

Visualization with Seaborn and Matplotlib

Use the “Titanic” dataset from Seaborn and do the following:

1. Countplot: Passenger Count by Embarked Port
 - Create a countplot to display the number of passengers who boarded from each port (embarked), separated by sex.
2. Swarmplot: Age Distribution across Classes
 - Create a swarmplot to visualize the distribution of age across passenger classes (pclass), categorized by sex.
3. Pie Chart: Gender Distribution
 - Create a pie chart using Matplotlib to show the percentage of male vs. female passengers. - Add percentage labels using autopct - Use explode for one slice to highlight it.
4. Heatmap: Correlation Matrix
 - Create a heatmap to show correlations between age, fare, pclass, sibsp, parch, and survived. (Use seaborn.heatmap with annotations)
5. Violin Plot: Fare by Class and Gender
 - Create a violin plot to visualize fare distribution across classes, separated by gender.
6. Scatter Plot: Age vs Fare
 - Create a scatter plot to explore the relationship between age and fare, colored by survival status.
 - Use a seaborn scatterplot with hue='survived'. Each plot must have titles, labels, and legends where needed.

Write short observations under each plot explaining insights.