The Coin Whisperer

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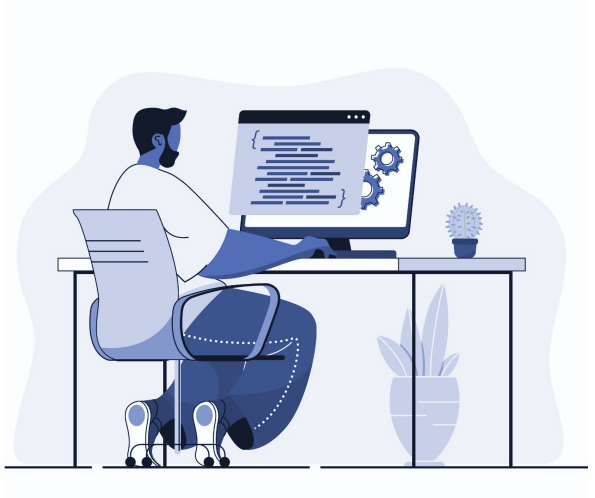
USYD FinTech Bootcamp July-2023

AGENDA

Project Overview	Shayan
All Things Data	Yanbo
The How? *Our Approach*	Yanbo
DEMO	Wasseem/Ferdows
The Results	Wasseem
Future Direction	Shayan

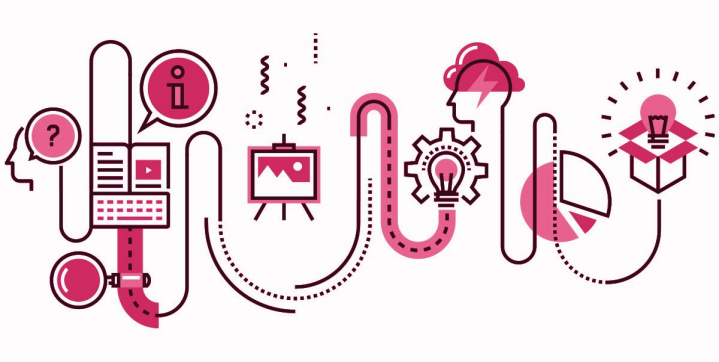


Project Overview

An Executive Summary

The Coin Whisperer Concept

Create the ultimate crypto trading machine



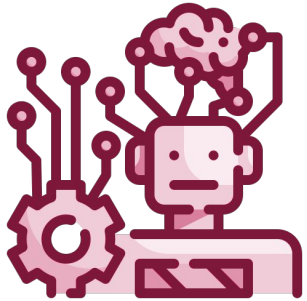
- Take desired crypto ticker
- Consider available historical data
- Perform machine learning (ML) analysis on the data
  - See next slide for details
- Outputs of ML analysis to be compared and validated
- Add sentiment analysis to the mix and use the combination to:
- Recommend trading strategy (buy/sell and price)
- Output to be displayed and executable on a webpage

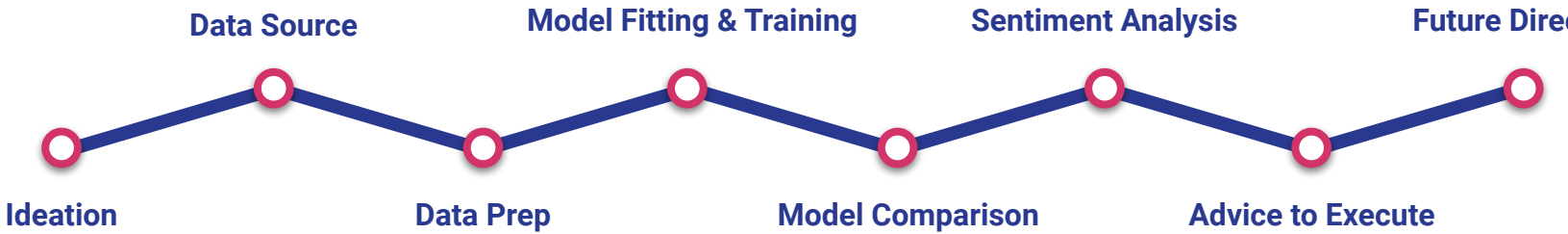
Machine Learning Models - More Details

1	Logistic Regression	• Discrete value for signal • Determine if predictions are worse/better than actual returns
2	Linear Regression	• Continuous Prediction of price • Plot to visualise
3	GARCH	• Predict the volatility of the return • Useful to assess risk and expected returns
4	SVM	• Performs well with limited amounts of data • Determine if predictions are worse/better than actual returns - Compare with 1
5	Neural Networks	• Analyse price data to uncover opportunities • Can complement other models
6	Prophet	• Good for forecasting time series data • Readily applicable to our use case

All Things Data

Data Prep and Model Fitting





The How?

Our Approach

Demo

The Results

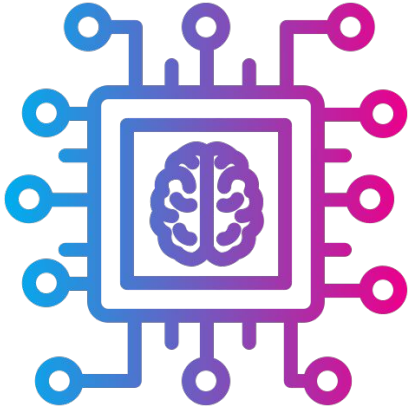
- ML Outputs Compared
- Deep Dive on Linear Regression vs Prophet
- Basic Sentiment Analysis Applied
  - Fear and Greed index from CNN
- Order Placed on Alpaca
- Outputs Displayed on Webpage

Future Direction

- Web Based Graphical User Interface:
  - Ability to freely choose ticker
  - Ability to choose from multiple machine learning models
- NLP based robo advisor on webpage to assist with analysis request and placing orders
- True sentiment analysis (not just fear and greed factor)
  - Our current approach is using the “fear and greed index” as a proxy for sentiment analysis

Links

- GitHub Repo Link
  - Web Page See GitHub Repo: To be downloaded and viewed on local machine as page is not hosted on web
- Project Folder
  - Meeting Notes and Project Doc



References & Resources:

- https://edition.cnn.com/markets/fear-and-greed?utm_source=business_ribbon
- https://pypi.org/project/fear-and-greed/
- https://stackoverflow.com/questions/9622163/save-plot-to-image-file-instead-of-displaying-it
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- https://www.investopedia.com/articles/trading/06/neuralnetworks.asp#:~:text=Neural%20networks%20do%20not%20make,using%20traditional%20technical%20analysis%20methods.
- https://facebook.github.io/prophet/#:~:text=Prophet%20is%20a%20procedure%20for,several%20seasons%20of%20historical%20data.
- Presentation images/artwork from Google Images

Thank you

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