

Exploratory Data Analysis - Titanic Dataset

Step 4: Observations

Step 4: Observations (Plot-wise)

1. Survival Count by Gender:

- More males were on board than females.
- Survival rate for females is significantly higher.
- Majority of the deaths were among males.
- Insight: Gender played a crucial role in survival - women were prioritized.

2. Age Distribution:

- The distribution is right-skewed (more younger passengers).
- Peak around ages 20-30 years.
- A few outliers above age 70.
- Insight: Most passengers were young adults.

3. Fare vs Age Scatter Plot:

- Survivors generally paid higher fares.
- High-fare survivors are concentrated at younger and middle-aged groups.
- Some outliers paid very high fares.
- Insight: Fare had a strong positive correlation with survival.

4. Survival by Passenger Class:

- 1st class had the highest survival rate.
- Very few 3rd class passengers survived.
- Insight: Class disparity strongly affected survival chances.

5. Embarked vs Survival:

- Majority of passengers embarked from Southampton.
- Survival rate was higher from Cherbourg.
- Insight: Embarkation port influenced survival, tied to socioeconomic status.

Exploratory Data Analysis - Titanic Dataset

6. Deck Distribution:

- Decks B, C, D, E had most passengers.
- Many unknown cabin entries.
- Insight: Cabin deck may reflect class and survival indirectly.

Step 5: Summary of Findings

Step 5: Summary of Findings

Survival Factors:

- Females had a much higher chance of survival than males.
- Younger passengers (<30) were more likely to survive.
- Higher passenger class (Pclass = 1) and higher fare correlate with survival.
- Passengers who embarked at Cherbourg (C) had better survival rates.

Key Correlations:

- Fare is positively correlated with survival and class.
- Pclass and Age interact with survival chances.
- Gender and class had a combined impact.

Data Patterns:

- Age is slightly right-skewed.
- Fare has strong outliers (some passengers paid > \$500).
- Deck and Cabin data is heavily missing but shows patterns with survival.