NVIDIA Stock Price Forecasting & Volume Trend Analysis

Disclaimer

This analysis is conducted solely for educational and demonstrative purposes. Forecasts and projections presented here are based on historical data trends and standard forecasting models. Actual stock prices are influenced by numerous market, economic, and external factors — this project is not intended for financial or investment decisions.

Project Title

Predictive Analysis & Trend Forecasting of NVIDIA Stock Using Power BI

Project Overview

This project presents a comprehensive analysis of NVIDIA Corporation's stock market performance, with a focus on historical trends, trading volume, and predictive modeling of stock highs using Power BI.

The objective was to develop an interactive and insightful dashboard that can:
- Track the evolution of stock highs over time
- Identify the relationship between trading volume and price movements
- Forecast future values using multiple time granularities
- Deliver conservative yet actionable insights through a blended prediction model

Dataset Description

Source: Historical trading data of NVIDIA (publicly available)
Data Type: Daily stock market data
Fields Used:
- Date
- Open, High, Low, Close prices
- Volume traded

Tools & Techniques Used

Power BI Desktop – Dashboard building and forecasting
Data Modeling – Calendar tables and relationships
DAX – Custom calculations for KPIs and predictions
Time Series Forecasting – Power BI's built-in analytics
Insight Communication – Visual storytelling

Data Model Structure

- Calendar Table for time-based calculations
- Relationships between calendar and fact tables
- Imported three forecast result tables (Yearly, Quarterly, Monthly)

Key Analysis Areas

1. Price vs Volume Analysis
- Stock highs increased while volume declined
- Indicates bullish sentiment without high trade activity

2. Volume Forecast
- Volume expected to stay below historical highs
- Confidence high bound: ~1.14B by 2030

3. High Forecast (Yearly, Quarterly, Monthly)
- All three forecast levels used for triangulation

Forecast Output Summary

2025 Highs:
- Yearly: 126.17
- Quarterly: 221.22
- Monthly: 238.41
2026 Highs:
- Yearly: 164.62
- Quarterly: 299.98
- Monthly: 317.48

Final Prediction Model

A blended DAX measure was used to calculate the conservative expected high:

Final High 2025 =
AVERAGEX({
   MAXX(FILTER(YearlyForecast, [Year] = 2025), [ForecastValue]),
   MAXX(FILTER(QuarterlyForecast, [Year] = 2025), [ForecastValue]),
   MAXX(FILTER(MonthlyForecast, [Year] = 2025), [ForecastValue])
}, [Value])

Final Estimated Highs (Post-Surge Projections)

2025: **$195.00**
2026: **$260.70**

Dashboard Highlights

- KPI Cards: Max High, Volume, Rolling Avg, Forecasted Highs
- Line Charts: Historical High vs Volume
- Forecast Visuals: Yearly, Quarterly, Monthly
- Matrix Tables & Slicers

Business Use Case

- Assists investors and analysts in stock movement monitoring
- Demonstrates applied forecasting and analytics in finance
- Suitable for case studies, educational use, and simulation tools

Conclusion

This project showcases how Power BI can be used for real-world financial forecasting, time series analysis, and business insight generation. It reflects an ability to turn raw stock data into strategic storytelling with predictive accuracy.