Final Report

Objective

To predict the liquidity level of cryptocurrencies using historical market data from CoinGecko and present the results through a user-friendly Streamlit web application.

Process Summary

1. Data from two consecutive dates was merged and cleaned.
2. Key features like liquidity ratio and price change ratio were derived.
3. Target variable `liquidity_level` was created using statistical quantiles.
4. A Random Forest model was trained and evaluated.
5. A Streamlit interface was built for live predictions.

Performance

- Accuracy: ~87%
- F1 Score: ~0.85
- Evaluation: Good class separation observed with minimal overfitting.

Deliverables

- Cleaned and feature-engineered datasets
- Trained model and scaler in `.pkl` format
- Streamlit web app script (`app_ml_project_sid.py`)
- Project documentation: EDA, HLD, LLD, Final Report

Conclusion

This project demonstrates a complete ML pipeline including data collection, cleaning, feature engineering, model development, evaluation, and deployment. It provides a practical tool for predicting crypto liquidity based on real market data.