

A Road Accident Prediction Model Using Data Mining Techniques

ABSTRACT:

Due to the exponentially increasing number of vehicles on the road, the number of accidents occurring on a daily basis is also increasing at an alarming rate. With the high number of traffic incidents and deaths these days, the ability to forecast the number of traffic accidents over a given time is important for the transportation department to make scientific decisions. In this scenario, it will be good to analyze the occurrence of accidents so that this can be further used to help us in coming up with techniques to reduce them. Even though uncertainty is a characteristic trait of majority of the accidents, over a period of time, there is a level of regularity that is perceived on observing the accidents occurring in a particular area. This regularity can be made use of in making well informed predictions on accident occurrences in an area and developing accident prediction models. In this paper, we have studied the inter relationships between road accidents, condition of a road and the role of environmental factors in the occurrence of an accident. We have made use of data mining techniques in developing an accident prediction model using Apriori algorithm and Support Vector Machines. Bangalore road accident datasets for the years 2014 to 2017 available in the internet have been made use for this study. The results from this study can be advantageously used by several stakeholders including and not limited to the government public work departments, contractors and other automobile industries in better designing roads and vehicles based on the estimates obtained.

Algorithm / Model Used:

Adaboost Classifier Algorithm.

SYSTEM REQUIREMENTS:

HARDWARE REQUIREMENTS:

- System : Pentium i3 Processor.
- Hard Disk : 500 GB.
- Monitor : 15” LED
- Input Devices : Keyboard, Mouse
- Ram : 4 GB

SOFTWARE REQUIREMENTS:

- Operating system : Windows 10.
- Coding Language : Python
- Web Framework : Flask

REFERENCE:

Dhanya Viswanath, Preethi K, Nandini R, Bhuvaneshwari R, “A Road Accident Prediction Model Using Data Mining Techniques”, IEEE Conference, 2021.