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Predective Analysis of Road Accidents Using Maching Learning (CNN): A Review

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Abstract: *The increasing frequency of road accidents presents a significant challenge to public safety and urban planning. Leveraging advancements in machine learning, particularly Convolutional Neural Networks (CNNs), offers a promising approach to predictive analysis and accident prevention. This review paper provides a comprehensive analysis of recent developments in the application of CNN-based models for predicting road accidents. The study explores various data sources, including real-time traffic data, weather conditions, and road infrastructure, and examines the effectiveness of different CNN architectures in predicting accident likelihood and severity. Through a comparative analysis of existing models, the review identifies key factors influencing prediction accuracy and highlights the potential of CNNs in enhancing road safety. The findings suggest that CNNs, when integrated with advanced data analytics, can significantly improve the precision of road accident predictions, thereby aiding in the development of proactive measures to mitigate risks.*

Keywords: Predictive analysis, road accidents, machine learning, Convolutional Neural Networks, CNN, traffic safety, accident prevention, data analytics, predictive modelling etc