UM Hackathon 2025

A HYBRID QUANTITATIVE TRADING APPROACH USING HMM AND XGBOOST

Presented by Codestar

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AGENDA

- What's Happening
  Real-life cases
- Problem Statement
  Current limitations in manual trading
- Objectives
  Our game plan
- Proposed Solution
  Our plan execution
- Explanation & Demo
  How it works, really
- Innovations
  What makes us different
- Conclusion

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WHAT IS CURRENTLY HAPPENING?

Statistics from Grand View Research (grandviewresearch.com) illustrate that The size of the worldwide cryptocurrency industry was assessed at **USD 5.70 billion in 2024**, and it is expected to **increase at a compound annual growth rate (CAGR) of 13.1% between 2025 and 2030**.

No better time to venture into trading than now (if you haven't already).

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PROBLEM STATEMENT

Inefficient method of trading

Manual trading takes a long amount of time because you need to manually click buttons to trade.

Emotional Appeal

Humans are prone to emotional bias when trading, which could greatly affect the potential profit and loss.

Competitive market

With more and more traders competing in the market, the utilization of AI will be significant in ensuring players in the industry stay ahead.

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OBJECTIVES

- Reliability and Efficiency
- Unbiased decision making
- Able to compete with other quant traders

PROPOSED SOLUTION

A machine learning model, based on a hybrid of Hidden Markov Models (HMM) and XGBoost, that takes into account multiple variables to determine the best trading position to be in at a given time.

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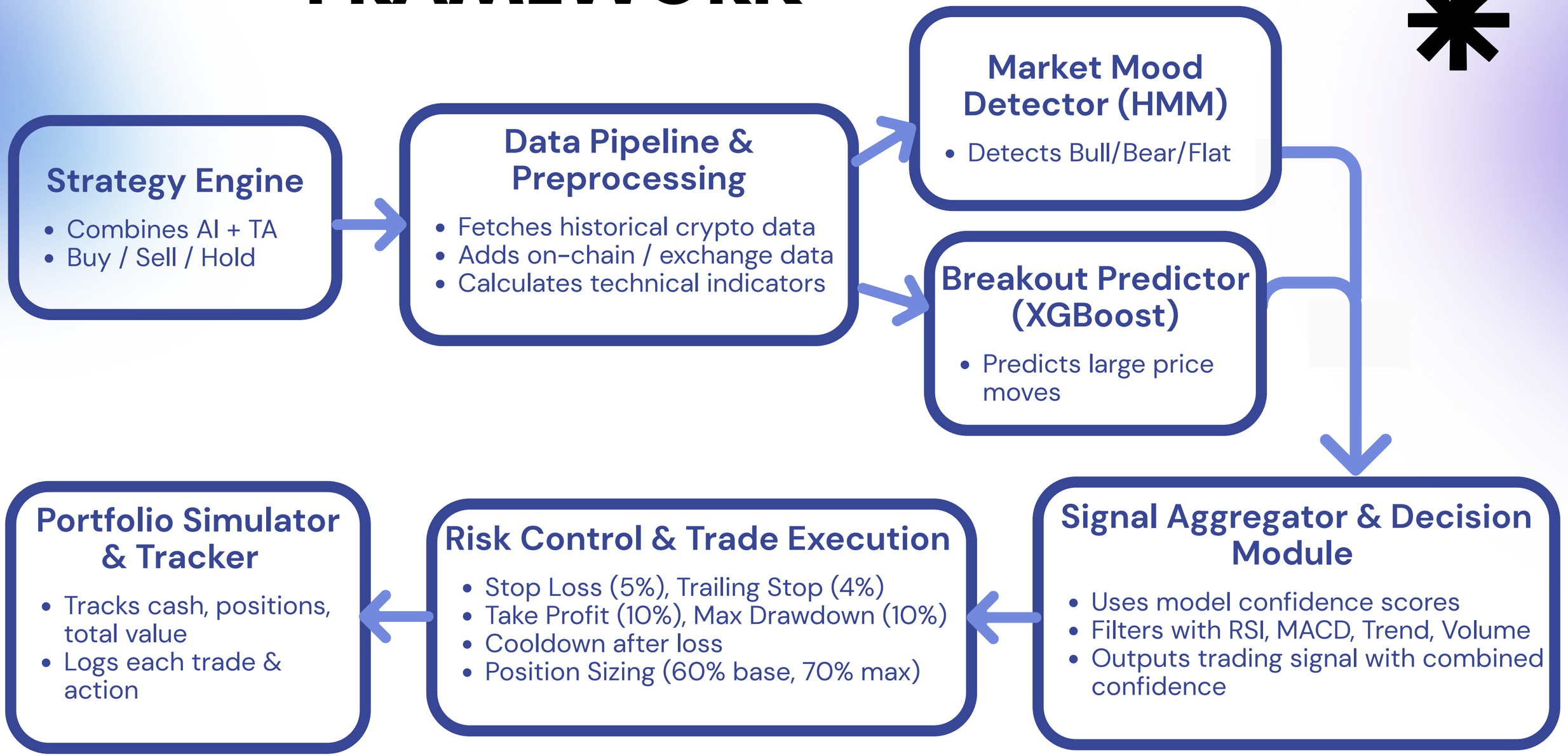
FRAMEWORK



