Peer-graded Assignment: Capstone Project - Car Accident Severity

Sreeja Matturu

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Business Problem

As per 2020, more than 100,000 people were facing accidental deaths. According to them, road accidents are one of the major categories where more than 38,000 people were dying due to many factors. It means that every day more than 100 people were dying because of road accidents. These accidents occur due to some of the major factors that can be influenced by weather, road condition, and also depends upon the driver like whether they are driving under any influence, etc. These accidents mainly occur in the highways especially when the weather is bad, the driver cannot be able to see other vehicles properly. If it rains heavy for suppose, the driver cannot be able to see the road and other vehicles such that, these may cause an accident that can cost their lifetime. Accidents can be categorized into two parts. One is the minor accidents and the other one is major accidents. Minor accidents include the small type of accidents where the vehicle gets a little damaged and the person has minor injuries and can recover within a short amount of time, whereas major accidents can cost a lifetime by completely damaging the vehicle and person gets heavy injuries that might take a long time to recover or sometimes death. These accidents majorly happen in big cities in the United States. For example, Seattle is a big city where there will be huge traffic and lots of vehicles travel every day on the highway. Due to that, it also carries many road accidents every day.

The main problem behind these road accidents in Seattle or any other city in the US is that the people do not know about the road conditions or sudden weather changes across some areas which are hard to predict. I propose to develop a machine learning model to predict the severity of the road accidents based on the weather, road condition and help the people to know whether it is safe or dangerous to drive on that road. If the driver travels along the danger route every day like, weather changes or if the road gets damaged, he/she can drive slowly in that road. If not for the everyday drivers, other people can decide whether they want to drive on that road or take a detour. This model does not only helps the drivers but also the road workers to know the bad road condition place so that they can go and repair the road as soon as possible to prevent accidents.