FIN 377 - Investments

Group AI Assignment 1

Historic Data Analysis

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This AI assignment must be done as a group, and all group members (unless there are unusual circumstances) will receive the same grade. The assignment must be uploaded to the D2L folder by the due date listed on the course schedule. Use the following title: "FIN 377 AI Ass. 1, Group X". Upload ONLY ONE assignment per group. All prompts (including the names of the AI models used) and (unedited) completions should be included in an appendix.

AI Assignment 1: Historic Data Analysis

Assignment Overview

In this project, you will use generative AI and AI data analysis techniques to investigate historical financial market data for a specific stock. The goal is to gain insights into the stock's past performance, identify trends, and attempt to predict future stock prices.

Data Collection (Using S&P CapIQ)

1. Select a publicly traded company and obtain its historical stock price data for the past 5 years.
2. Collect relevant financial metrics and ratios for the selected company, such as revenue, earnings per share (EPS), price-to-earnings ratio (P/E ratio) and return on equity (ROE).
3. Gather data on market conditions and external factors that may impact the stock price, such as interest rates, economic indicators, and industry-specific news.

Exploratory Data Analysis (Using AI)

1. Perform exploratory data analysis (EDA) to gain insights into the stock's historical performance.
2. Visualize the stock price trends over time using line plots.
3. Analyze the distribution of returns and identify any patterns or anomalies.
4. Investigate the relationships between the stock price and various financial metrics or external factors using scatter plots or correlation analysis.

Trend Analysis (Using AI)

1. Identify trends in the stock price data using techniques such as moving averages or trend line analysis.
2. Analyze the impact of external factors on stock price trends, such as market sentiment or macroeconomic events.
3. Visualize the identified trends using charts or graphs to effectively communicate the findings.
4. Predict the stock price for the next five years.

Interpretation and Insights

1. Interpret the results obtained from the AI model and trend analysis.
2. Discuss the key factors driving the stock price movements and their potential implications for future performance.
3. Identify any limitations or assumptions made in the analysis and discuss their impact on the results.