Titanic Survival Analysis Report

Findings and Observations

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Introduction

In this project, we explored the famous Titanic dataset to analyze the factors that influenced passenger survival. The goal was to understand the patterns and relationships between different features and survival rates.

Dataset Overview

The Titanic dataset contains information about passengers such as age, gender, ticket class, fare paid, and whether they survived or not. Some important columns include Pclass, Sex, Age, Fare, and Embarked.

Key Steps Taken

- Cleaned the dataset (handled missing values, selected relevant columns).

- Performed exploratory data analysis (EDA) to identify patterns.

- Created visualizations to better understand relationships.

- Built simple predictive models or focused on correlation findings.

Findings and Results

- Survival Rate: The overall survival rate was approximately 38%.

- Gender and Survival:

  - Females had a much higher survival rate compared to males.

  - Majority of female passengers survived, while most males did not.

- Passenger Class (Pclass):

- Passengers in 1st class had the highest survival rate.

- Those in 3rd class had the lowest survival rate.

- Age and Survival:

  - Children (especially below 10 years old) had higher survival rates.

  - Older adults (above 60) had much lower chances of survival.

- Fare Price and Survival:

  - Passengers who paid higher fares had better survival chances.

  - This is linked to higher-class cabins.

- Embarked Location:

  - Passengers who embarked from Cherbourg (C) had higher survival rates compared to others.

Conclusion

The analysis showed that survival on the Titanic was heavily influenced by gender, class, and age. Women, children, and passengers in higher classes had significantly better survival chances. Socio-economic factors clearly played a big role in the rescue operations.