MAS04

Evaluating and Comparing Correlations Between Restraint System Use and Injury Severity in Vehicle Crashes Using Popular Machine Learning and Statistical Analysis Techniques

Kirill Rogovoy, Wen Cheng
California State Polytechnic University, Pomona, Pomona, CA, USA

Abstract

To date, vast amounts of research have been done to evaluate the positive effects that restraint systems have on vehicle occupants in the case of a crash instance. However, due to the difficulty of data procurement, the types of conducted post-crash studies has been limited. In this research, authors apply popular Machine Learning and Statistical methods to determine the relationship between various types of restraint system uses, by working with data collected from past vehicle crash events. The study will incorporate extensive data collected from post-crash events, including information on seatbelt usage, child safety equipment, airbag deployment, and other relevant passive and active restraints. Additionally, this study will also determine the most applicable types of data analysis methods to be used in future, similar studies. This will be done by comparing the forecasting qualities of the earlier-mentioned ML and Statistical models against each other.

Conference Track

Modeling and Simulation