Machine Learning based Vehicle Performance Analyzer

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LITERATURE SURVEY

1. Machine Learning Based Real-Time Vehicle Data Analysis for Safe Driving Modeling

Automotive Technologies are providing improvised services to the driver's safety and vehicle security under the umbrella of Intelligent Transportation System (ITS). In the development of ITS, advanced Automotive Technologies shall play a crucial role in determining the overall experience of users by making it much at ease in terms of reducing the risk of road accidents, risk of cybercrime in the vehicle, buying a used car etc. It is often noted that judging the driver's driving skill is subjective and is difficult to set a standard for driver's skills.

[1]. The modern approach to transportation system is focusing on rapidly evolving with the intelligent vehicles. High rise in recorded traffic density, road accidents and crisis faced in regulating the effective management of traffic control in urban and rural areas have concerned us to develop a smart solution in context to ITS.

[2]. It is observed that the users are shifting from individualistic approach to the data-centric approach based on OBD-II scanner to avail the augmented driving experience. In spite of the modern command, control, communication, computers and intelligent systems, we are still facing numerous calamities in which thousands of precious human lives are lost in accidents. Therefore, it should be an immediate need to tackle the small scale yet serious issues using the state-of-the-art techniques. We are mainly focusing on analyzing the data which is collected from the vehicle using the OBD-II scanner and eventually providing the driver's safety solutions. We aim to obtain the solutions by observing the blind-spots accurately and efficiently using pattern recognition techniques from supervised learning.

2. The Concept to Measure the Overall Car Performance

The overall car performance investigating on-road experiments is necessary for research and development in automotive engineering. Car acceleration capability is a final result depending on engine performance, transmission system design, suspension optimization, shape and dimension, aerodynamic, friction reduction technology, driving skill, and other factors. The purpose of this research is to present the concept to measure the overall car performance from acceleration capacity. We found that this concept is possible and convenient because we can collect digital input signals from an existing electronic control unit and transfer it to additional processor to analyze and display the fi nal result in every mobile display, such as laptop, tablet, and smart phone. The method is cheaper and easier for installation and usage.