1. Survival Prediction on the Titanic ship

RMS Titanic

The RMS Titanic was a British passenger liner that sank in the North Atlantic Ocean in the early morning hours of 15 April 1912, after it collided with an iceberg during its maiden voyage from Southampton to New York City. There were an estimated 2,224 passengers and crew aboard the ship, and more than 1,500 died, making it one of the deadliest commercial peacetime maritime disasters in modern history. The RMS Titanic was the largest ship afloat at the time it entered service and was the second of three Olympic-class ocean liners operated by the White Star Line. The Titanic was built by the Harland and Wolff shipyard in Belfast. Thomas Andrews, her architect, died in the disaster.

Introduction

Imagine you are a passenger on the Titanic when the ship hits an iceberg and starts to sink. As people begin to crowd aboard the 20 lifeboats, parents still on the ship beg them to take their children. Elderly men and women tell those helping them to save themselves; they say they've already lived their own lives. Other passengers care only about themselves and ignore others in need.

In the end, of about 2,200 people on the ship, only 706 will have survived.

In the weeks after the disaster, as you pore over the lists of dead and survivors, it will become clear that there are patterns in the types of people who have lived. Many are children whose

parents sacrificed themselves to save them. Others are able-bodied individuals who were simply able to escape faster than their fellow passengers. Various factors such as sex, age, and the number of family members they came with seem to have affected whether or not an individual survived.

AI in the Prediction:

When we look back on the disaster today, can we use artificial intelligence to find these patterns? Can we predict who survived and who did not? **Artificial Intelligence (AI)** is a branch of computer science focused on building tools that can solve problems and analyze information. **Machine learning** is a subdivision of AI. Its goal is to create tools that can learn and improve over time using data.

Indicative screenshots:

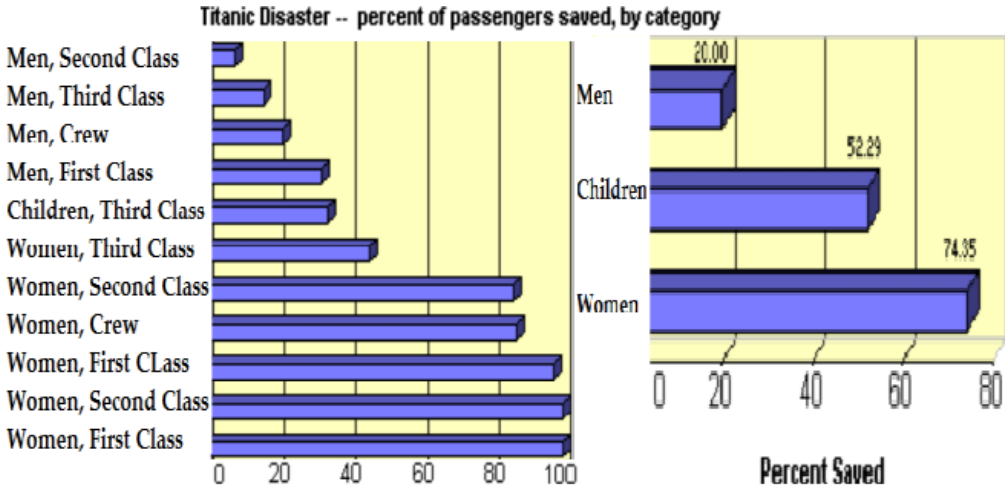

Figure 1: Percentage of Survival by class and Gender [1]