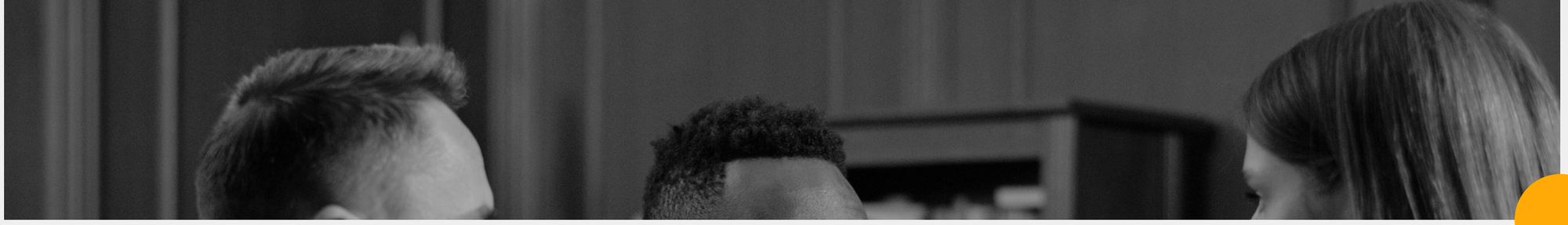

STOCK MARKET PRICE
PREDICTION



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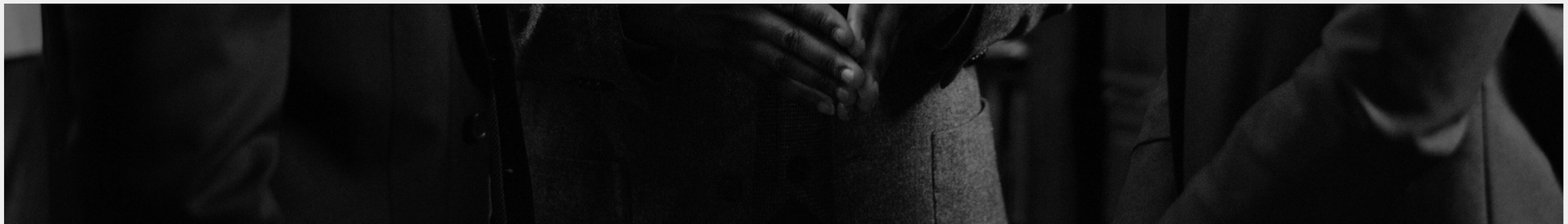

INTRODUCTION

In the realm of finance, particularly in stock market trading, the ability to accurately predict stock prices is of paramount importance. This project endeavors to explore machine learning techniques to predict stock market prices, focusing on companies like Google (GOOG), Apple (AAPL), and Amazon (AMZN). The project's significance lies in its potential to offer insights into future stock trends, aiding investors, financial analysts, and traders in making informed decisions.

