Exploratory Data Analysis (EDA) Report

1. Introduction

This Exploratory Data Analysis (EDA) report provides insights into the historical cryptocurrency market data used for predicting liquidity.

The dataset includes features such as date, open, high, low, close prices, trading volume, and market capitalization.

2. Data Overview

- Total records: ~X (replace with actual count)
- Columns: Date, Open, High, Low, Close, Volume, Market Cap

Each row represents market stats for a specific cryptocurrency on a given date.

3. Missing Values

- Some missing values detected in columns: Volume, Market Cap.
- Imputation strategy: Forward fill or interpolation was used to fill missing values.

4. Statistical Summary

- Price columns (Open, High, Low, Close) show wide ranges indicating volatility.
- Volume and Market Cap vary significantly by cryptocurrency.

Standard deviation values are high, which confirms market fluctuations.

5. Correlation Analysis

- Close price shows strong correlation with Open, High, and Low prices.
- Volume has moderate correlation with Market Cap and Price.
- Liquidity (Volume/MarketCap) is used as the target feature.

6. Outliers and Distribution

- Price and volume distributions are right-skewed.
- Several outliers detected, mostly during market spikes or crashes.

Log transformation can be applied to stabilize variance if necessary.

7. Time Series Trends

- Daily prices show upward and downward trends across months/years.
- Seasonality is present in trading volume.
- Market Cap mirrors price trends.

8. Conclusion

The EDA reveals that cryptocurrency data is highly volatile with significant outliers and non-linear

relationships.

Feature engineering is essential to enhance predictive power.