

Titanic Dataset - EDA Report

1. Objective

Perform Exploratory Data Analysis (EDA) on the Titanic dataset to extract meaningful insights and discover hidden patterns related to passenger survival.

2. Dataset Information

- Total Rows: 891
 - Total Columns: 12
 - Features include: PassengerId, Survived, Pclass, Name, Sex, Age, SibSp, Parch, Ticket, Fare, Cabin, Embarked.
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3. Key Findings

Univariate Analysis:

- Gender: Males (577), Females (314)
 - Passenger Class: 3rd Class passengers were the majority.
 - Age Distribution: Most passengers were between 20 and 40 years old.
 - Fare Distribution: Fares were highly right-skewed; most fares were below 100.
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Bivariate Analysis:

- Survival by Gender: Females had a significantly higher survival rate compared to males.
 - Survival by Passenger Class: 1st Class passengers had the highest survival rate.
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Multivariate Analysis:

- Higher Fare and Younger Age slightly increased chances of survival.
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Correlation Analysis:

- Positive correlation between Fare and Survived.
 - Negative correlation between Pclass and Survived.
 - Very weak correlations among other features.
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4. Conclusion

- Being female, traveling in 1st class, and paying a higher fare were key factors that increased survival chances.
- Age also slightly influenced survival rates, with younger passengers surviving more.