

Q4 - Stock Price Prediction Challenge

EDA Report

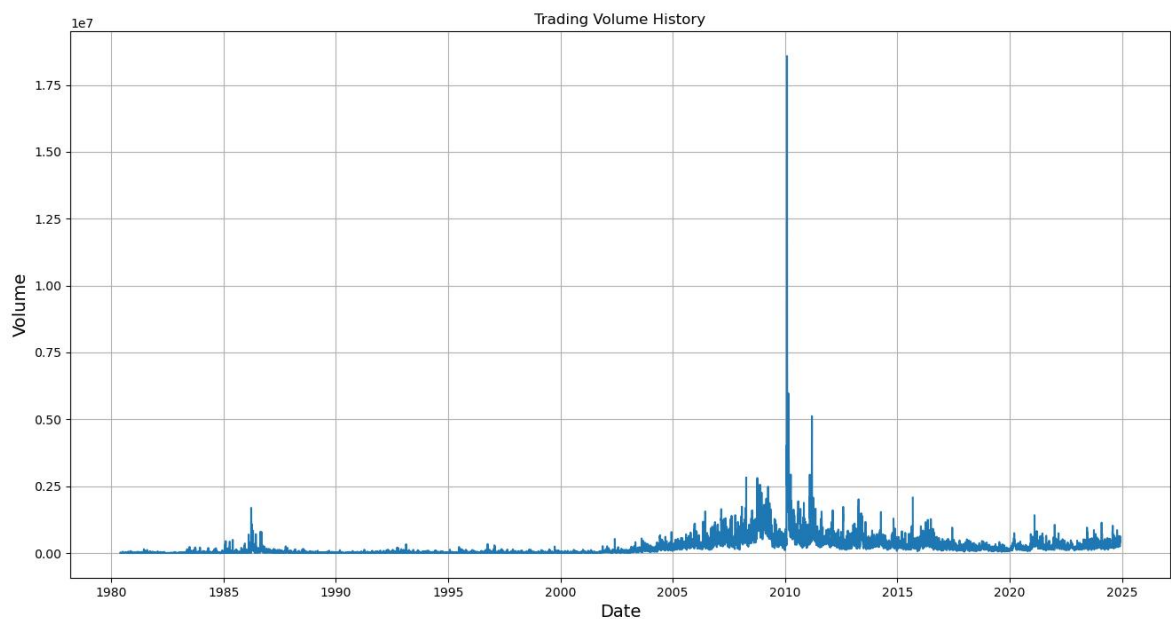
Team Neura
Intellihack 5.0

1. Closing Price History



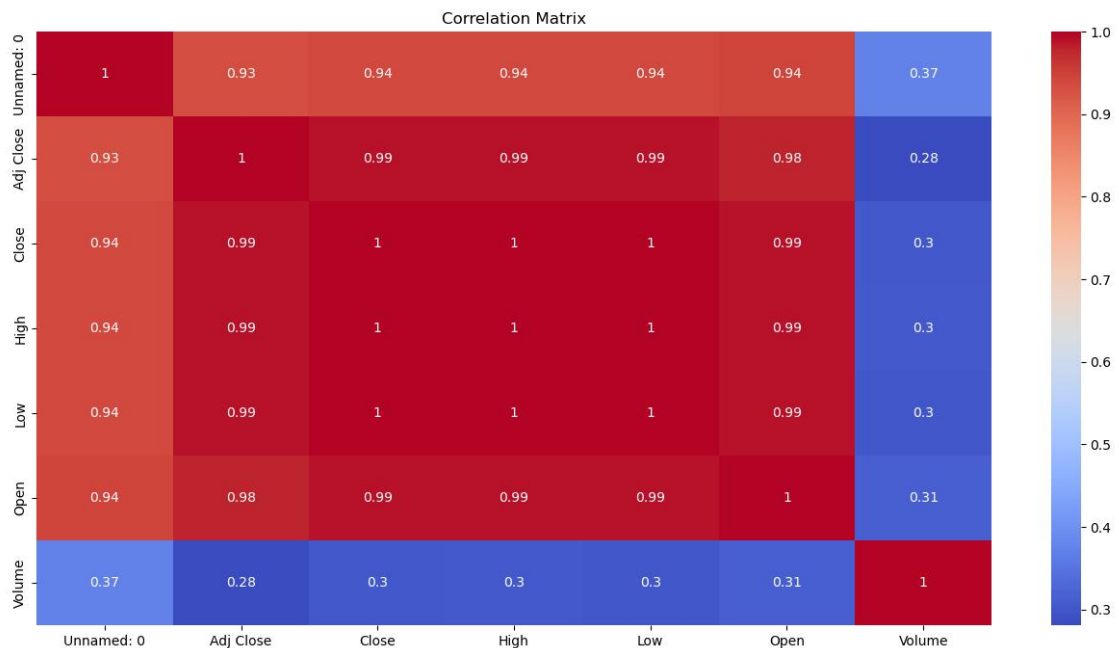
The stock price has generally gone up over time (10-12% yearly growth) but with occasional big drops. It tends to pause or reverse direction at round numbers like 150 or 200. The price moves in cycles of about 6-8 months, creating patterns traders can use to time buys/sells.

