

Tesla & GameStop Stock Analysis

Title: Tesla & GameStop Stock Analysis Project
Subtitle: Data Science Capstone / Final Project
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Date / Course Info: November 2025

Executive Summary

Purpose: Analyze Tesla and GameStop stock prices and revenue.

Methods: Data collection, EDA, dashboards, predictive analysis.

Key Findings (brief):

- Tesla: steady growth
- GameStop: highly volatile

Introduction

Project Overview:

- Explore stock and revenue data of Tesla and GameStop
- Compare trends, visualize insights, and create dashboards

Datasets Used: yfinance, Macrotrends, SQL database

Objectives:

- Analyze stock price trends
- Compare revenue performance
- Build interactive dashboards

Data Collection & Wrangling

Stock Data: Extracted via yfinance API

Revenue Data: Scraped from Macrotrends

Data Cleaning:

- Removed null values
- Converted revenue strings to numeric
- Checked for consistency between dates and stock data

Notes / Placeholder: Add small table showing example of cleaned data

EDA & Interactive Visual Analytics Methodology

Exploratory Data Analysis (EDA):

- Check head, tail, basic stats, nulls
- Identify trends, outliers, anomalies

Planned Visualizations:

- Line charts for stock prices
- Bar charts for revenue
- Interactive dashboards using Plotly Dash

Notes / Placeholder: Include “Chart will go here” boxes

Predictive Analysis Methodology

Purpose: Predict stock trends / classify market behavior

Model Type: Classification (e.g., Logistic Regression, Decision Tree)

Train/Test Split: 80/20

Metrics: Accuracy, confusion matrix, predictions vs actuals

EDA with Visualization Results

Tesla Stock Price (Line Chart) → Placeholder rectangle: “Tesla Stock Chart Here”

Tesla Revenue (Line Chart) → Placeholder rectangle: “Tesla Revenue Chart Here”

GameStop Stock & Revenue (Line Charts) → Placeholder rectangles

Notes / Placeholder: Short caption under each chart: “Shows trend over time”

EDA with SQL Results

Example Queries:

- Average revenue per year
- Total revenue per stock

Placeholder Table: “SQL Query Results Here”

Notes: Include short description of query purpose

Interactive Map with Folium

Placeholder: “Interactive Map Placeholder – Folium Map Goes Here”

Notes: Could show locations related to revenue data or company stores

Plotly Dash Dashboard

Placeholder: “Interactive Dashboard Screenshot Placeholder”

Notes:

- Includes Tesla & GameStop stock + revenue charts
- Added interactive elements (hover, zoom, filters)

Predictive Analysis (Classification) Results

Placeholder: “Confusion Matrix / Accuracy Metrics Here”

Notes:

- Example accuracy: 85%
- Insights: Tesla trend predictable, GameStop more volatile

Conclusion

Key Findings:

- Tesla: steady growth, reliable revenue
- GameStop: highly volatile, revenue unpredictable

Creativity & Innovative Insights

Added **interactive elements in dashboards** (hover, zoom, filters)

Highlighted **trends / correlations** between stock price and revenue

Extra visualizations for **clearer insight**

Clean formatting for better readability

Placeholder for charts/tables/images