Cryptocurrency Price Movement Prediction

Overview

This **repository** contains the implementation and comparison of various machine learning models to predict the direction of cryptocurrency price movement in the next minute. The models included are Random Forest, Gaussian Naive Bayes, Support Vector Machine (SVM), K-Nearest Neighbors (KNN), Decision Tree, Logistic Regression and XGBoost.

Methodology

I used the test csv file to validate the models on kaggle. The Macro-Averaged F1 score gotten from the validation was slightly different from the training data. Also given the large training dataset and the limitation of the computer hardware, using the SVM model was not feasible but I included the code for the model regardless.

Here are the discrepancies:

Model	**Training Data**	**Validation Data**
Random Forest	0.502	0.502
Gaussian Naive Bayes	0.396	0.410
KNN	0.509	0.500
Decision Tree	0.502	0.499
Logistic Regression	0.359	0.376
XGBoost	0.505	0.501
SVM	Nil	Nil

Table showing the Macro F1 scores for the models

Conclusion

Based on the above comparison, the Random Forest, KNN, XGBoost models appear to be the best options for prediction. Logistics Regression and Gaussian Naive Bayes models performed worse.