



Predicting Meme Coin Crashes

Developing a deep learning model for early detection of meme coin crashes to prevent losses and enable protective trading actions.

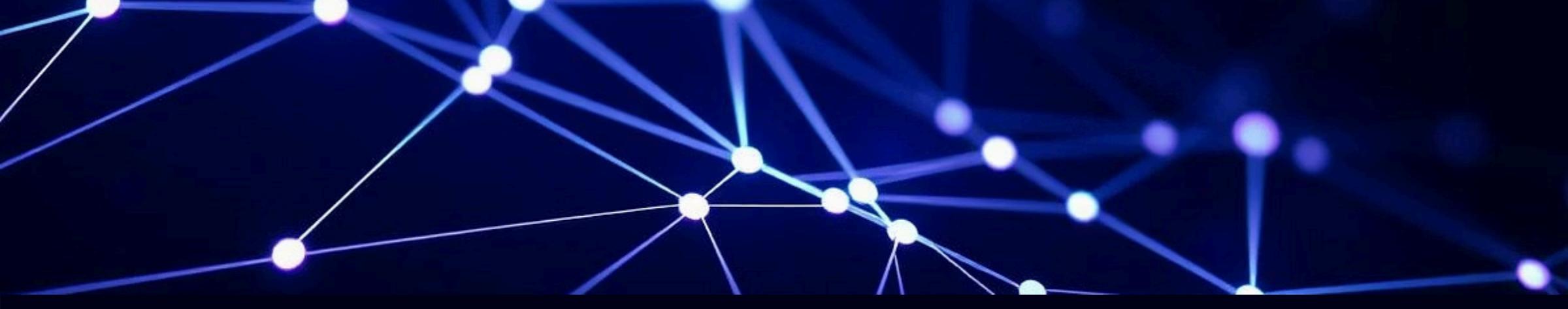
Project Goals & Motivation

Project Goal

- Deep learning model for meme coin crash detection.
- Exclusively uses historical price and volume data.
- Supports real-time online trading deployment.

Business Motivation

- Meme coins are highly volatile and prone to rapid crashes.
- Early warnings prevent losses and trigger protective actions.
- No existing tools generalize well across new meme coins.



Data & Labeling Strategy



Data Collection

Historical price and volume from multiple meme coins, with rolling normalization and sliding windows.



Labeling Strategy

Binary crash labels for 15, 30, and 60 minutes into the future, using Demorgia-style event thresholds.

Modeling Approaches

LSTM (Regression)

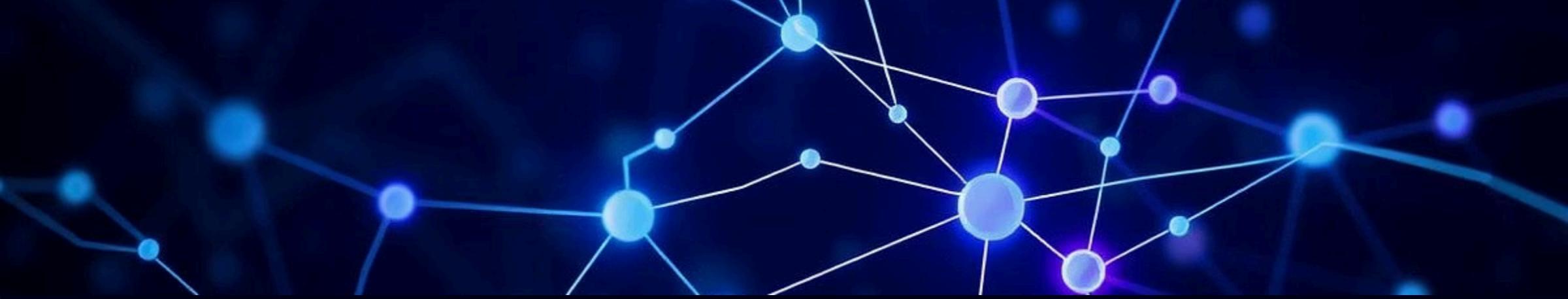
Failed to learn reliable time-to-crash predictions.

LSTM (Multi-label)

Poor convergence, with AUC capped at approximately 0.6.

CNNLSTM Hybrid

Successfully captured both local bursts and long-range signals.



Final Model Architecture



CNN Detection

Detects short-term volume and price spikes.



Bidirectional LSTM

Models broader contextual information.



Attention Pooling

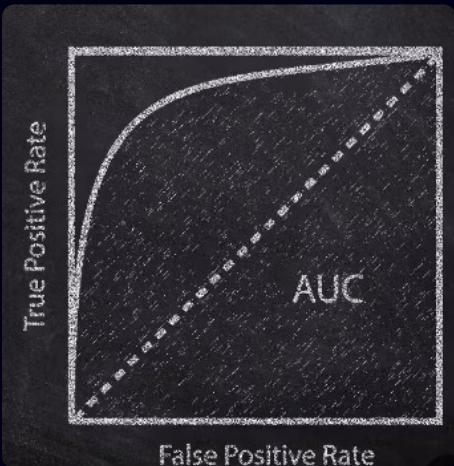
Improves focus and model interpretability.

Performance Highlights



AUC Score > 0.9

Achieved on all validation folds.



Generalization

Robust across different meme coins.
despite class imbalance



Real Time Usage

Able to perform classification of time
windows in an online environment



Deployment & Maintenance

Deployment Plan

- Runs every 5 minutes per coin.
- Outputs crash probabilities (15/30/60 min ahead).
- Sends alerts to dashboard/trading bot.

Monitoring & Maintenance

- Logs predictions and outcomes for audit.
- Monthly retraining or triggered by AUC drop.
- Monitors alert precision and volume.

Next Steps

1

Enhance Signals

Add sentiment and social signals (Twitter, Reddit, Google Trends).

2

Normalize Labels

Normalize labels across different volatility regimes.

3

Expand & Test

Expand dataset and test in a live trading environment.

