

## **INTRODUCTION / BUSINESS PROBLEM**

Traffic accidents are undesirable and unforeseen events that have negative consequences like injury, damage and even death which are mainly caused by human, vehicle, road and/or environmental factors. Road and Environmental factors are improper or unaddressed infrastructures and weather conditions respectively which can have significant impact on the driver and vehicle performance.

According to statistics from the World Health Organization (WHO), road traffic accidents resulted to the death of about 1.35 million people and between 20 – 50 million people are left injured or disabled annually (World Health Organization Road traffic injuries, 2020). It was also reported that approximately 90% of road traffic accidents causes socioeconomic loss to individuals, families and the nation.

Due to the high burden of traffic accident, we aim to utilize accident severity prediction in providing information to people, emergency respondents and governments to estimate the possibility of an accident, evaluate the severity of accidents and implement accident prevention procedures.

Therefore, this work focuses on conducting an accident severity prediction model by employing classification modeling techniques like Naïve Bayes, Decision Tree, Random Forest then the accuracies of the models will be compared and the best model will be selected for accident prevention. Also, exploring the major factors that impact accident severity.

### **Problem Statement**

The problem of traffic accident in the world affects people, properties and the nation as a whole, the impact of which leads to death or serious injury, destruction of property and economic loss. A successful solution would be to predict the severity of accidents and also to determine the major factors that leads to traffic accidents in order to readdress those impacts and prevent traffic accidents.

### **Objectives**

- 1 Explore the variables that impact accident severity.
- 2 Predicting accident severity.