IBM Data Science Capstone Project

Car Accidental Severity

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Abstract

Traffic accidents in the past have become abundant in the sense that today a person die every minute in USA due to road accidents, the chief impacts being vehicle damages, recoverable injuries and sometimes fatal death. The severity of the accident may be due to rash driving, weather conditions like rain in the area, visibility, driving under influence of alcohol etc. This report is a step towards curbing such incidents on the road, by aiding the use of Machine learning Algorithms. We are going to probe the available data for traffic accidents in Seattle area in the past 17 years. We are going to analyze over 221K data sets for developing a pattern that may aid in curbing such incidents on road.

1 INTRODUCTION

Accidents on road due to traffic and other sources is one of primary source of loss to property, injuries and loss of human lives, the consequences can be minor like injuries to major permanent damage or deaths, it is also one of the major source of financial loss to the country . The estimated financial loss to the country is around 800+ billion USD annually, which includes all the costs related to accidents. So, it is worth analyzing the various aspects of the data related to the accidents to device a pattern that shall be able to predict or classify the accidental cases or shall be able to classify the severity of the situation. Mostly the factors that are pinpointed for the road accidents are negligence by the driver, the weather condition of the day, road congestion in the area, if the driver was driving under some influence, type of vehicles in the area, road condition of the area. Also, the driver background may be checked if he had an argument early on in the day or his emotional well-being, if he had been in instances like this in the past.

Even though the above-mentioned problems form the major cause of road accidents, but by analyzing the data sets we can perhaps generate new patterns or new causes that may deem effective in curbing the problem at hand. This where Machine learning may come in handy, generating new patterns by analyzing various data sets with pinpointed accuracies

The people that shall benefit from the presented study shall be the city dwellers or road designers or emergency services department to curb the instances by understanding the patterns in the given study. It may also benefit the day to day people to be vigilant about the situation.