**CAR ACCIDENT SEVERITY PREDICTION**

**INTRODUCTION:**

As a significant cause of deaths, injuries, and property loss, traffic accident is a major concern for public health and traffic safety. According to statistics from the Ministry of Public Security of China between 2009 and 2011, traffic crashes resulted in an average of 65 123 people dead and 255 540 cases injured annually in China (China Statistical Yearbook of Road Traffic Accidents, 2009–2011). It was reported that the cost of medical care and productivity losses associated with motor vehicle crash injuries was over $99 billion, or nearly $500, for each licensed driver in the United States (Centers for Disease Control and Prevention, 2010). Being one of the major steps of accident management, accident severity prediction can provide crucial information for emergency responders to evaluate the severity level of accidents, estimate the potential impacts, and implement efficient accident management procedures.

In recent years, increased attention has been directed at accident severity prediction, for which Bayesian network and Regression model are two widely used modeling techniques. However, to the authors’ knowledge, there is no study that presents quantitative comparison of the two methods. Therefore, the present work focuses on conducting an accident severity modeling by employing both Bayesian network and Regression model. The accuracies of the two methods will then be compared and a better one will be selected for accident severity prediction. By carrying out accident severity analysis, the risk factors and their effects will also be identified in the work.