

CAR ACCIDENT SEVERITY

BUSINESS UNDERSTANDING (PROBLEM STATEMENT)

According to the Global status report on road safety, conducted by World Health organization in 2013, based on the information gathered on road safety from 182 countries, accounting for almost 99% of the world's population, the total number of road traffic deaths are unacceptably high at 1.24 million per year.

Every day, many accidents occur with various degree of severity based on different external and internal factors. Therefore, it is important to define the factors leading the severity of accidents and to generate a model which predicts the severity type of accidents best. Based on these developed models, it is possible to help the authorities take some actions to reduce the risks.

The purpose of this study is to try to understand the factors that contribute to the severity factor of a vehicle collision in the city of Seattle by using the data from the city of Seattle recorded between the years 2004 and 2020. In order to predict the severity of the collision based on various factors such as road and wet conditions in dataset, different machine learning algorithms were developed. Based on the understanding the impact of different factors on the collision outcome, it is hoped to provide meaningful insights into how to prevent such collisions so that the drivers can be alerted in advance. After Exploratory Data Analysis and Data Cleaning, predictive models were developed and evaluated by different metrics.