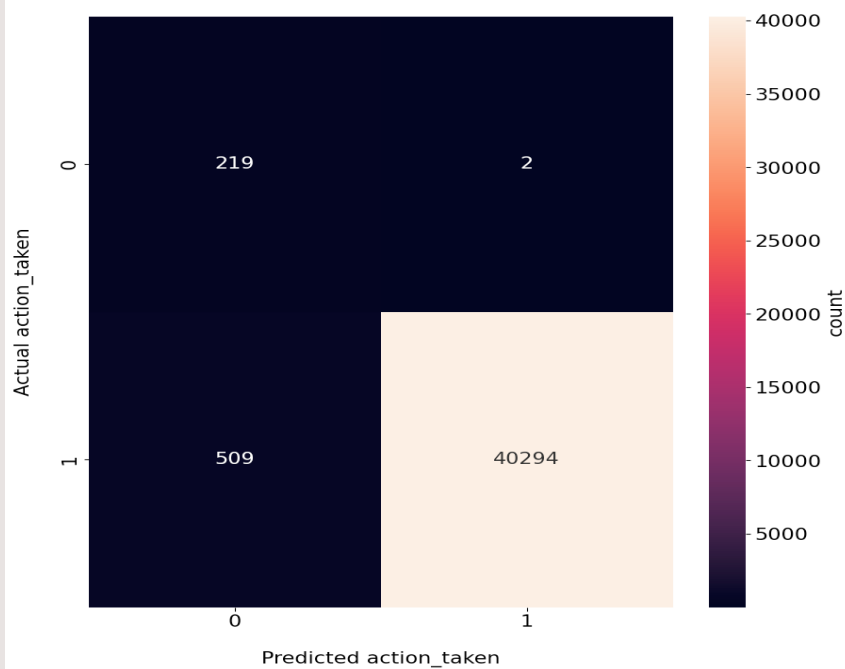
Random Forest

MLP Classifier

Loss curve



Confusion Matrix for Loan Approval (Testing Set)



Confusion Matrix for Loan Approval (Testing Set)