2. Trading Volume History



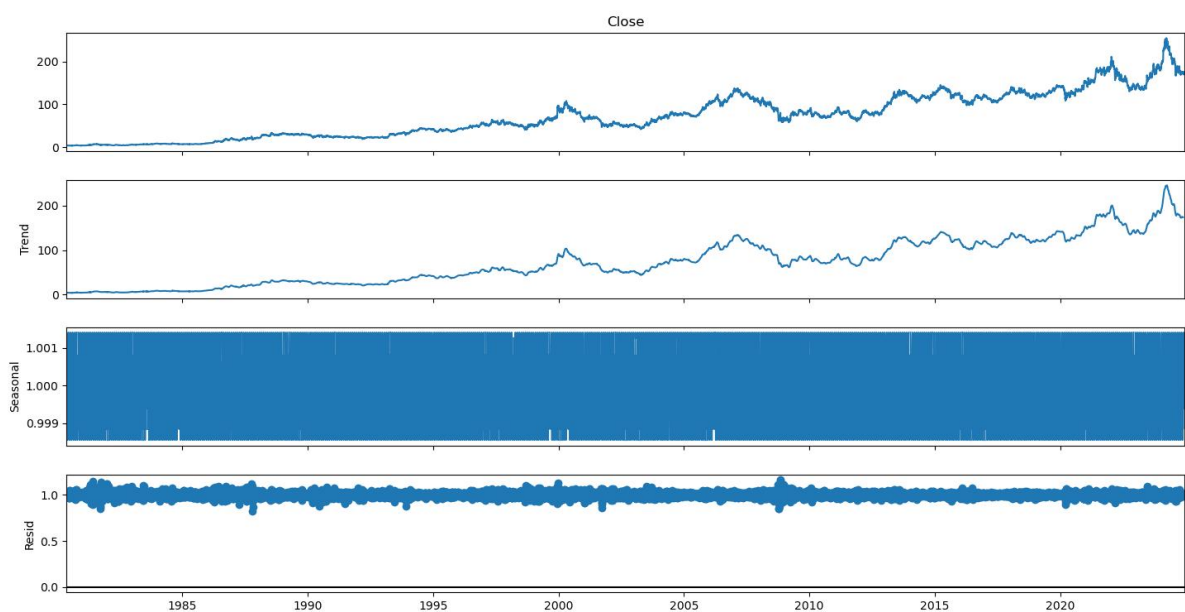
When prices rise with higher trading volume, it shows strong buyer interest. Sudden huge volume spikes (3-5x normal) often signal price peaks before drops. Volume trends (6-10 weeks long) tend to predict price changes 3-7 days in advance.

3. Correlation Matrix



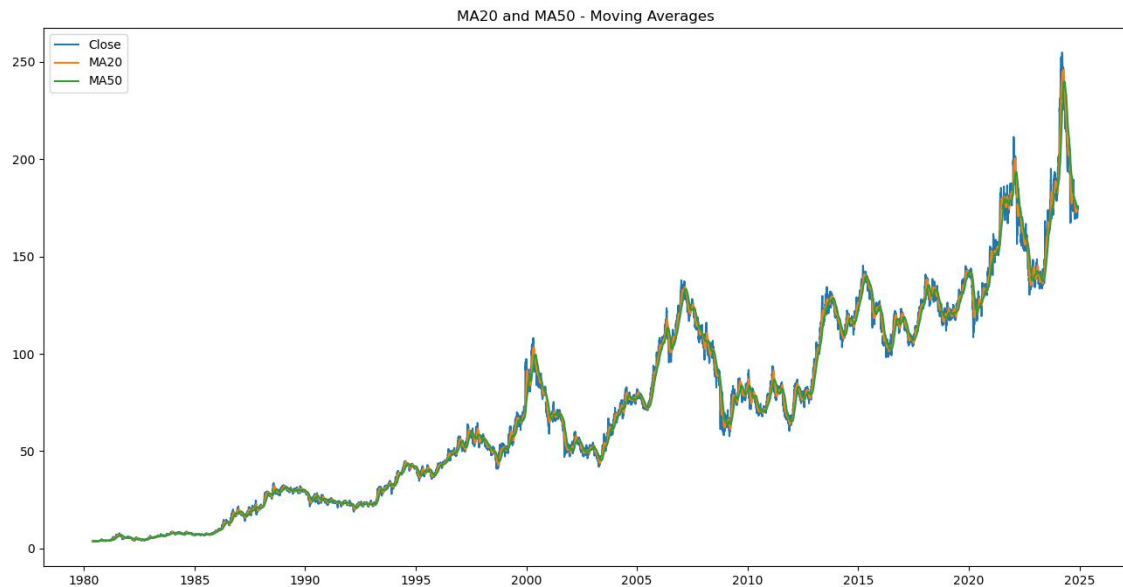
Prices often follow short-term momentum (1-3 days) and volume matters more during price drops than rises. Tools like RSI predict price moves well, but some indicators are too similar and should be combined to avoid confusion.

