Car Accident Severity: Seattle, Washington

(Applied Data Science Capstone – IBM)

This project aims at understanding what factors play a vital role in the severity of car accidents in Seattle, Washington using Data Science Toolkit and predicting them prior to take necessary measures to avoid them using Machine Learning techniques.

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Project: Car Accident Severity Prediction

Course: Applied Data Science Capstone

Specialization: IBM Data Science Professional Certificate

Introduction:

Seattle, also known as the Emerald city, is the largest city in both the state of Washington and the Pacific Northwest region of North America. It is home to a large tech industry with Microsoft and Amazon headquarters in its metropolitan area. The city has urban population of over 3.4 million as reported by PopulationStat. [1] As reported by curbed.com [2] in 2017, the total number of personal vehicles in Seattle in 2016 is approximately 435,000. The car population has more than doubled in the Seattle area since 2010. This tremendous increase in the number of vehicles has lead to higher number of accidents on the road explained merely by a simple probability. Worldwide, approximately 1.35 million people succumb to death due to road crashes every year, on average a total of 3,700 people lose their lives everyday in the road and an additional 20-50 million people suffer non-fatal injuries, often resulting in long-term disabilities.

Problem:

The world as a whole suffers due to car accidents, including the USA. National Highway Traffic Safety Administration of the USA suggests that the economical and societal harm can cost up to $871 billion in a single year. According to the WSDOT data, a car accident occurs every 4 minutes and a person dies every 20 hours due to a car crash in the state of Washington. Fatal crashes went from 508 in 2016 to 525 in 2017, resulting in the death of 555 people. The project aims to predict how severity of car accidents can be reduced based on a few factors.

Stakeholders:

The reduction in the car accidents can be beneficial to several government bodies that work towards improving those road factors and car drivers themselves who may take precautionary measures to reduce the severity of the accidents.