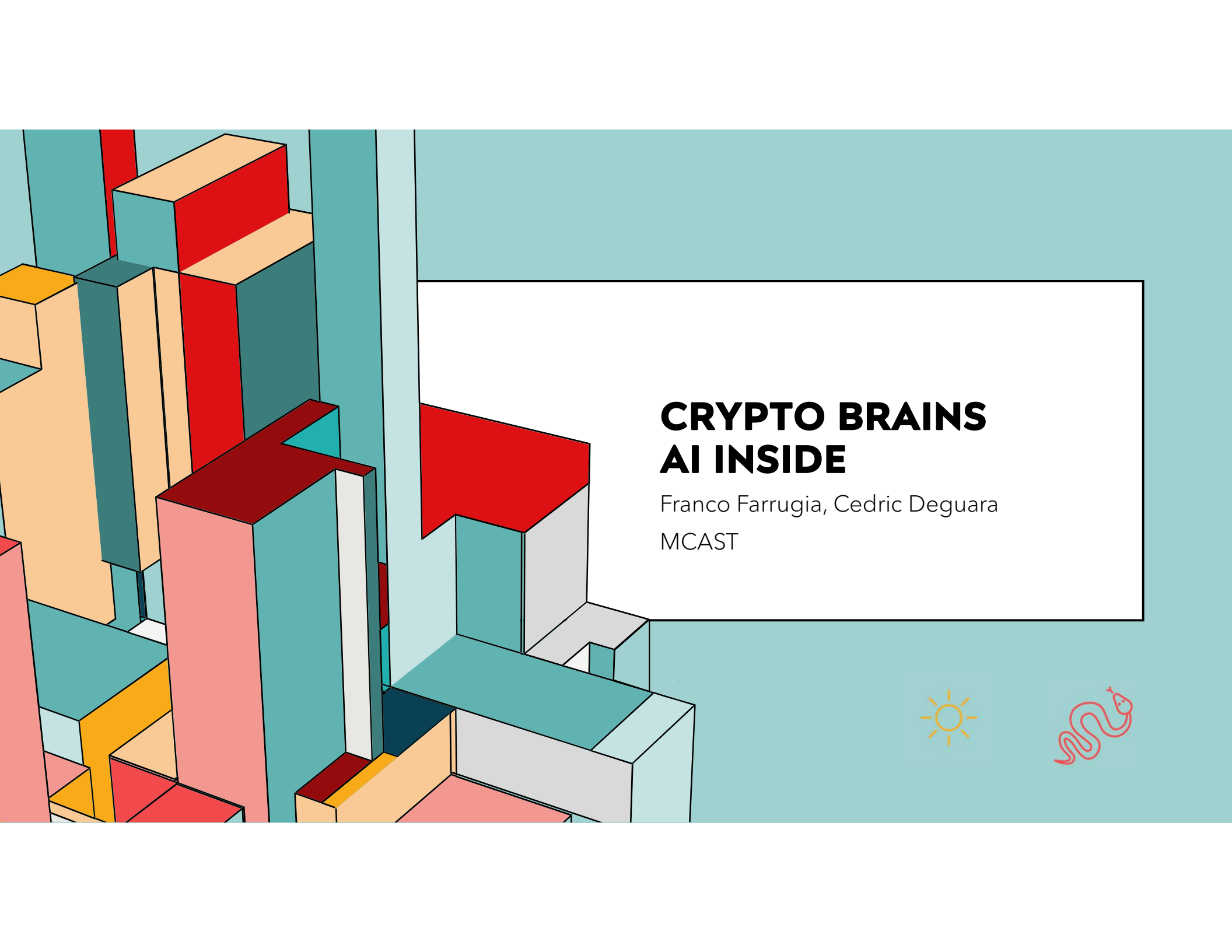




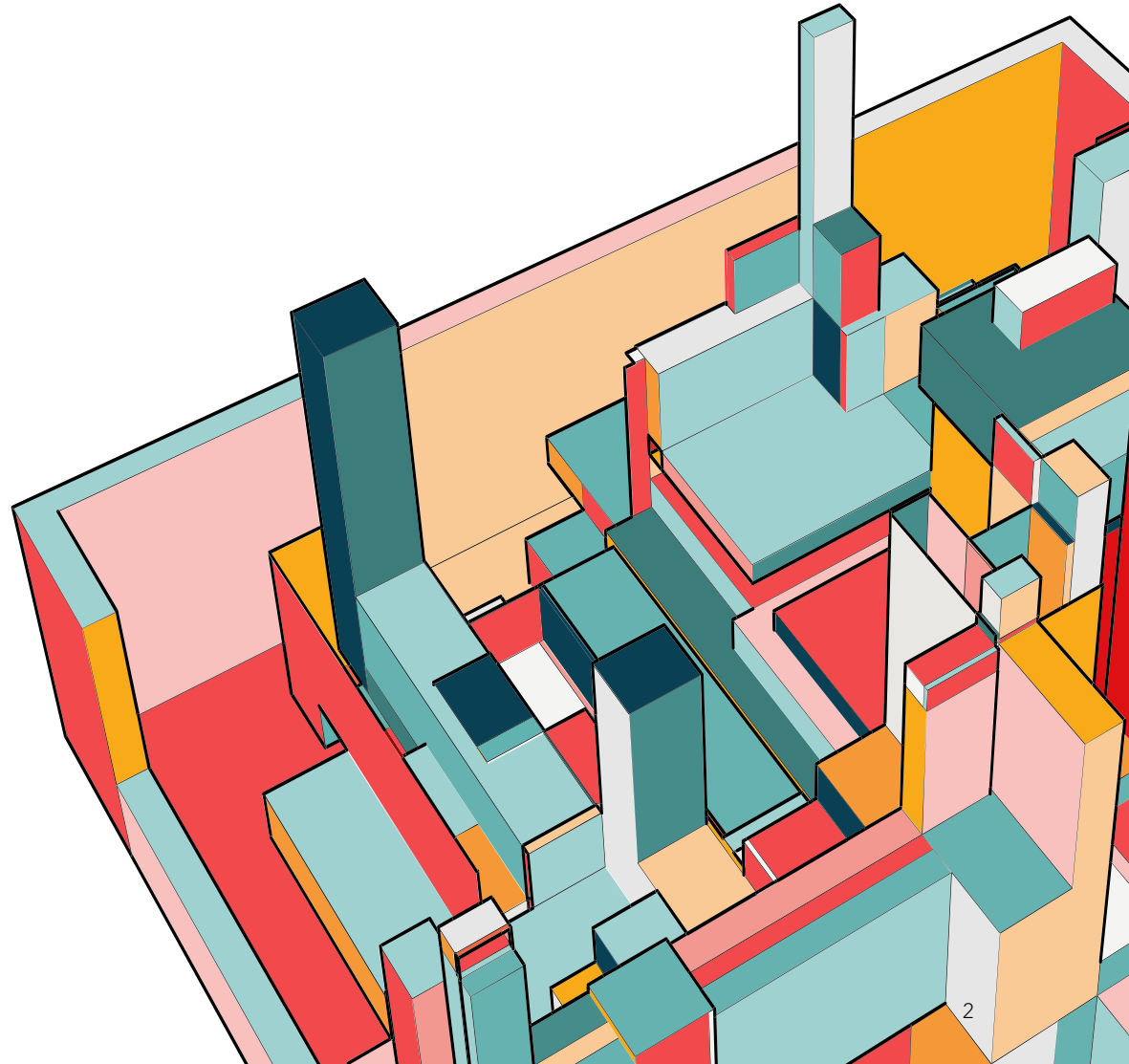
CRYPTO BRAINS AI INSIDE

Franco Farrugia, Cedric Deguara
MCAST



WHAT IS CRYPTO BRAINS?

How can AI assist crypto
decision-making?
What models deliver
usable predictions?

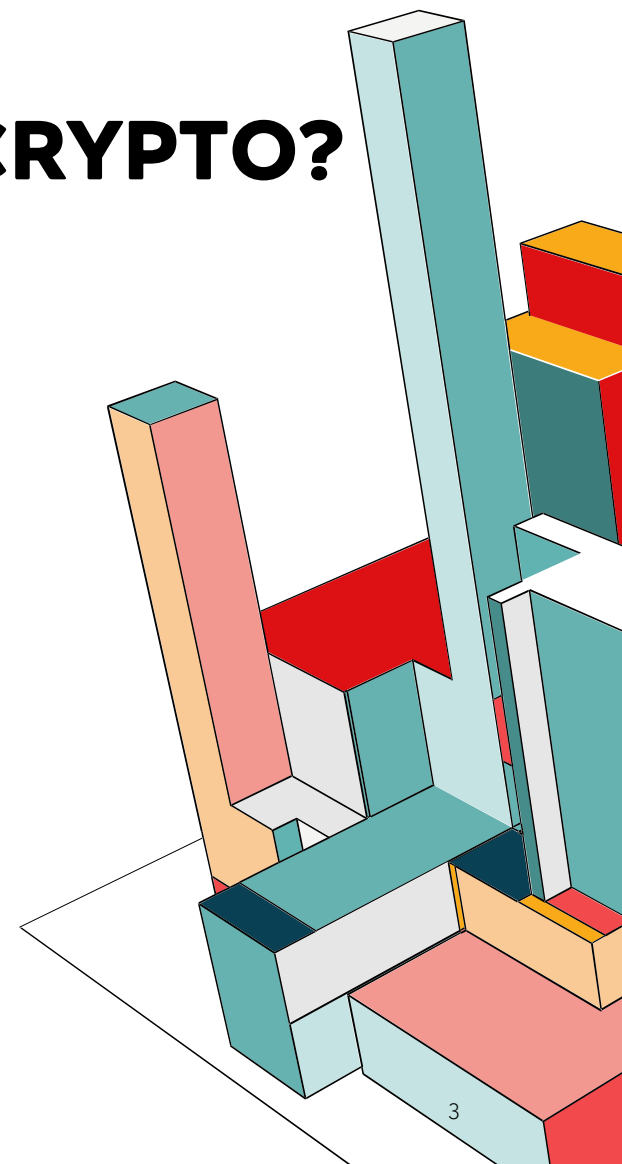


WHY SENTIMENT ANALYSIS IN CRYPTO?

The rise of DeFi and crypto markets demands better predictive tools.

Sentiment analysis, powered by NLP, extracts emotions from news and social media.

Studies show strong links between sentiment and crypto price changes, making it a powerful tool for forecasting market trends.



HOW IT WORKS

Step 1: Input Text (Raw Data):

"The market is bullish today, and Bitcoin is rising."

Step 2: Preprocessing:

