

# Data Engineering - Final

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## **Aim:**

The aim of this report is to investigate and evaluate the effectiveness of various forex trading strategies, including regression modeling, classification techniques, and Long/Short (L/S) trading strategies. Through comprehensive analysis and observation, the report aims to provide insights into the performance and potential of these strategies in the dynamic forex market.

## **Methodology:**

- Data Collection and Processing: Gathering real-time forex data using the Polygon API and preparing it for analysis.
- Regression Modeling: Building regression models to predict future mean prices of currency pairs based on historical data.
- Classification Analysis: Utilizing classification techniques to categorize currency pairs as forecastable, non-forecastable, or undefined.
- Long/Short Strategy Implementation: Implementing a L/S trading strategy based on the slope of univariable time series regression for selected currency pairs.

## **Observations:**

- Performance and accuracy of regression models in predicting future mean prices.
- Classification outcomes for identifying forecastable and non-forecastable currency pairs.
- Evaluation of profit and loss outcomes from the L/S trading strategy across multiple trade iterations.
- Total P/L calculated towards the end is -\$2.69.

## **Results:**

- Effectiveness of regression models in capturing trends and patterns in forex data.
- Classification insights aiding in strategic decision-making for trading.
- Performance metrics and profitability of the L/S trading strategy, providing practical implications for forex traders.

## **Conclusion:**

In conclusion, the comprehensive analysis of forex trading strategies demonstrates the significance of data-driven approaches in decision-making and execution. By leveraging regression modeling, classification techniques, and strategic trading strategies, traders can enhance their understanding of market dynamics and improve their trading outcomes. The findings underscore the importance of continuous refinement and adaptation to market conditions for sustained success in forex trading.

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