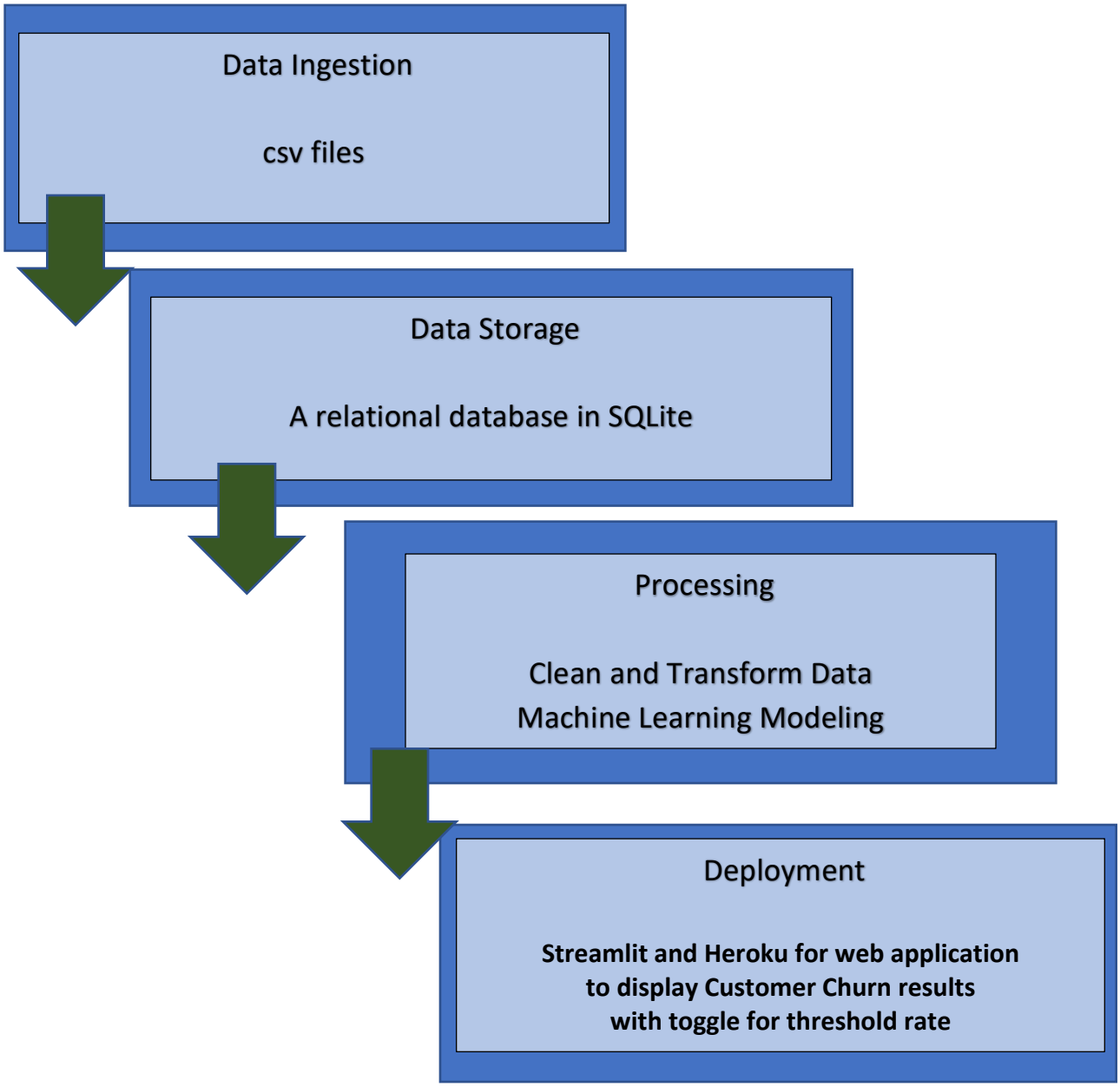
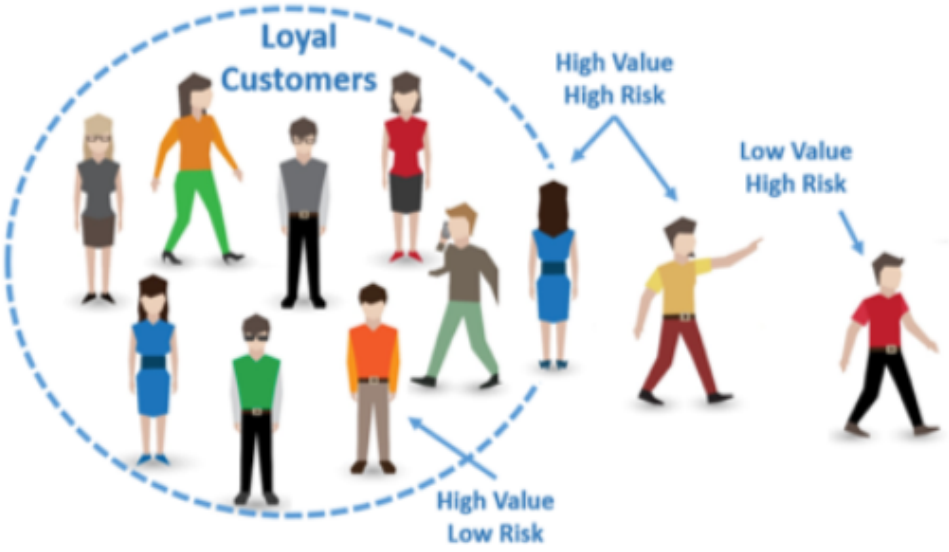
Customer Churn App MVP
By Asteway Kebede

