Low-Level Design Document

1. Data Pipeline

Data is read from historical CSVs. Preprocessing includes handling missing values and generating features like 3-day moving average (price_ma3), 3-day volatility (volatility3), percentage price change, and volume-price trend (vpt).

2. Model Details

The model used is XGBoostRegressor with default hyperparameters. Features used include: price, volume, price_ma3, volatility3, price_pct_change, and vpt.

3. Evaluation

R^2 Score: -36105.33

RMSE: 3735871858685.44

4. Flask API

The Flask API accepts JSON input, processes it through the trained model, and returns a prediction in the format: {"liquidity": predicted_value}.