

Background

Motorists and people who use public transport are usually inconvenienced greatly when accidents occur and especially severe accidents. For, severe accidents it takes quite some time for the police and medical personnel to clear the scene. This thus leads to many hours of wait. Students are likely to be late for their classes, people going for interviews get late, those expected in important meetings may not be able to attend, surgeons and doctors expected to save lives run late, just to name but a few. Although severe accidents are unexpected, it would be possible to build a machine learning algorithm to predict severe accidents using various factors that are determined to be related to a severe accident occurring. This would thus serve as an automated reference to help people make decisions where and when there is a high chance of a severe accident occurring and hence plan accordingly.

One has to be aware that the factors influencing accident frequency may vary from the ones affecting the severity; hence, it is suggested that their analysis should be performed carefully. A set of explanatory variables, which could include: driver attributes (e.g., age and gender, whether under influence of alcohol), vehicle features (e.g., body type, vehicle age and number of vehicles involved in the accident), road characteristics (e.g., number of lanes, road surface conditions, intersection control and types of road), weather conditions, day of week, time of day, speed limit and accident characteristics (e.g., accident's main cause) have been shown to be possible predictors of accident severity.

The aim of this project is to develop a machine learning algorithm that would warn motorists and other people using public transport where and when there is a high chance that a severe accident would occur and hence help them plan accordingly to avoid delays and inconveniences.