Data Analysis and Predictive Modeling Presentation

1. Executive Summary

- Overview of the project objectives
- Key findings and insights
- Summary of methodologies used

2. Introduction

- Background and purpose of the analysis
- Description of datasets used (Titanic, Stock Prices, House Prices)
- Objectives of the study

3. Data Collection and Wrangling Methodology

- Sources of data
- Data merging and cleaning steps
- Handling missing values and outliers
- Data normalization and transformation

4. Exploratory Data Analysis (EDA) and Interactive Visual Analytics Methodology

- Tools and techniques used for EDA (Matplotlib, Seaborn, Plotly, etc.)
- Strategies for identifying trends and patterns

5. Predictive Analysis Methodology

- Models used (Logistic Regression, Linear Regression, Ridge Regression, Polynomial Regression)
- Data splitting (training and testing)
- Performance evaluation metrics (R-Squared, Accuracy, AUC, etc.)

6. EDA with Visualization Results

- Histograms and boxplots for distribution analysis

- Correlation heatmaps
- Regression plots for relationships between variables

7. EDA with SQL Results
- Querying datasets for insights
- Aggregation and filtering for data summarization
- SQL-based trend analysis

8. Interactive Map with Folium Results
- Visualization of geographic data (House Prices dataset)
- Mapping location-based trends

9. Plotly Dash Dashboard Results
- Interactive visual analytics for better insights
- Dashboard elements used (charts, tables, dynamic filters)

10. Predictive Analysis (Classification) Results
- Logistic Regression model performance on Titanic dataset
- Classification metrics: Precision, Recall, F1-score, Confusion Matrix
- ROC Curve and AUC score analysis

11. Conclusion
- Summary of key findings
- Limitations of the study
- Future scope and recommendations

12. Creativity and Innovation
- Unique insights extracted from data
- Interactive visualizations and dashboards
- Advanced analytical techniques applied