**Team:**

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**Project Title: Trend Following Strategy using ML Generated Trading Signals on ForEx Data**

**Project Idea:**

Predicting FX trends in 3 currency pairs:

* USD/GBP
* USD/MXN
* USD/EUR

The strategy would set trading thresholds to enter and exit positions, based on the trend that our ML model generates based on the given market parameters for example:

* Precious metals: gold, silver, copper, etc
* US Treasury Yields (notes, bills and bonds; excluding tips)
* CPI (monthly ticks, forward filled)
* Oil (natural gas and crude oil)
* Major domestic/international news
* Fama-French factors

At this point we are not sure that we will go ahead with a classification or regression algorithm to predict future spot rates directly or just point towards movement patterns generating price signals. Hence, we will explore various machine learning techniques based on the given parameters set and variables to be estimated. Some models we have in mind are as follows:

|  |  |  |
| --- | --- | --- |
| **Classification** | **Regression** | **Variables Selection** |
| XGBoost | KNN | PCA |
| Random Forest | XGBoost | Ridge |

**Data:**

We obtained data from:

1. US Treasury Data obtained from Quandl (USTreasury/RealYield, USTreasury/BillRates)
2. All the commodity and Fama-French factor data is available from FINM course 36700 (Portfolio Theory)
3. CPI obtained from Bloomberg
4. Major domestic/international news by webscrapping finviz (<https://finviz.com/>)
5. Real time testing for out of sample data using Interactive Brokers