IMPLEMENTATION

```
Train Results:
====================
Mean Absolute Error (MAE) on train set: 31.9322294541347 13 %
Mean Squared Error (MSE) on train set: 24.62566492162726 %
Root Mean Squared Error (RMSE) on train set: 49.62425306402834 %
R-squared (R2) on train set: 99.91066230186667 %

Test Results:
====================
Mean Absolute Error (MAE) on test set: 69.65337253250715 %
Mean Squared Error (MSE) on test set: 100.0 %
Root Mean Squared Error (RMSE) on test set: 100.0 %
R-squared (R2) on test set: 99.64612496213788 %
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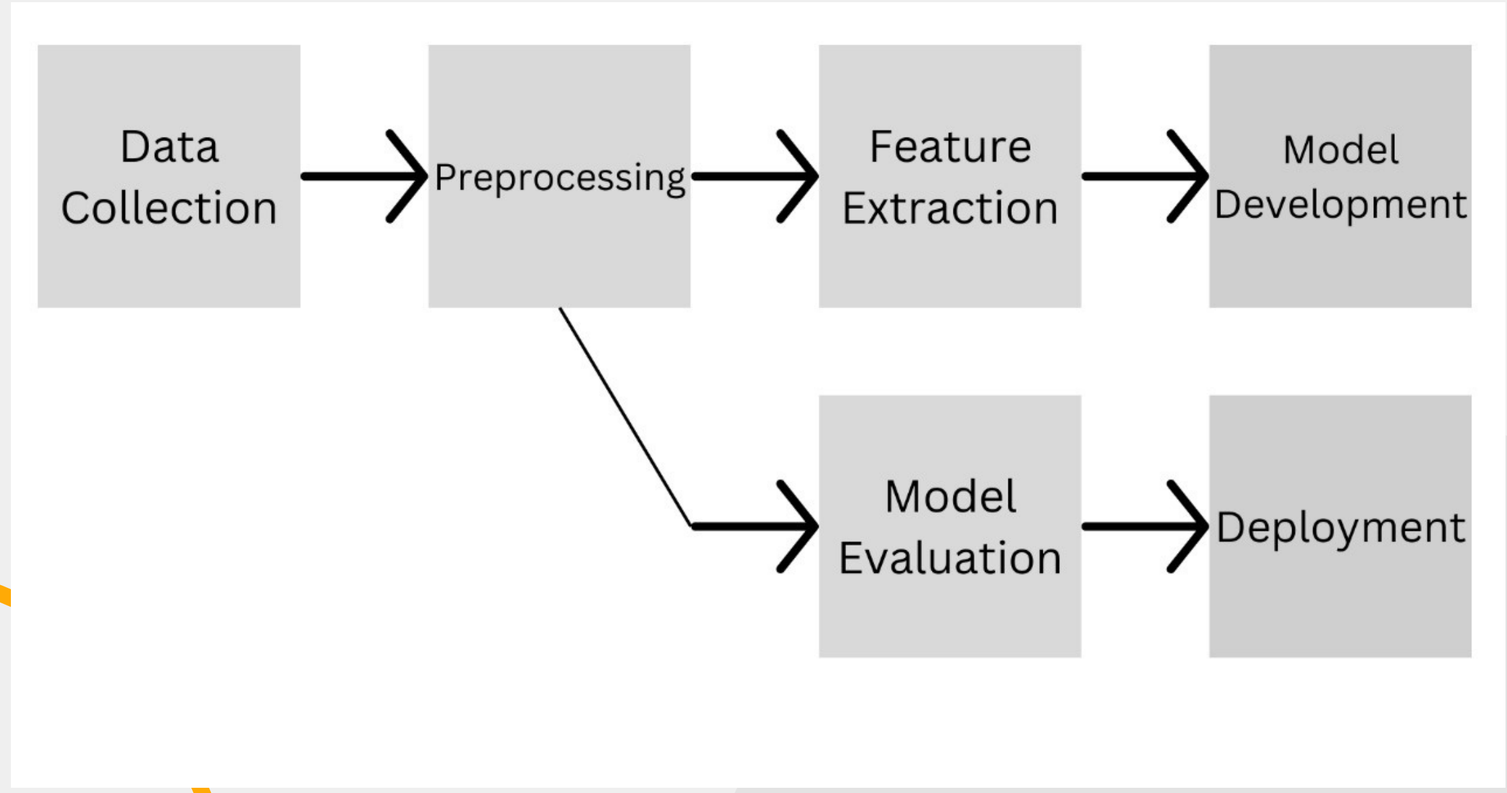
IMPLEMENTATION



IMPLEMENTATION

```
Train Results:
====================
Mean Absolute Error (MAE) on train set: 26.99594568323207 %
Mean Squared Error (MSE) on train set: 16.1316318906687 96 %
Root Mean Squared Error (RMSE) on train set: 40.164202831213764 %
R-squared (R2) on train set: 99.94441719820409 %

Test Results:
====================
Mean Absolute Error (MAE) on test set: 57.078343553289514 %
Mean Squared Error (MSE) on test set: 69.92261292614363 %
Root Mean Squared Error (RMSE) on test set: 83.61974224197515 %
R-squared (R2) on test set: 99.76398968397044 %
```

IMPLEMENTATION

```
Train Results:
====================
Mean Absolute Error (MAE) on train set: 29.36139151490768 %
Mean Squared Error (MSE) on train set: 17.854019217008l2 %
Root Mean Squared Error (RMSE) on train set: 42.2540166339344B4 %
R-squared (R2) on train set: 99.95620229034223 %

Test Results:
====================
Mean Absolute Error (MAE) on test set: 66.82362699606182 %
Mean Squared Error (MSE) on test set: 94.43691391860098 %
Root Mean Squared Error (RMSE) on test set: 97.17865707993755 %
R-squared (R2) on test set: 99.76478789046298 %
```

CONCLUSION

In this project, we utilized machine learning to predict stock market prices for Google, Apple, and Amazon using historical data. We collected and preprocessed the data, including open, high, low, close prices, adjusted close prices, and trading volume. Exploratory data analysis revealed correlations between stock returns and closing prices, providing valuable insights into market trends. We then employed Random Forest Regressors to predict closing prices, achieving promising results with high R-squared scores on both training and testing datasets.

FUTURE SCOPE

Future areas for exploration and improvement include:

- Feature Engineering
- Model Tuning
- Ensemble Methods
- Time-Series Analysis
- Real-Time Prediction
- Risk Management

THANK YOU

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