Financial Time-Series Anomaly Detection

Report:

○ Dataset preprocessing steps.

For data preprocessing steps, firstly I have used functions like info, describe and isna for checking the dataset for any unusual or null values. Then used box plot for outliers in the columns of dataset. Found outliers in Volume column and then removed them.

○ Model selection and rationale.

For anomaly detection, I have used isolation forest, which is a machine learning library. Then I used minmax model from sklearn machine learning for normalizing the value in the dataset. For model to train the dataset, I have used Time-Series from LSTM. Made the predictions using 10 epochs, and batch-size of 16. Then predict anomalies and made plots to show the results of them.

○ Challenges faced and solutions.

As for challenges, I have certain issues related to outliers in the dataset, then finding anomalies. It can be challenging to get the correct output with various values of hyperparameters.

○ Results with visualizations and interpretations.