Tokenization: ["The", "market", "is", "bullish", "today", "and", "Bitcoin", "is", "rising."]

Stop Word Removal: ["market", "bullish", "today", "Bitcoin", "rising."]

Lemmatization or Stemming: Reducing words to their root form.
"rising" becomes "rise."

Step 3: Feature Extraction:

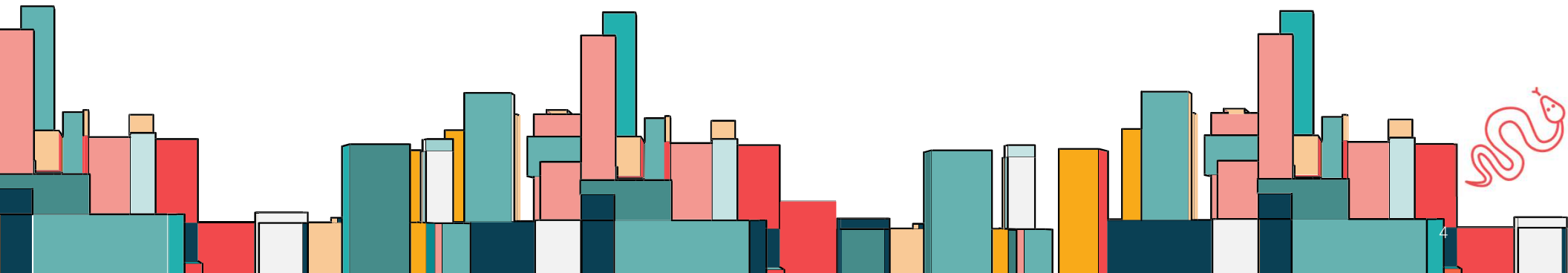
Transforming the processed text into a format that a machine can understand, such as vectors.
Techniques like TF-IDF (Term Frequency-Inverse Document Frequency)

Step 4: Modeling:

Algorithm NLP task, such as sentiment analysis: A sentiment analysis model could determine that "bullish" indicates a positive sentiment.

Step 5: Output:

A sentiment analysis model might output "Positive" for the sentence. Hence the Emotional tone in news / social media can be taken.



