Team: Koders

Track: Currency Exchange Rate Prediction

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The flow of the solution:

1.) Adding the attributes: Here the team added features like GDP, DXY, Debt, etc. into the dataset for the precise exchange rate prediction.
2.) Selecting the required variables: Formed a correlation matrix to determine which attributes contribute the most to the exchange rate.
3.) Application of regressors and neural network algorithms for data prediction using the required libraries implemented on the Python IDE.
4.) Visualization of the data obtained for future prediction on Power BI.
5.) UI Creation for model deployment.

The attributes like GDP, DXY, and debt in India were collected from official websites of international and national governments and added to the dataset which was made available by the company. Once the data was collected, the correlation matrix was obtained, and the necessary attributes for the data prediction were selected. The updated data was pre-processed for the removal of any kind of error, or format of the data. Then, the data was given as input to the regressor and neural network algorithms for the prediction of the real-time exchange rate. Algorithms like KNN Regressor, ARIMA, LSTM, and XGBRegressor were implemented, and the RMSE for it was calculated. The model with the optimum RMSE was saved for the prediction on the testing dataset. The model can be directly connected to the UI through mediums like PyTorch or Flask for real-time determination.

Further, the data was visualized on Power-BI for future prediction and data analysis for the dependency determination. The UI contains the implementation of the model and visual analysis of the data performed on Power-BI.