Predictive Stock Price Modeling – Project Report

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Internship Title: AI/ML Research
Project Title: Predictive Stock Price Modeling
Certificate ID: CERT-BL-2025-AR-120
Duration: 2 months
Company: Digital Blinc

Project Objective:

To build a machine learning model that predicts stock closing prices based on features like opening price, high, low, and trading volume.

Technologies Used:

- **Python**
- **Jupyter Notebook**
- **Pandas**
- **Scikit-learn**
- **Matplotlib**

Process Followed:

1. **Data Simulation using numpy and pandas**
2. **EDA with charts to understand trends**
3. **Model Building with Linear Regression**
4. **Prediction & Evaluation using MSE, R^2**
5. **Visualization of actual vs predicted closing prices**

Sample Output:

java

Mean Squared Error (MSE): 3.21

R-squared (R^2): 0.92

Conclusion:

This project showcases how a regression-based ML model can be trained to predict stock prices using basic features. It demonstrates understanding of the complete ML pipeline from data preparation to model evaluation.

📅 **Submitted On:**

25 July 2025