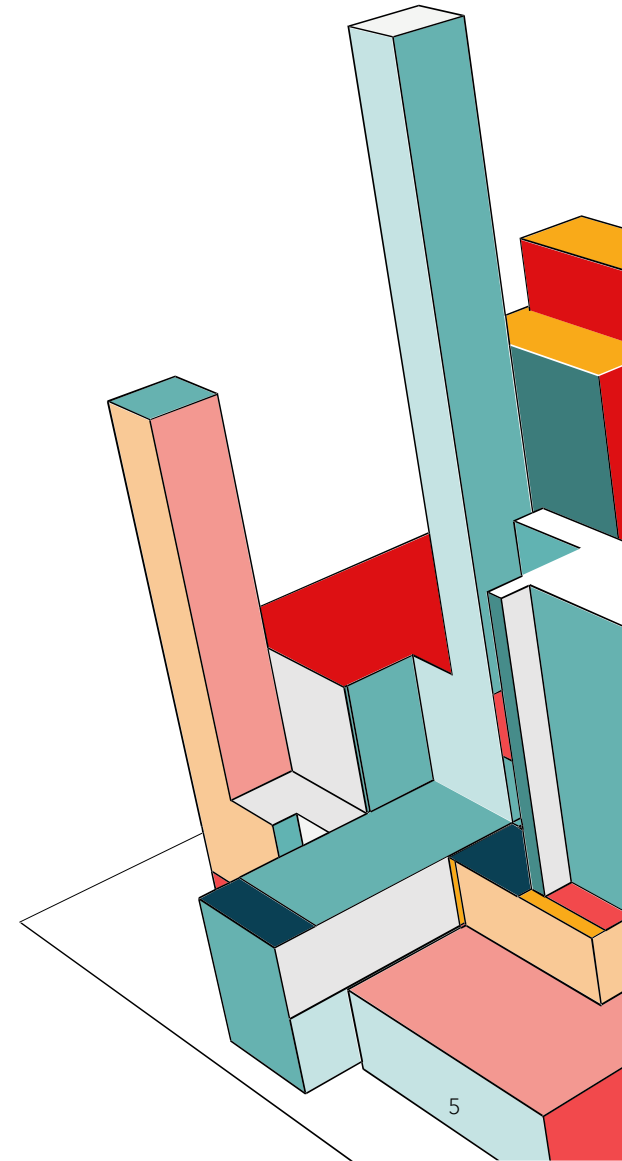
WHAT IS FINBERT?

FinBERT = A financial version of BERT, a powerful NLP model. NLP- Natural Language Processing

FinBERT is trained on financial texts like news and reports

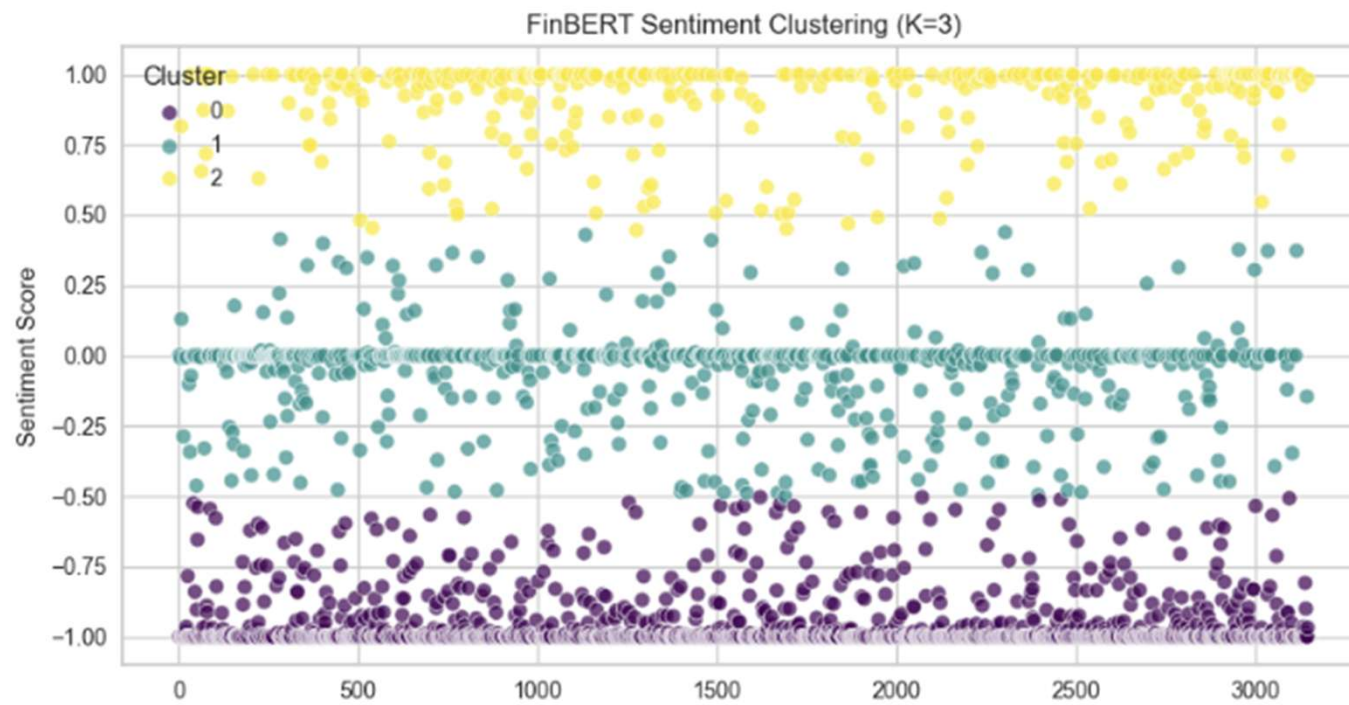
Used for sentiment analysis (positive, neutral, negative) in finance and crypto

