

## Introduction to the Titanic Dataset

**Brief overview of the dataset:** The dataset contains data about passengers on the Titanic, including their age, sex, class, and survival status.

**Objectives of the analysis:** Visualizing relationships and trends. Identifying key patterns and insights.

### Pairplot - Relationship between Variables

**Title:** Pairplot of Titanic Dataset

**Brief Description:** The pairplot shows pairwise relationships between numeric features of the Titanic dataset, colored by survival status.

**Insights:** Observing relationships between features like age, fare, and survival. Note any visible clusters or trends based on survival.

**Insert Image:** Pairplot of the Titanic dataset.

### Heatmap - Correlation of Numeric Variables

**Title:** Correlation Heatmap

**Brief Description:** Heatmap visualizes the correlation between numeric features (Age, Fare, etc.).

**Insights:** Pclass and Survived have a strong positive correlation. Age and Fare show a weak correlation. Identifying potential relationships to explore in more detail.

**Insert Image:** Correlation heatmap of the Titanic dataset.

## **Age and Fare Distributions**

**Title:** Distribution of Age and Fare

**Brief Description:** Histograms show the distribution of Age and Fare in the Titanic dataset.

**Insights:** Age shows a left-skewed distribution (more young passengers). Fare shows a right-skewed distribution (most passengers paid lower fares).

**Insert Images:** Histograms for Age and Fare.

## **Boxplots - Age and Fare by Survival**

**Title:** Boxplots - Age and Fare by Survival

**Brief Description:** Boxplots show the distribution of Age and Fare for passengers who survived vs. those who didn't.

**Insights:** Younger passengers tend to have a higher survival rate. Passengers with higher fares also had a higher survival rate.

**Insert Images:** Boxplots of Age and Fare by survival.

## **Scatterplot - Age vs. Fare**

**Title:** Scatterplot - Age vs. Fare

**Brief Description:** Scatterplot shows the relationship between Age and Fare, colored by survival status.

**Insights:** Older passengers with higher fares are more likely to have survived.

**Insert Image:** Scatterplot of Age vs Fare with survival status.

## **Summary of Findings:**

### Summary of Key Findings

**Insights:** Pclass is highly correlated with Survived, indicating that passengers in higher classes had a better chance of survival. The distribution of Age is skewed, with a larger number of younger passengers. Higher fares are associated with a higher chance of survival.

**Next Steps:** Explore other factors influencing survival (e.g., gender, family size).

**Conclusion:** ConclusionRecap of findings from the visualizations. Mention how these insights can guide further analysis or decision-making in predictive models.