**GROUP PROJECT 2 : PROJECT PROPOSAL**

**TEAM MEMBERS:** Joyce Mbika, Sebastien Vezina, Stephen Chen, Wazarat Hussein, & Val De Franco

**BACKGROUND:** The holy grail of investing or trading is to be able to predict future prices with some certainty. For years, quantitative traders have used different indicators from technical analysis to study price action and to generate trading signals. The aim of our project is to implement common technical indicators into a machine learning framework for quantitative trading.

**PROBLEM STATEMENT:** Our tool could enhance returns available to smaller investors by providing analysis on the alternative asset classes that they typically avoid because of lack of time and/or knowledge. Smaller retail investors/traders typically trade in traditional domestic stocks and domestic bonds which is not optimal because they are missing the diversification benefits of other asset classes such as foreign equities, currencies (including digital) and commodities.

**ASSET CLASSES USED**: Domestic Stocks / Foreign Equity Indices / Domestic Bond ETF / Currencies – traditional & digital / Commodities

**DATA SOURCES:** Yahoo Finance, Capital IQ, Coingecko

**NEW LIBRARIES:** Pycoingecko

**TECHNICAL TRADING STRATEGIES:** Exponential Moving Average / Absolute Price Oscillator / MACD / Bollinger Bands / RSI / Average Directional Movement Index / Volume Related Strategies

**RESPONSIBILITIES**

1. GITHUB Mgr: Joyce
2. Research Technical Indicators: Stephen & Val
3. Coding Tasks: Sebastien et al\*
   1. Data Retrieval from Data Sources
   2. Preparing Data
   3. Calculate trading signals
   4. Create Machine Learning Model
   5. Train Model
   6. Back test/Tweak Model
   7. Make Predictions
   8. Evaluate & Plot: Wazarat
4. Final Presentation Write-Up: Val et al.

**NEXT STEPS/FUTURE RECOMMENDATIONS**: investigate other technical trading strategies/explore (fundamental) factor-based investing/expand into other asset classes such as real estate, foreign stocks as opposed to indices.

**PRESENTERS:** Val & Stephen.