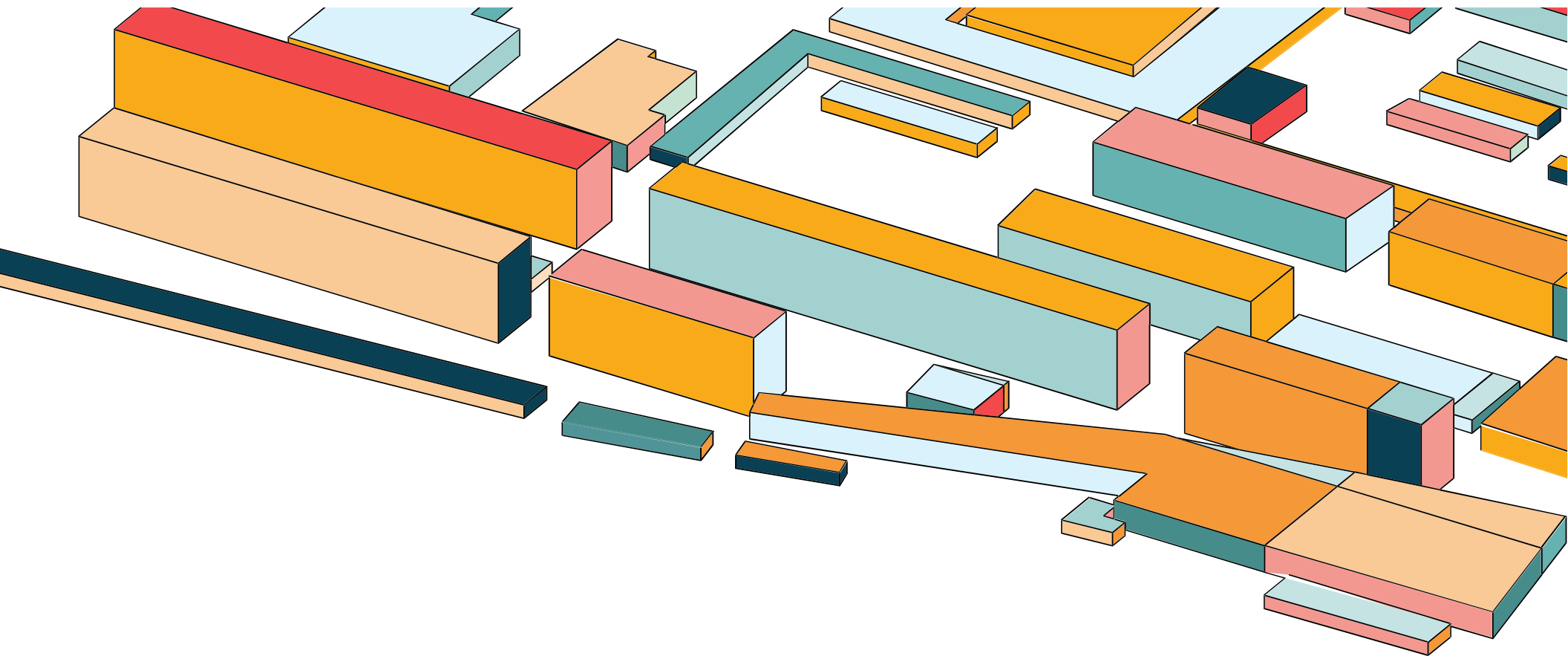
Helps predict market movements based on financial language





