Classification of Distracted Male Driver Based on Driving Performance Indicator (DPI)

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Abstract Distracted driving causes most road accidents and injuries. Cell phones, food, radios, and passenger conversations are all distractions. Distractions may slow a driver's response time and increase the risk of accidents. Studies reveal that even minor distractions may impair a driver's ability to drive safely. This study examines how distracted driving affects male drivers. Using US and Malaysian databases will do this. This research included drivers with at least two years of experience to guarantee a representative sample. Each dataset chose 35 and 58 drivers. Driver distraction level, a new class characteristic, has four levels: no, mild, moderate, and severe. Weka software was used for "data mining" to get insights from a vast dataset. Weka is a strong data mining and machine learning program including algorithms for data preparation, classification, regression, clustering, and visualization. We applied these algorithms on their datasets using its GUI or command-line parameters. Speed, braking, acceleration, steering, lane offset, lane position, and time were used to assess driving performance. Male drivers were more likely to be distracted driving based on their driving skills which is identified by the driving performance indicator (DPI).

Keywords Weka · Distracted driving · Data mining · Machine learning · Classification · Driving performance indicator (DPI)

1 Introduction

1.1 A Focus on Distracted Driving

Distracted driving (DD), and multitasking while driving in particular, substantially increases the risk of collisions, injuries, and fatalities [1]. DD is "a particular form of inattention" in which a driver's attention is diverted from the task of driving

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