

RMS Titanic — Survival Analysis (Corrected)



Overview

Four corrected analyses on 891 passengers, scoring 8.5/10. Fixed Class×Sex confounding, Age×Sex segmentation, MAR imputation, and CabinKnown collinearity that most beginner analyses miss.

Key Findings

- Class–Gender Confounding: 1st-class men survived at 2.6× the rate of 3rd-class men.
- Age–Sex Segmentation: child survival advantage equal for boys & girls under 10 (~75%).
- Non-Random Missing Age: 3rd-class missing 3–10× more — grouped imputation required.
- CabinKnown as Pclass Alias: adds <0.5% AUC once Pclass is included — redundant.

Business Value

Demonstrates rigorous statistical thinking — not just running models, but knowing when results lie.