RESULTS

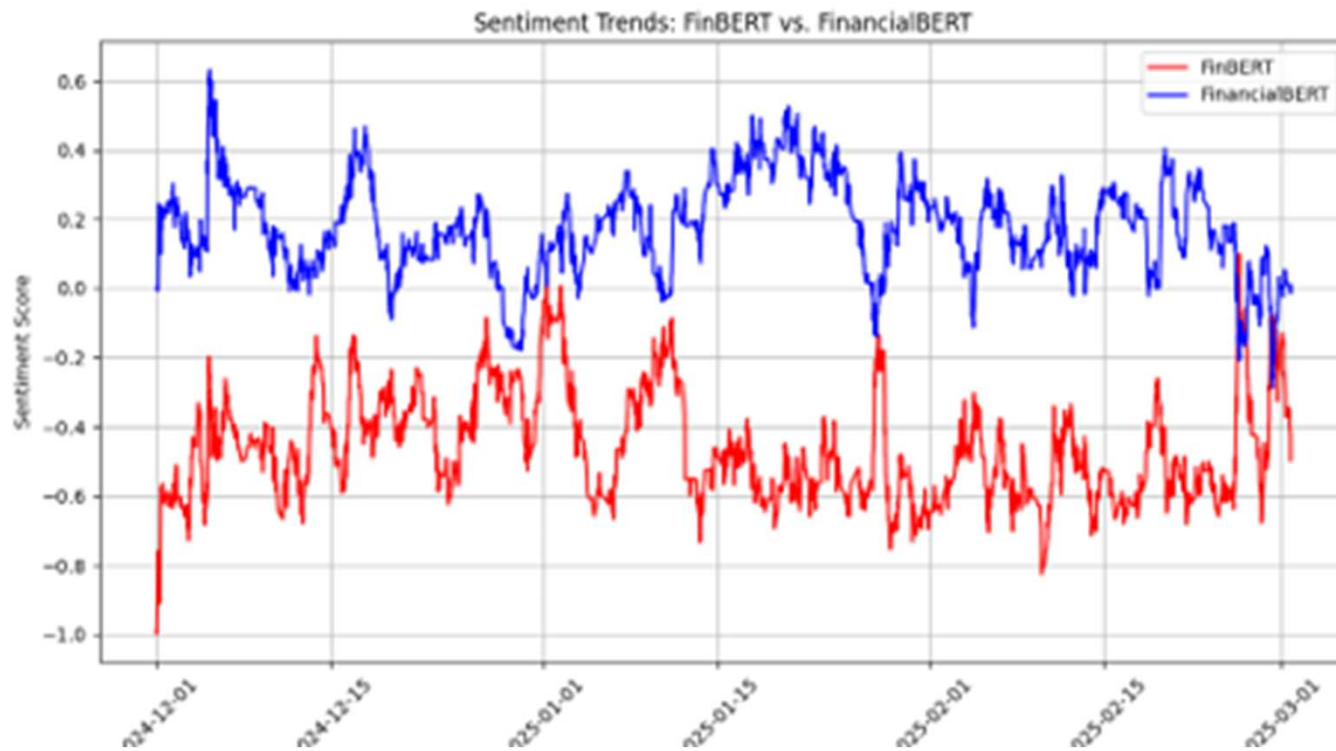




MODEL 1 VS MODEL 2

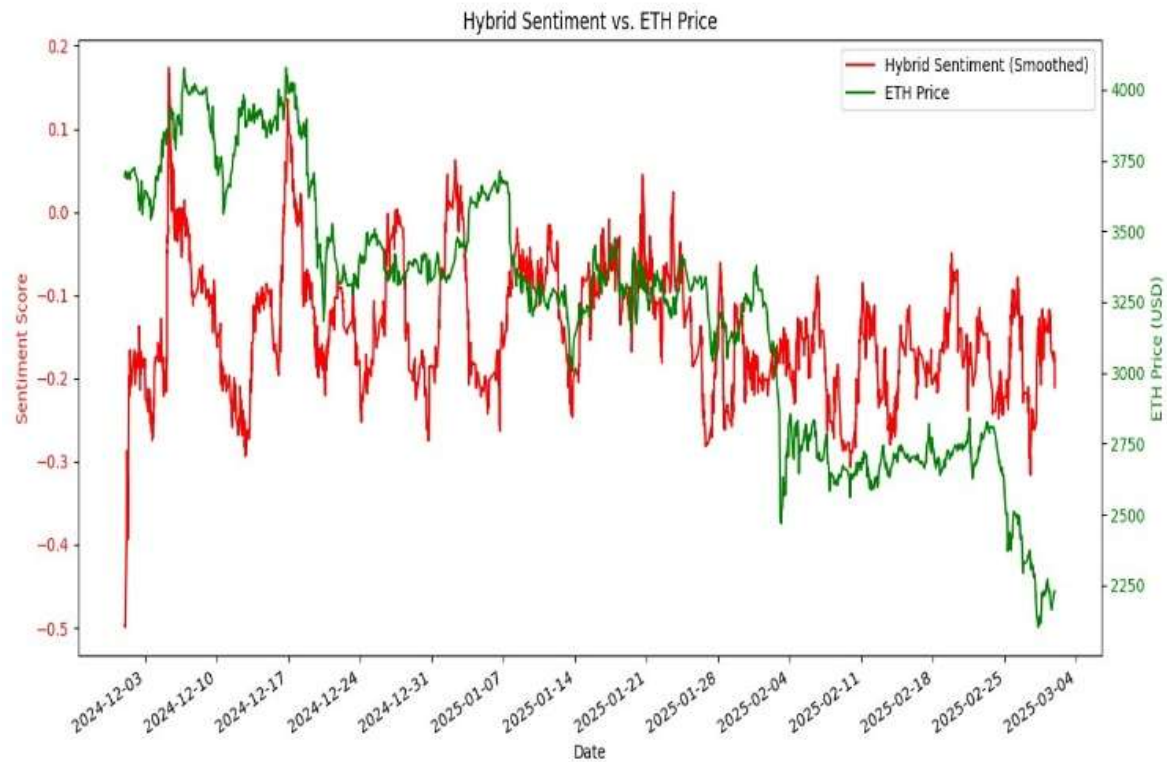


FINBERT VS FINANCIALBERT





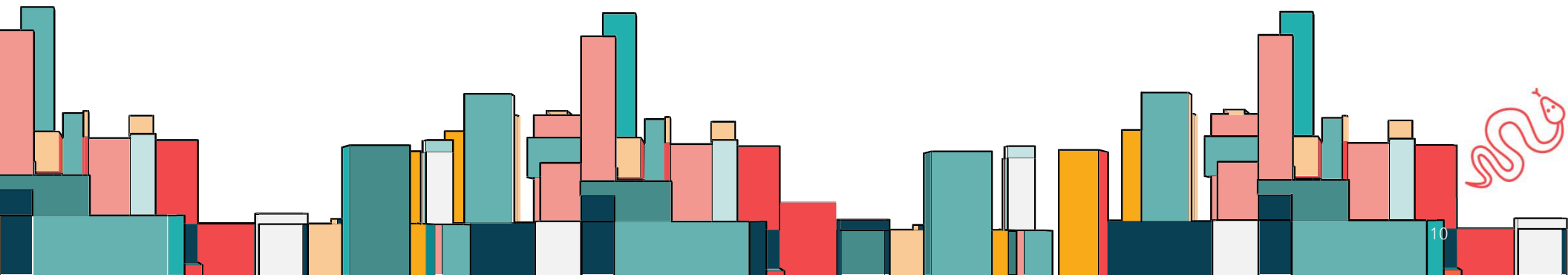
ETH STRONGEST CORRELATION



HYBRID (OUR OWN + FINBERT) NLP

Research approach

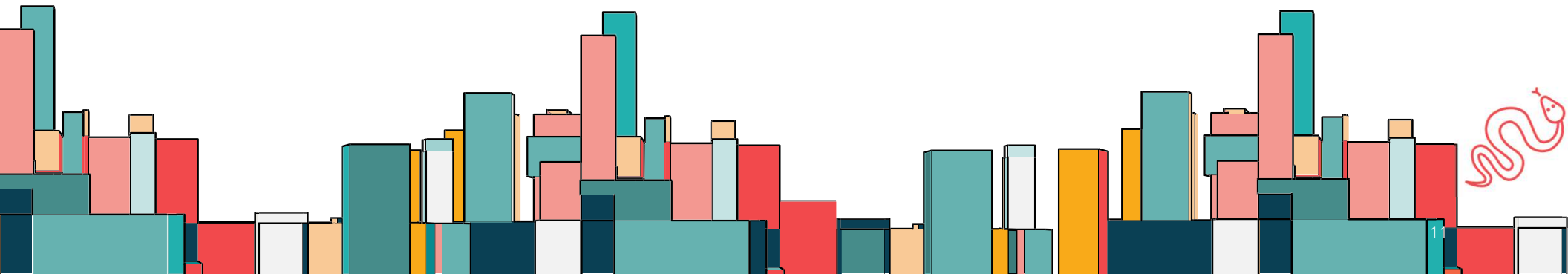
- Collected sentiment-labeled data.
- Cleaned and preprocessed text.
- Calculated sentiment scores.
- Aligned time-based sentiment with pricing.