The goal of this project is to build a classification machine learning model to predict a fraud transaction. A pipeline was built to collect the data and perform machine learning to predict if the transaction was a fraud and deploy an app to show the results.

The deployed app page allows for a user to toggle the threshold rate of the model. The precision and recall of the model update as well as the confusion matrix.



Detect Fraud Transactions using Machine Learning



Streamlit Image

Random Forest Customer Churn

The goal of this project is to build a classification machine learning model to predict if a transaction is fruad. Having such a model will give a banking instituions the power to take action to save fraudulent transactions.

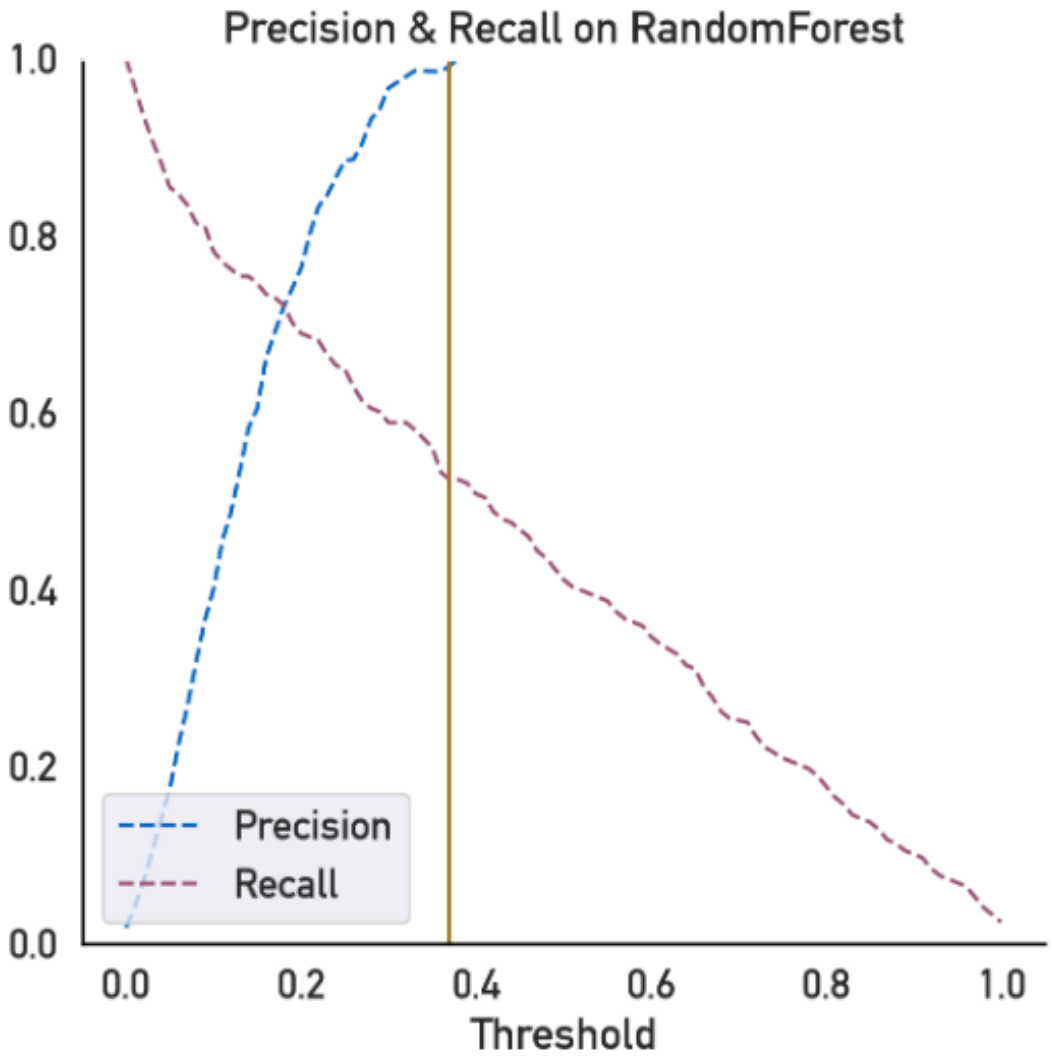
Adjust the Threshold Below to see the results

