GROUP - 4 PROJECT
Traffic Collision Data

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Abstract :

Reducing car crashes is a pressing global public safety challenge. Despite significant efforts to understand the root causes of these incidents, existing data has proven to be ineffective and unreliable. In response to these issues, this study utilized the large and publicly accessible California Traffic Collision dataset from the Statewide Integrated Traffic Records System (SWITRS). The dataset includes up to 9 million unique traffic collisions recorded between 2001 and mid-December 2020. By utilizing this data, we aimed to gain a deeper understanding of the factors and trends behind car accidents in California.

Our analysis employed various techniques such as accident prediction, identification of hotspot locations, and development of measures to be taken at accident locations. The results of our study indicate that the frequency of accidents can be reduced by increasing our understanding of the underlying reasons behind these incidents. Additionally, we quantified the dangers of daylight saving time and discovered the potential of big data to address complex social issues such as traffic accidents.

In conclusion, the outcomes of this study have the potential to greatly increase road safety in California. The insights gained from this research can guide decision-makers in taking concrete steps to reduce the frequency of traffic accidents and provide safer roads for everyone. This project demonstrates the value of big data in understanding complex societal problems and provides crucial perspectives on the underlying reasons behind traffic accidents.