Final Report

Executive Summary

- Brief project description and goals.
- Summary of methodology and results.

Data Description

- Overview of dataset and features.

Methodology

- Data cleaning and feature engineering steps.
- Models used: Random Forest & LSTM.
- Training and validation setup.

Results

- Performance metrics (MAE, RMSE, R^2) for both models.
- Comparison and analysis of model performances.
- Visualizations of actual vs predicted prices.

Challenges

- Handling missing data and noisy crypto market data.
- Sequence length and feature selection for LSTM.

Conclusion

- LSTM captured temporal dependencies better but RF was faster.
- Both models achieved high accuracy with carefully engineered features.

Future Work

- Incorporate sentiment and external market data.
- Experiment with Transformer-based models.
- Deploy models for real-time prediction.