

The visual analysis of the Titanic dataset reveals several key insights into the factors that influenced passenger survival. Initially, missing values were identified in columns like Age, Cabin, and Embarked, but were effectively handled through preprocessing, ensuring clean data for analysis. A confusion matrix showed that the predictive model performs fairly well, though some survivors were misclassified, indicating room for improvement. Visualizations such as pair plots and histograms highlighted important patterns—survivors were more likely to be females, younger passengers, and those who paid higher fares. Box plots further confirmed that higher fare-paying passengers had better chances of survival, and survivors tended to be slightly younger. The scatter plot reinforced this, showing that many survivors clustered in the lower age and higher fare range, emphasizing the role of social class and age in survival outcomes. Overall, the findings suggest that gender, age, passenger class, and fare were significant predictors of survival, aligning with historical accounts that prioritized women and children, especially from higher classes, during the evacuation.