


# Enhanced Stock Recommendation Model

A stylized illustration of a man in a dark suit, white shirt, and blue tie. He is standing with his left hand on his hip and his right arm raised, pointing towards the top right. He is positioned next to a bar chart with several blue bars of varying heights. The background is a light blue gradient with a faint grid of numbers.



# 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

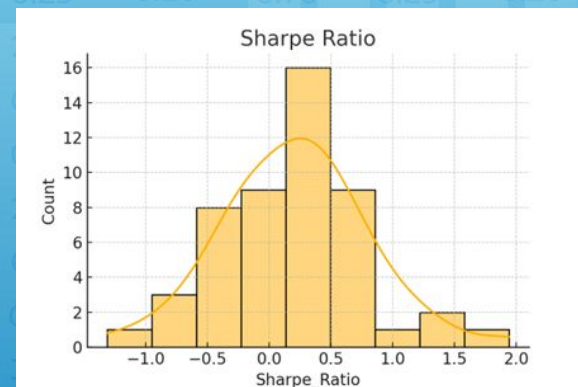
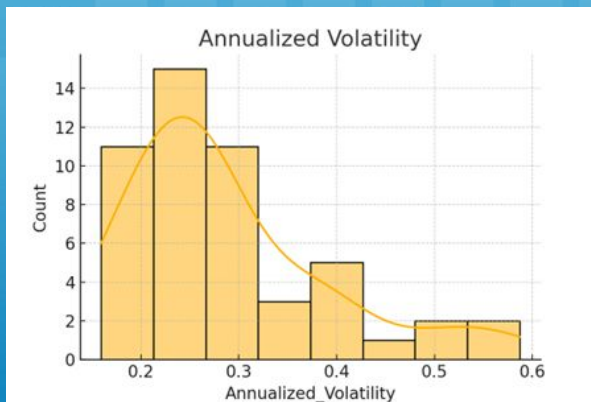
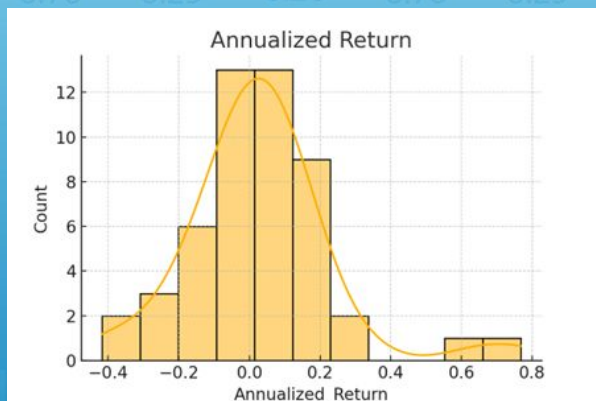
**Real-Time Data Update - Grabs the most recent Data periodically**



# Benefit of Enhancement

**More accurate and Timely Stock Recommendations**

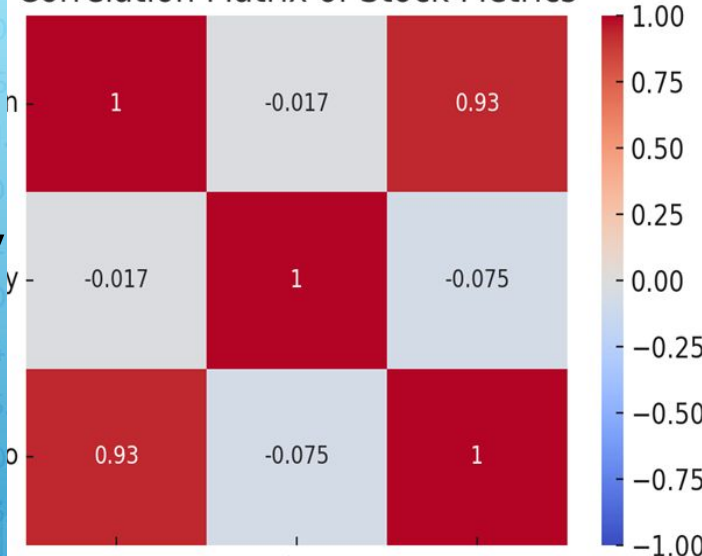
# Findings from Data Exploration





# Correlation Analysis

Correlation Matrix of Stock Metrics



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