This analysis examines factors influencing survival on the RMS Titanic. We processed data for 891 passengers to identify which attributes most affected outcomes.

### **2. Data Preparation**

* **Missing Values:**
  + *Cabin:* Marked as “Unknown.”
  + *Fare:* Imputed with median fare.
  + *Age:* Imputed with mean age.
* **Validation:** Confirmed no remaining nulls in core features.

### **3. Key Insights**

| **Factor** | **Observation** |
| --- | --- |
| **Gender** | Females had substantially higher survival rates than males. |
| **Ticket Class** | Higher-class passengers survived at greater rates than 3rd class. |
| **Embarkation** | Southampton boarders saw the highest fatality count. |
| **Family Aboard** | Travelling with many siblings/spouses correlated with lower survival. |
| **Fare Paid** | Passengers paying above‑median fares had improved survival odds. |
| **Age** | Children and younger adults survived more frequently than older adults. |

### **4. Conclusion**

Survival was highest among younger, higher‑fare female passengers traveling with fewer dependents. These results highlight how socioeconomic and demographic factors influenced disaster outcomes.