Probability Threshold

0.37

0.00 1.00

Below is the Precision and Recall for the Model with the above specified threshold



Confusion Matrix Results for the specified Threshold above are:

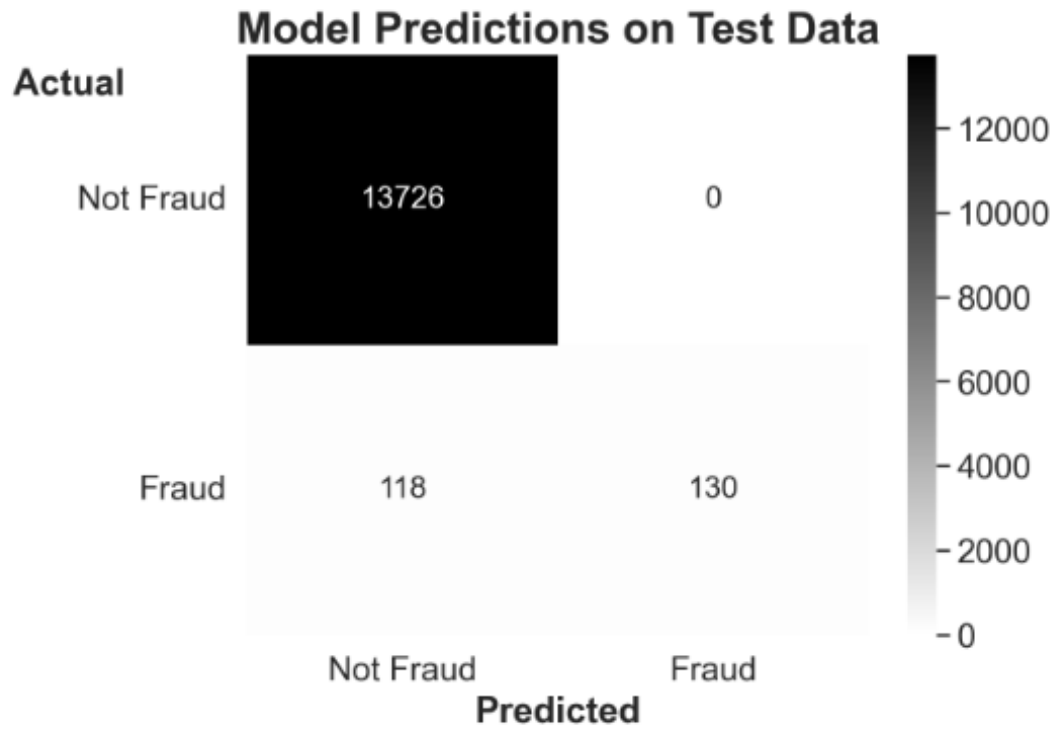
Recall : 52.42%

False Predictions: 0.00%

Amount: $23,542.15

Confusion Matrix

The confusion matrix visualizes the accuracy of a classifier by comparing the actual and predicted classes.



Next:

- **Scale up with full data**
- **Try Spark and Alternative Cloud Computing**

localhost:8501

Detect Fraud Transactions using Machine Learning

Streamlit Image

Random Forest Customer Churn

The goal of this project is to build a classification machine learning model to predict a bank's customer churn. The term 'churn' in this analysis is to see if customers are likely to leave from a bank. The model will give banking institutions an understanding of their customers traits and behaviors allowing them to take measures to improve customer retention or gain new customers.

Adjust the Threshold Below to see the results

Probability Threshold

0.13

0.00 1.00

localhost:8501

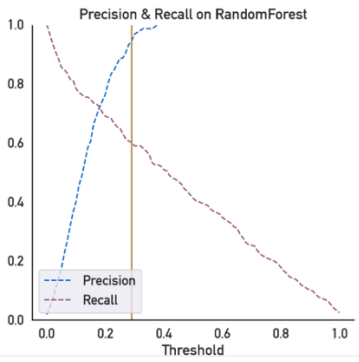
Adjust the Threshold Below to see the results

Probability Threshold

0.29

0.00 1.00

Below is the Precision and Recall for the Model with the above specified threshold



Confusion Matrix Results for the specified Threshold above are:

Recall : 58.87%
False Predictions: 0.04%
Amount: $26,592.02

Confusion Matrix

The confusion matrix visualizes the accuracy of a classifier by comparing the actual and predicted classes.