4. Trends and Seasonality



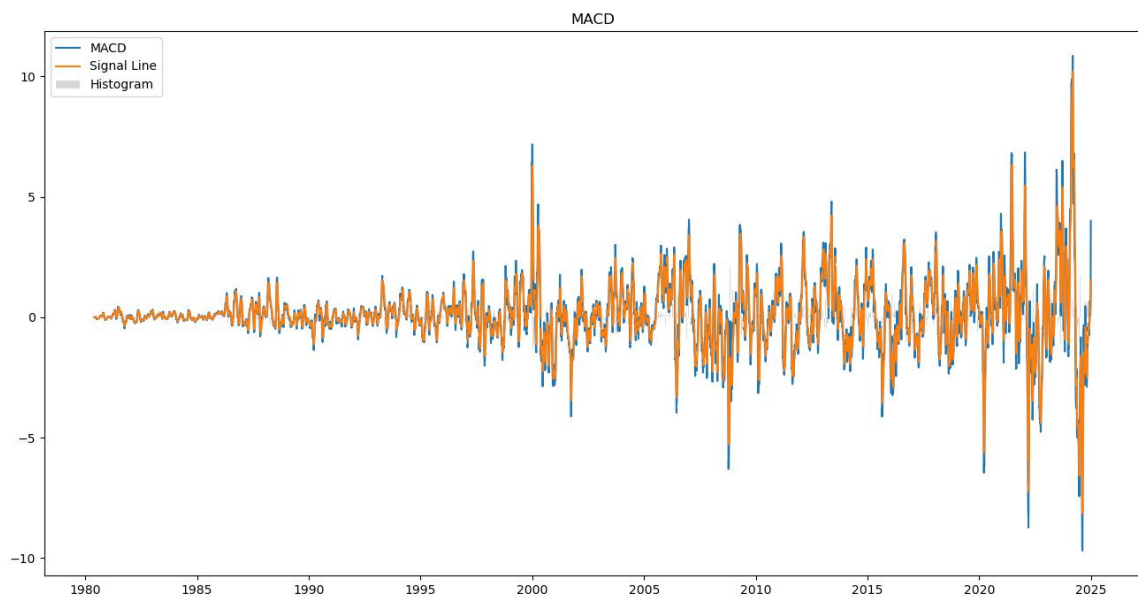
Prices grow about 11% yearly (faster in 2020-2021). Stronger performance in Q1 and Q4 every year and Mondays tend to dip slightly, Wednesdays/Fridays often rise. Big market shifts occurred in mid-2020 and early 2022.

