

CSP 571 – SPRING 2025

Data Preparation and Analysis

PROJECT PLAN AND DETAIL

Project Title: Stock Market Analysis Deploying Machine Learning Pipelines

Team members	CWID
Neha Kiran Nayak	A20583245
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Shanika Kadidal Sundresh	A20585446

Task No.	Task Name	Assignments	Completion Dates	Deliverable Items/ Artifacts
1	Data Collection			
1.1	Download Dataset	Neha Kiran Nayak	March 15, 2025	Raw NVIDIA stock dataset from Kaggle (1999–2024)
2	Data Cleaning			
2.1	Handle Missing values	Shanika Kadidal Sundresh	March 18, 2025	Dataset with missing values handled here
2.2	Correct Anomalies	Anusha Venkatesh	March 20, 2025	Dataset with anomalies corrected
3	Feature Engineering			
3.1	Create Moving averages	Anusha Venkatesh, Shanika Kadidal Sundresh	March 23, 2025	Moving averages added
3.2	create Bolinger Bands	Anusha Venkatesh, Shanika Kadidal Sundresh	March 25, 2025	Bolinger Bands added

3.3	Create relative strength index(RSI)	Anusha Venkatesh, Shanika Kadidal Sundresh	March 27, 2025	RSI added.
4	Outlier detection			
4.1	Identify Outliers Using IQR	Neha Kiran Nayak	March 30, 2025	List of identified outliers.
4.2	Remove Outliers	Neha Kiran Nayak	April 1, 2025	Dataset with outliers removed.
5	Model Selection & Training			
5.1	Split Dataset into Train/Test Sets	All Team Members	April 3, 2025	Train and test datasets created.
5.2	Train Linear Regression Model	All Team Members	April 5, 2025	Trained Linear Regression model.
5.3	Train Ridge/Lasso Models	All Team Members	April 7, 2025	Trained Ridge and Lasso models.
5.4	Train Decision Tree/Random Forest Models	All Team Members	April 9, 2025	Trained Decision Tree and Random Forest models.
5.5	Train SVR and LSTM Models	All Team Members	April 11, 2025	Trained SVR and LSTM models.
6	Model Evaluation			
6.1	Calculate RMSE and MSE	Shanika Kadidal Sundresh, Neha Kiran Nayak	April 14, 2025	RMSE and MSE values for models.
6.2	Assess Model Stability	Shanika Kadidal Sundresh, Neha Kiran Nayak	April 16, 2025	Report on model stability.
7	Visualization Results			
7.1	Visualize Predictions vs Actuals	Anusha Venkatesh	April 18, 2025	Line plot comparing predictions.
7.2	Visualize Feature Importance	Anusha Venkatesh	April 19, 2025	Bar chart of feature importance.

8	Final Report & Documentation			
8.1	Compile Findings	All Team Members	April 20, 2025	Draft report with findings.
8.2	Finalize Report	All Team Members	April 22, 2025	Final report, documentation, and slides.