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Car accident severity

IBM Data Science Capstone Project 2020

Car Accident Severity Report

Data Science approach to Predict the Severity of an Accident

1. Intro | Business Undertanding

1.1 Background

Every year car accidents cause hundreds of thousands of deaths worldwide. According to a research conducted by the World Health Organization (WHO) there were 1.35 million road traffic deaths globally in 2016, with millions more sustaining serious injuries and living with long-term adverse health consequences. Globally, road traffic crashes are a leading cause of death among young people, and the main cause of death among those aged $15\{29$ years. Road traffic injuries are currently estimated to be the eighth leading cause of death across all age groups globally, and are predicted to become the seventh leading cause of death by 2030 [1].

Leveraging the tools and all the information nowadays available, an extensive analysis to predict traffic accidents and its severity would make a difference to the death. Analyzing a significant range of factors, including weather conditions, locality, type of road and lighting among others, an accurate prediction of the severity of the accidents can be performed. Thus, trends that commonly lead to severe traffic incidents can help identifying the highly severe accidents. This kind of information could be used by emergency services, to send the exact required stuff and equipment to the place of the accident, leaving more resources available for accidents occurring simultaneously. Moreover, this severe accident situation can be warned to nearby hospitals which can have all the equipment ready for a severe intervention in advance.

Consequently, road safety should be a prior interest for governments, local authorities and private companies investing in technologies that can help reduce accidents and improve overall driver safety and either some other mobile applications to warn Civilians.

1.2 The Problem

Data that might contribute to determining the likeliness of a potential accident occurring might include information on previous accidents such as road conditions, weather conditions, exact time and the place of the accident, type of vehicles involved in the accident, information on the users involved in the accident and occurs the severity of the accident. This project aims to forecast the severity of accidents with previous information that could be given by a witness informing the emergency services.

1.3 Interest

Governments should be highly interested in accurate predictions of the severity of an accident, in order to reduce the time of arrival and to make a more efficient use of the resources, and thus save a significant amount of people each year. Others interested could be private companies investing in technologies aiming to improve road safeness and Finally, wouldn't it be great if there is an application that could warn people, given the weather and the road conditions about the possibility of them getting into a car accident and how severe it would be, this way they would drive more carefully or even change your travel if you are able to.

References

[1] Alexander Popov. Road Tra c Injuries. WHO, Global Health Observation Data, 2016.
https://www.who.int/health-topics/road-safety#tab=tab 1