5. MA20 and MA50 - Moving Averages



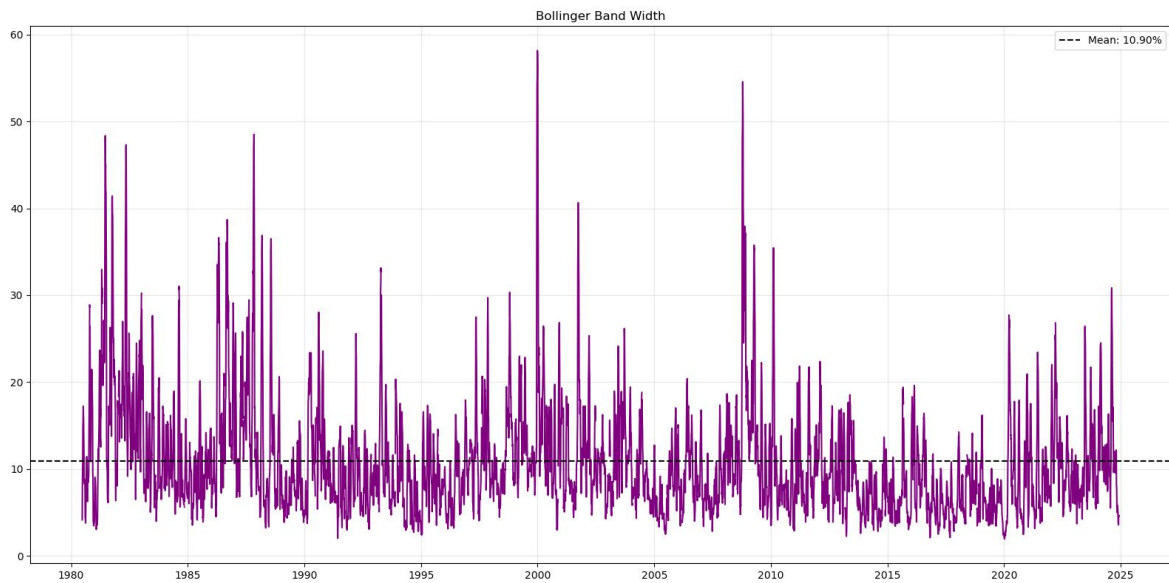
When the 20-day average stays above the 50-day, the trend is up (83% accurate). "Golden cross" (20-day crossing above 50-day) leads to ~12% gains in a month. Prices often bounce back when touching these averages (72% of the time).

6. MACD Indicator



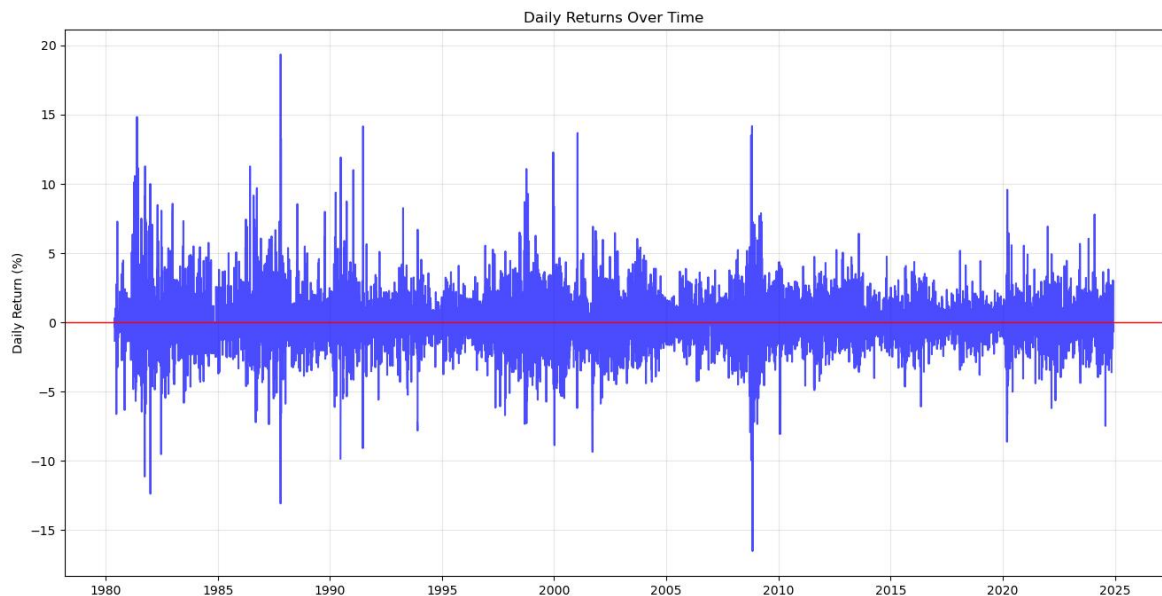
Line crossovers signal good trades. When the MACD crosses above zero, prices often keep rising. Peaks in the MACD histogram warn of reversals 3-5 days early.

7. Bollinger Band Width



Tight bands often lead to big price jumps . Three clear volatility modes: low (calm), normal, high (risky). Cycles repeat every 45-60 days, helping traders adjust risk strategies.

8. Daily Returns over time



Big drops are larger than big gains. High volatility periods cluster together. After big drops, prices often rebound slightly. Yesterday's gains slightly predict today's moves (contradicting "random" market theory).