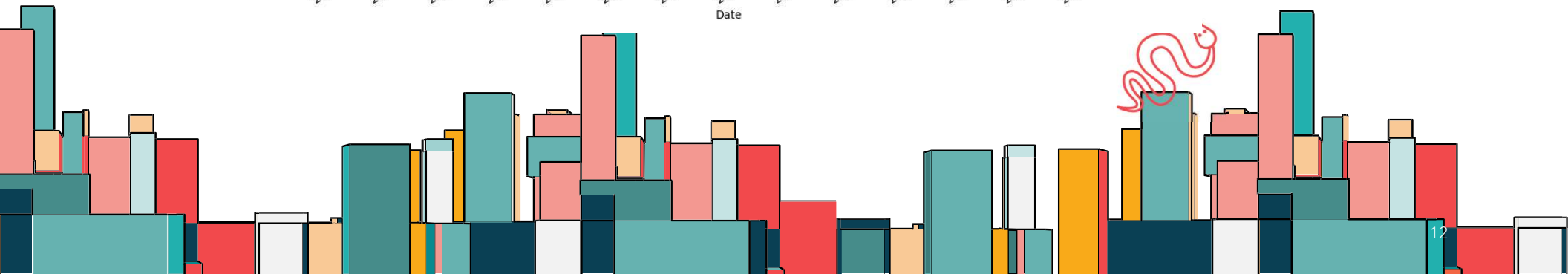
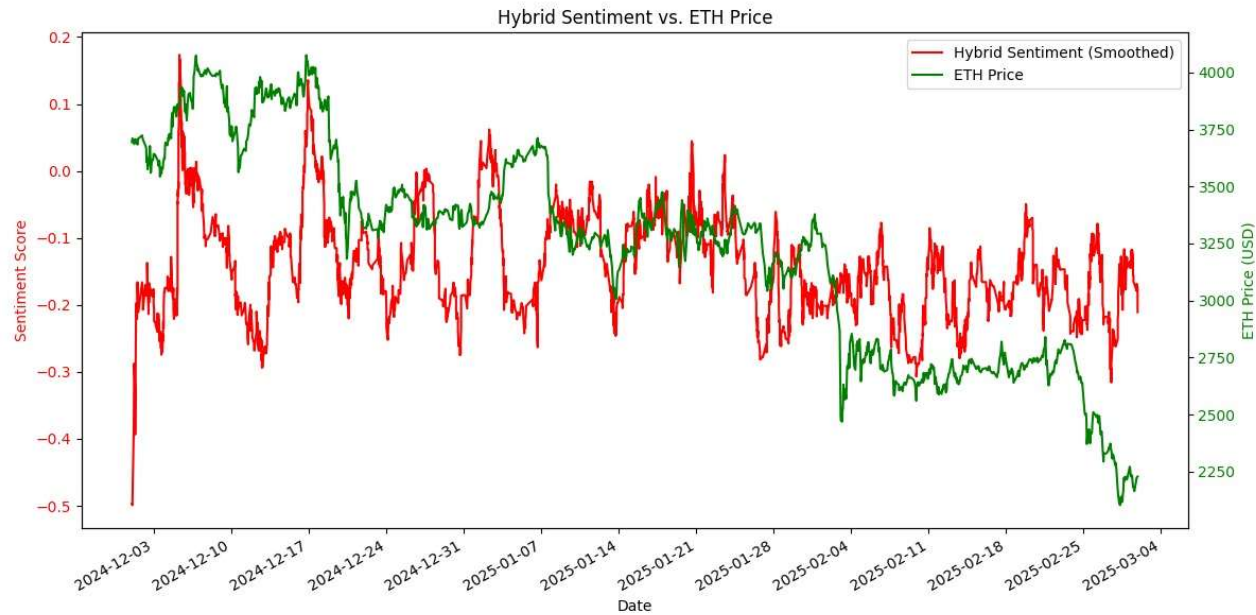
HOW IT WORKS

```
# Extract the predictions (logits)
logits = outputs.logits
prediction = torch.argmax(logits, dim=1).item()

# Print the result
if prediction == 0:
    print("Negative Sentiment")
elif prediction == 1:
    print("Neutral Sentiment")
else:
    print("Positive Sentiment")
```