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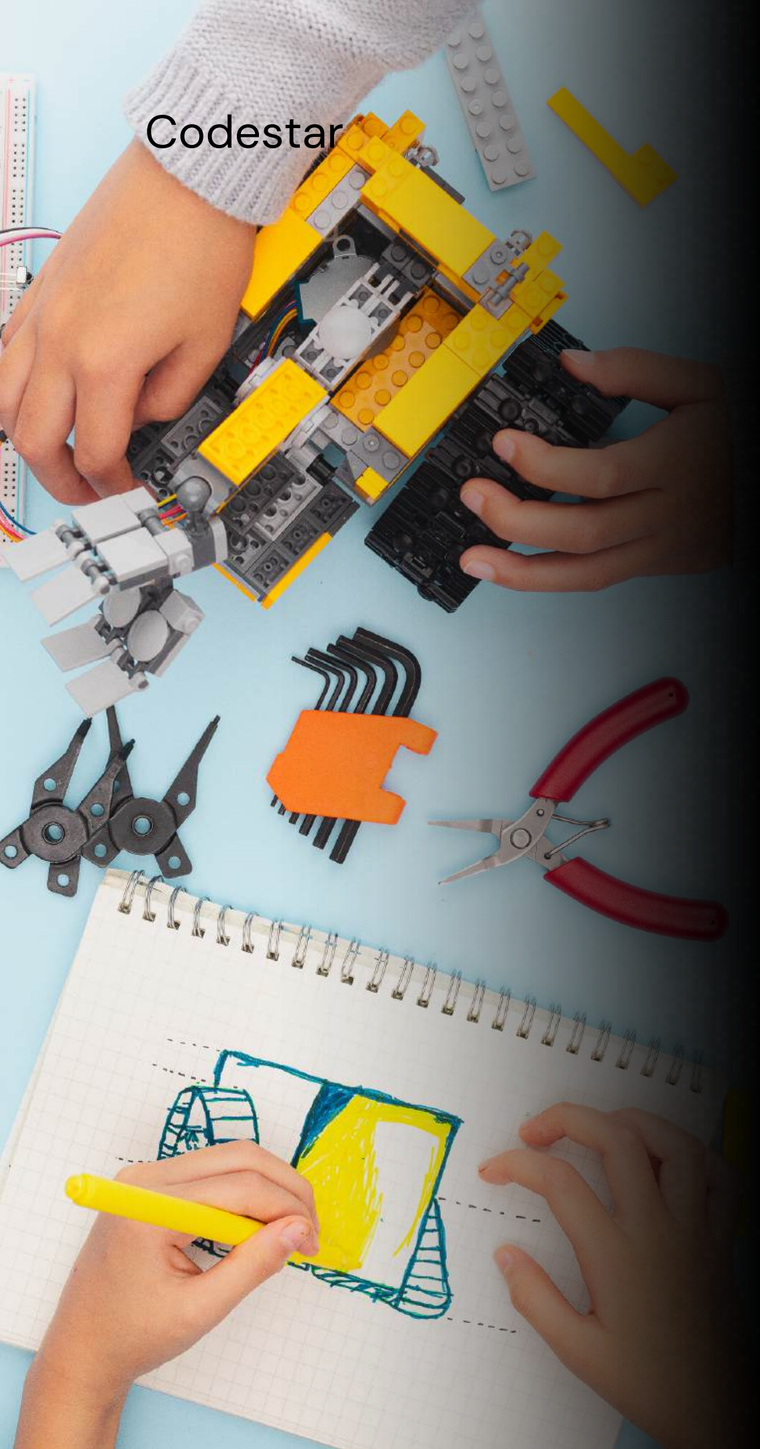

DEMONSTRATION AND EXPLANATION

INNOVATION

- Implimentation of a hybrid algorithm (HMM & XGBoost)
- Model is built based on breakout trends
- Has multiple safety features to protect your money

CONCLUSION

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THANK YOU