🚢 Titanic Dataset Analysis – Insights

Introduction

This project analyzes the Titanic dataset to understand factors influencing passenger survival. Data preprocessing included handling missing values, encoding categorical variables, and normalizing numerical features.

Key Findings

1. **Gender Impact**
   Female passengers had a significantly higher survival rate compared to males. This indicates that rescue priority was given to women and children.

2. **Passenger Class**
   First-class passengers had the highest survival rate, while third-class passengers had the lowest. This suggests socio-economic status played a major role in survival chances.

3. **Age Factor**
   Younger passengers showed slightly higher survival rates compared to older individuals. Children were more likely to be rescued.

4. **Fare Influence**
   Passengers who paid higher fares had better survival probability. Higher fare correlates strongly with first-class passengers.

5. **Overall Survival Rate**
   The majority of passengers did not survive, highlighting the severity of the disaster.

Conclusion

The analysis clearly shows that **gender, passenger class, and fare** were strong predictors of survival. Women and first-class passengers had significantly better survival chances. This dataset demonstrates how social and economic factors influenced rescue operations.