

Analyzing Traffic Accidents using Bayesian networks

ABSTRACT:

This research work illustrates the possibility of using Bayesian Networks (BNs) to classify traffic accidents according to their injury severity. BNs are capable of making predictions without the need for pre assumptions and are used to make graphic representations of complex systems with interrelated components. An analysis of 1536 accidents on rural highways in Spain was performed, where 18 variables representing the aforementioned contributing factors were used to build 3 different BNs that classified the severity of accidents into slightly injured and killed or severely injured. The variables that best identify the factors that are associated with a killed or seriously injured accident (accident type, driver age, lighting and number of injuries) were identified by inference.