DriveC: Web Application for Classification of Driving Events

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Abstract:

This paper presents a web application designed to analyze and classify driving behaviors using data from gyroscope and accelerometer sensors embedded in smartphones. By harnessing real-time sensor data, the tool accurately calculates driving risk, enabling continuous and comprehensive driver behavior assessment. An advanced Long Short-Term Memory neural network model was implemented, chosen for its superior capability to capture temporal dependencies in sequential data and effectively identify complex driving patterns. The model achieved a notable accuracy of 86.36 percent, underscoring its reliability and strong potential for real-time deployment. This innovative approach provides a practical and precise method for driving risk assessment, with significant implications for enhancing safety in the insurance industry and road management systems.

Keywords:

Driving rating, Insurance customization, LSTM.