CSE523 Machine Learning

Project: Crypto Forecasting

Weekly Project Report: March 16, 2022

Team: CryptoPolice

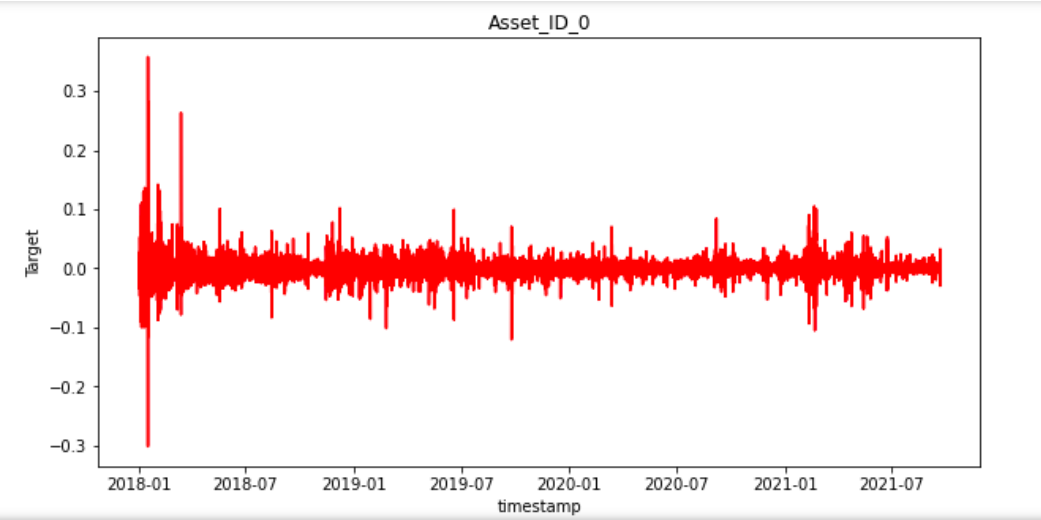
Sameep Vani	AU1940049
Kashvi Gandhi	AU1940175
Khushi Shah	AU1920171
Kavya Patel	AU1940144

- Tasks performed this week:

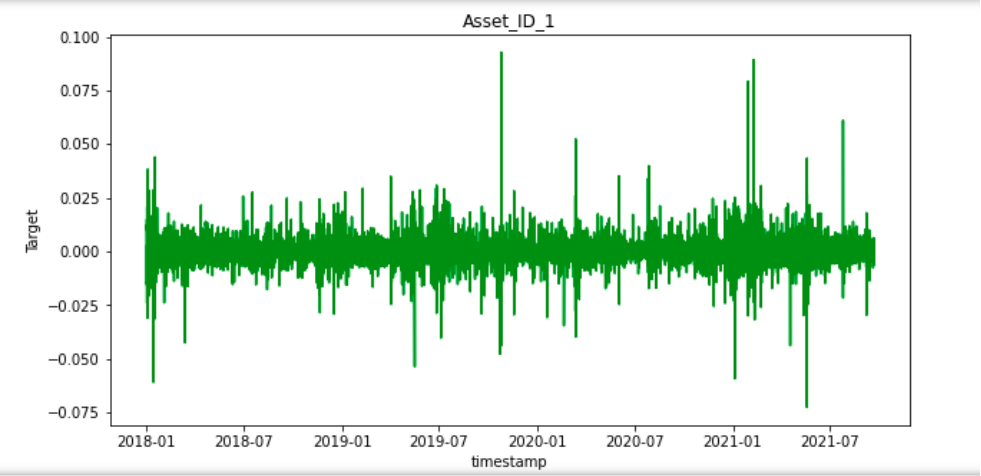
1) Used pandas for data cleaning.
2) Fitted base model : Linear Regression, using Scikit-Learn.

- Outcomes of the task performed:

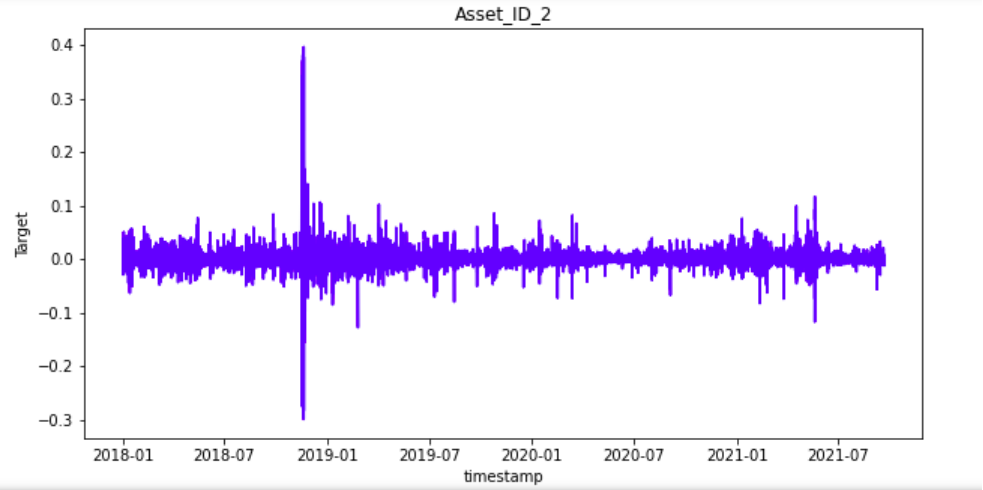
1) Target vs timestamp Linear Regression graph of 14 different crypto currencies. We have attached the first three currencies.
    a) Binance Coin



b) Bitcoin



c) Bitcoin Cash



2) Used MSE as a performance metric.

```
In [8]: from sklearn.model_selection import train_test_split
        X_train_1, X_test, y_train_1, y_test = train_test_split(X_train_pd, y_train, random_state=SEED_VALUE, train_size=0.8

In [9]: from sklearn.linear_model import LinearRegression

        lr_model = LinearRegression()

        fitted_lr_model = lr_model.fit(X_train_1, y_train_1)

In [13]: fitted_lr_model.coef_

Out[13]: array([-2.35027333e-06,  1.94206659e-08,  9.34639626e-07, -5.12755579e-07,
                8.32016720e-08, -5.06421801e-07,  2.45604199e-11])

In [17]: fitted_lr_model.intercept_

Out[17]: 1.2499944150454297e-05

In [10]: preds = fitted_lr_model.predict(X_test)
         preds

Out[10]: array([ 2.11456602e-05, -1.08168385e-05,  1.46151472e-05, ...,
                 6.59229985e-06,  3.46810487e-05, -4.55057467e-06])

In [11]: from sklearn.metrics import mean_absolute_error, mean_squared_error

         mse = mean_squared_error(y_test, preds)
         mse

Out[11]: 3.228664238435009e-05
```

- Tasks to be performed next week:

1) Preparing report and presentation for mid-semester presentation.