# Enhanced Stock Recommendation Model

# Original Model Overview

Stock Data Analysis - Basic Metrics [ Annualized Return, Volatility, Sharpe Ratio]

Used for Generating Stock recommendations

Limited to Historical data, does not provide real-time updates

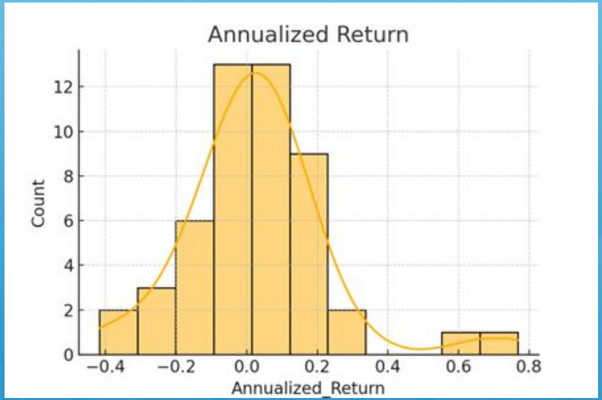
# Enhancement Made

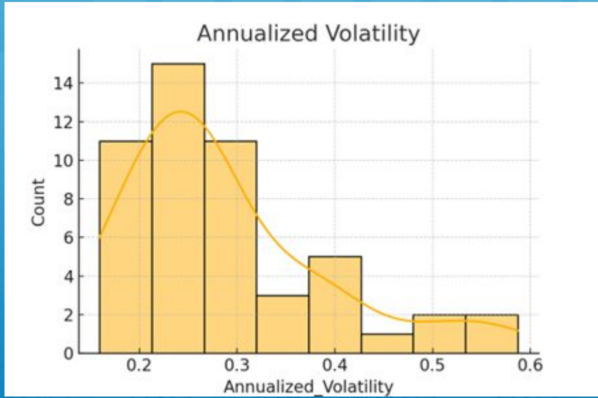
Real-Time Data Update - Grabs the most recent Data periodically

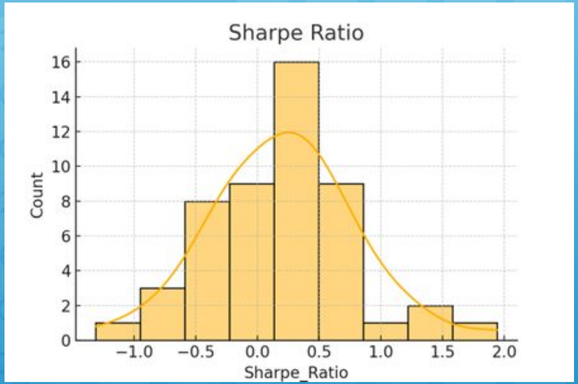
# Benefit of Enhancement

More accurate and Timely Stock Recommendations

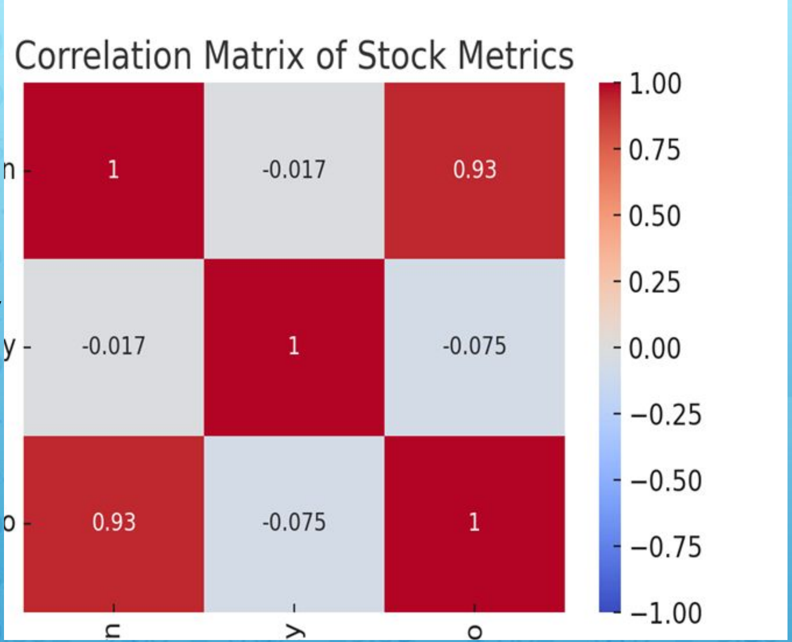
# Findings from Data Exploration



# Correlation Analysis




Annualized Return

Annualized volatility

Sharpe Ratio

Annualized Return

Annualized volatility

Sharpe Ratio

# Comparing of Clustering Algorithms

Different clustering algorithms (K-Means, Hierarchical, DBSCAN) can be compared

Evaluate based on metrics like Silhouette Score, Davies-Bouldin Index

Visualize clusters to understand separations and overlaps

# Improvements that can be done in the future

Collect feedback for each stock recommendation

Use feedback to make future recommendations

Improve the model based on user inputs

# Future Improvements

Real-time changes with  new financial information when released

Develop a simple and easy to navigate mobile app