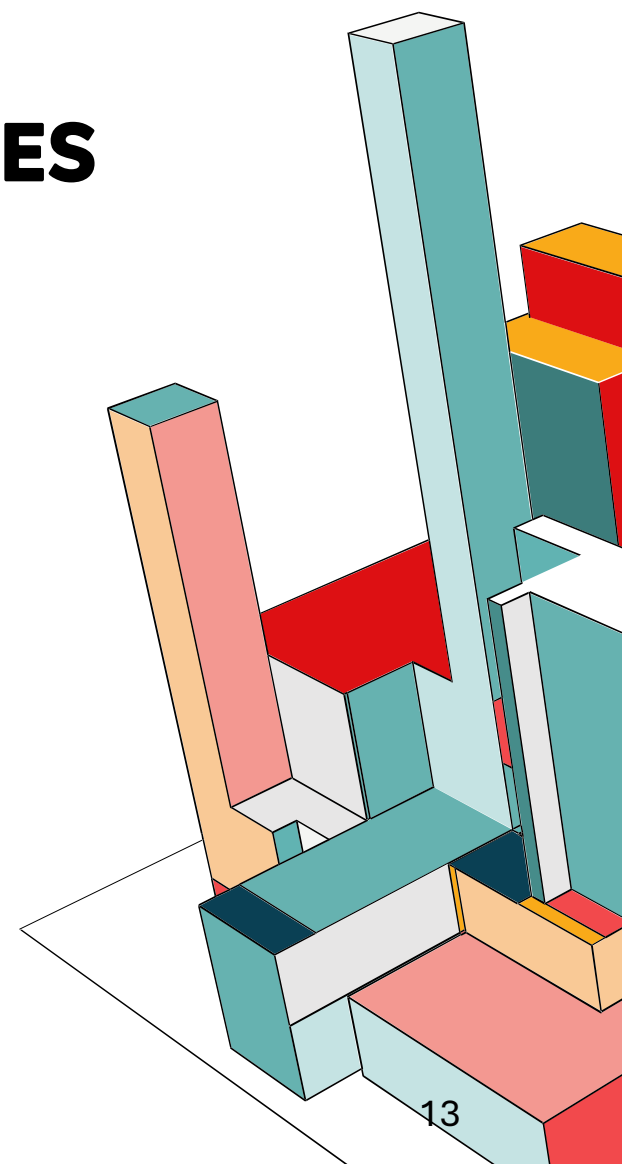


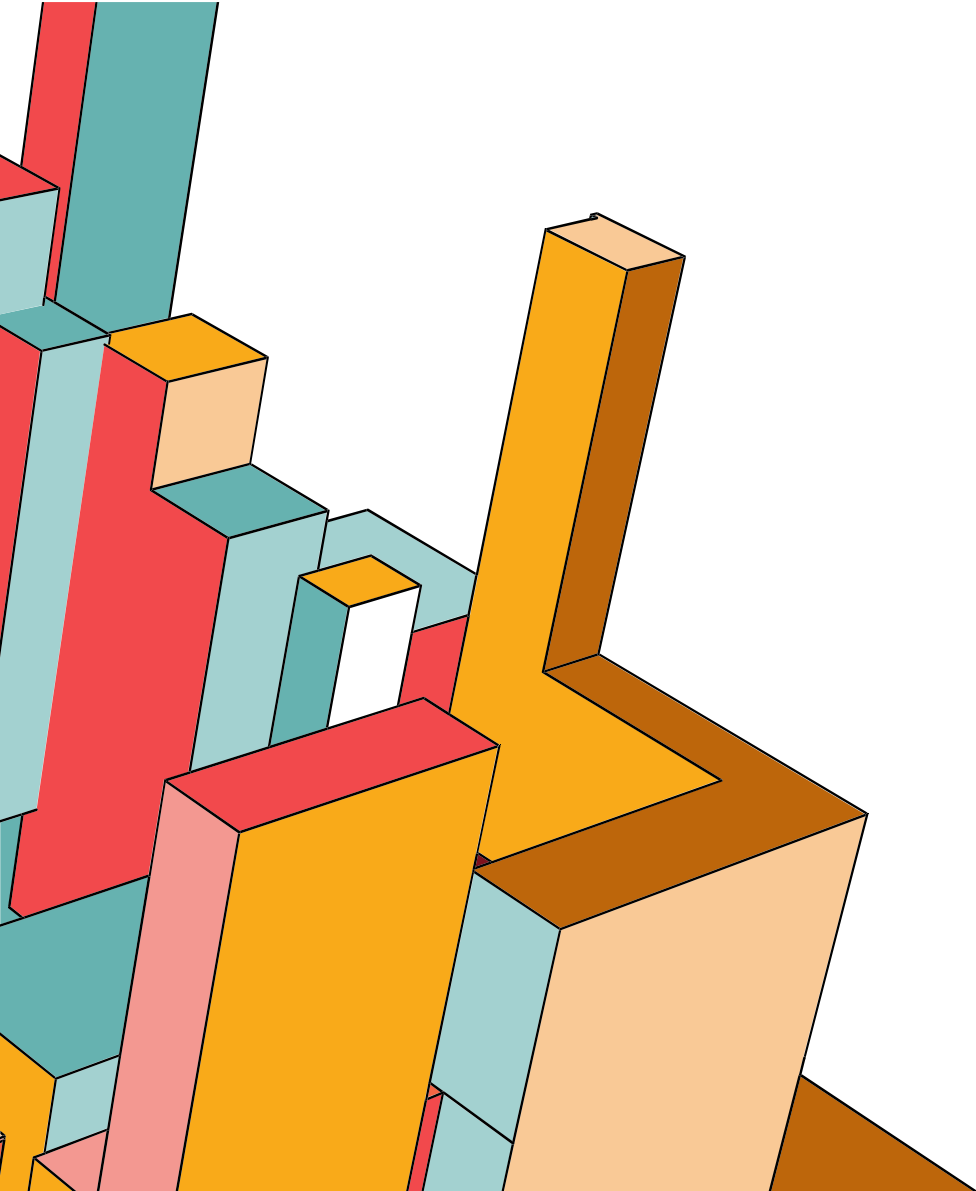
HYBRID SENTIMENT



NEXT STEPS AND OPPORTUNITIES

- Model refinement with larger datasets.
- Expansion into NFT analytics, staking behavior, and agent automation.
- Open-source platform release for collaborative development.
- Experiment with new models QWQ and FinGPT





WHO CAN BENEFIT?

