Team: IC23001

We are working on the ‘Washington Fatal Crash Files’ challenge, analyzing the dataset to generate insights, predictions, and policy recommendations for the Washington Traffic Safety Commission (WTSC). The aim of this analysis was to investigate whether individuals involved in fatal crashes in specific communities were residents of those communities and to identify ZIP codes that produced high-risk drivers. Data on fatal crashes in communities near the borders of Oregon and Idaho were collected and analyzed. Our approach has been to perform exploratory data analysis to find trends and patterns and conduct logistic regression to predict the probability of fatality in a situation of a crash. We will also use logistic regression to find out the impact of individual variables i.e., the multiplicative factor by which the variable impacts the odds of fatality.

The analysis revealed that a significant proportion of drivers involved in fatal crashes were not residents of the communities where the crashes occurred (28% residents vs 72% non-residents). Moreover, differences were observed in the types of crashes and behavior factors among residents versus non-residents. The analysis also identified several ZIP codes that produced high-risk drivers and had specific population demographics associated with higher risk.

In conclusion, this analysis highlights the importance of understanding the demographics and commuting patterns of drivers involved in fatal crashes in specific communities. The results of this analysis provide valuable insights for policymakers and program managers looking to develop effective traffic safety initiatives and interventions.