

HWK 3: Classification homework – due on 04/14/2023 at 11:59 pm

Classes (remember the long-jump example discussed in class):

- 1) **FORECASTABLE** currency pair,
- 2) **NON-FORECASTABLE** currency pair, and
- 3) **PARTIALLY FORECASTABLE** currency pair.

See data at:

https://drive.google.com/drive/folders/16d0qAeVdxZMC2Sd3yWjgUxTFD2dZeDrS?usp=share_link

1. Organize the data in both MongoDB and MySQL:
 - a. Hourly basis
 - b. Same starting date
 - c. Same ending date
 - d. Hourly price (VWAP)
 - e. Hourly liquidity (number of transactions)
2. Every 6 hours (i.e., 4 times a day), create a vector of features and generate a *.csv file:
 - a. Timestamp
 - b. VWAP price
 - c. Liquidity (average number of transactions per hour)
 - d. Volatility (like in HWK 2)
 - e. Max (like in HWK 2)
 - f. Min (like in HWK 2)
 - g. FD (like in HWK 2): use the first 6-hour slot to generate the Keltner Bands and a distance between 2 bands that make sense (see class explanation).
3. Use the 70-30 train-test rule to classify each currency pair over a regression (use *PyCarat*) – feel free to use a multi-folder process if necessary.
4. Write a report (1 page maximum) with the classification and the regressions used (please explain) and submit it on Brightspace with the codes and the *.csv file.