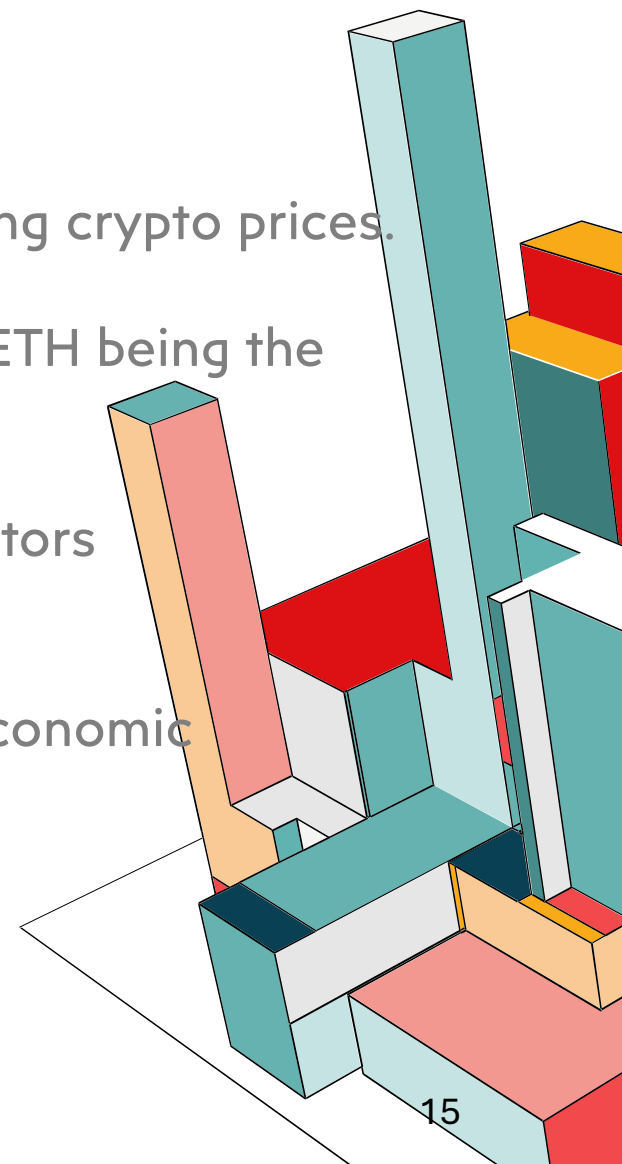
Crypto traders and analysts

DeFi platforms integrating smart alerts

AI developers / researchers in Fintech

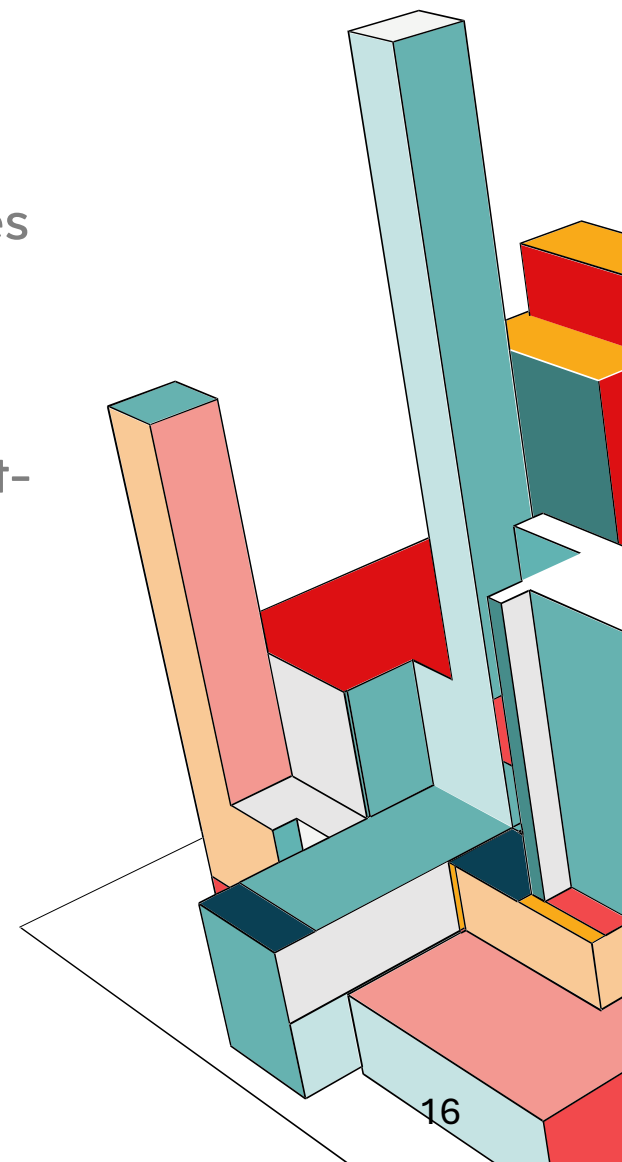
FINAL THOUGHTS

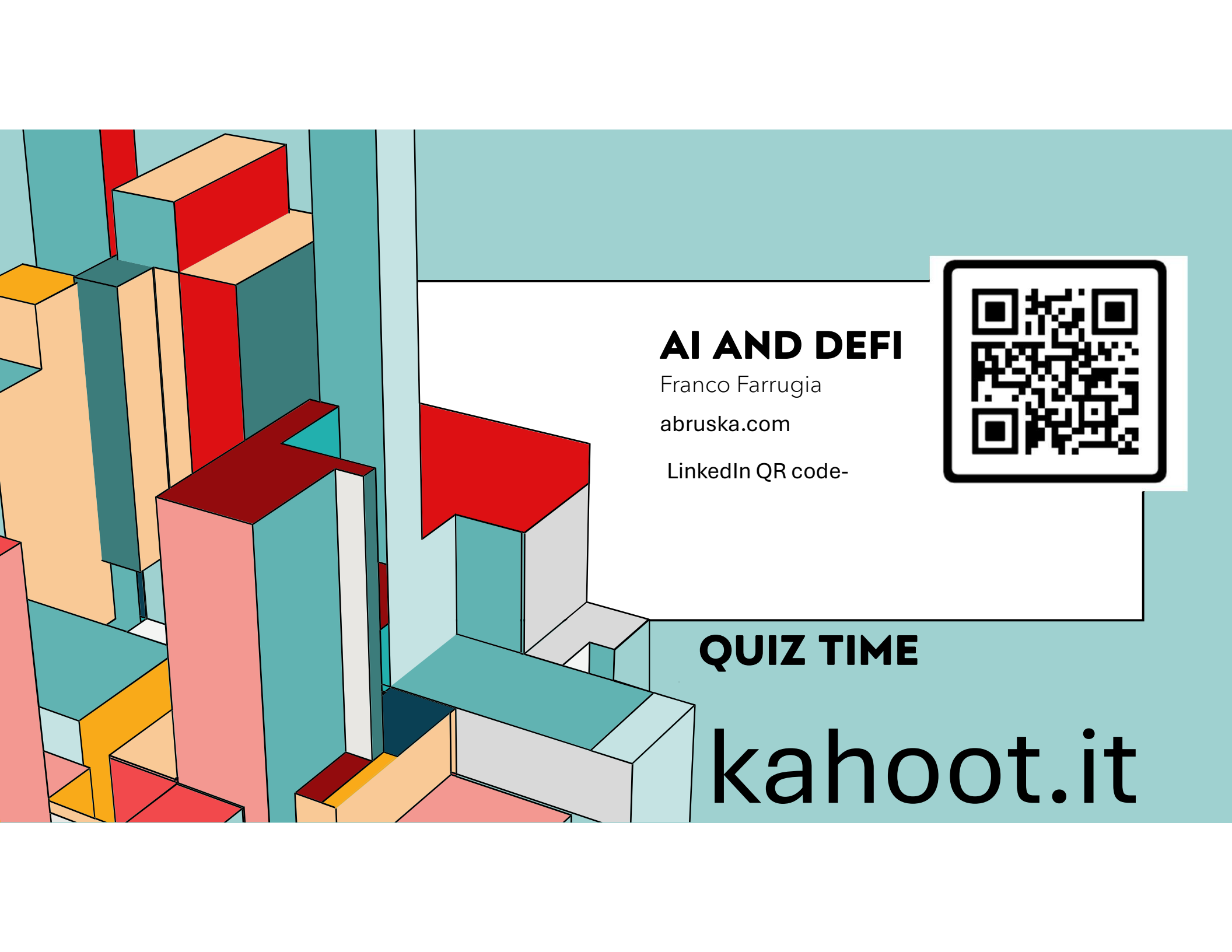
- Sentiment analysis can be an effective tool for predicting crypto prices.
- The impact of sentiment analysis varies by asset, with ETH being the most sensitive.
- Combining sentiment analysis with other market indicators enhances prediction accuracy.
- Sentiment analysis alone misses technical and macroeconomic factors



FINAL THOUGHTS

- The delayed impact of sentiment indicates inefficiencies in the crypto market.
- Traders can exploit these inefficiencies, particularly in lagged market responses.
- Algorithmic traders and hedge funds can use sentiment-based trading bots to capitalize on these lags.





AI AND DEFI

Franco Farrugia

abruska.com

LinkedIn QR code-



QUIZ TIME

kahoot.it