

Technology for Alcoholic Detection and Accident Prevention

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Abstract: According to risk assessments of getting into an accident, drinking, and driving are one of the leading causes of motor vehicle accidents. Eliminating drunk drivers off the road might potentially save many lives. This article proposes a straightforward in-vehicle alcohol detection system that analyses data from six MQ-3 alcohol sensors using an optimizable shallow neural network (O-SNN). The results of the experimental evaluation show a high-performance detection system, which has a detection accuracy of 99.8% and an inferencing delay of 2.22 seconds. The proposed model may therefore be successfully applied in the Driver Alcohol Detection System for Safety (DADSS) system, which seeks to broadly deploy alcohol-sensing devices, to precisely identify in-vehicle alcohol with minimum inference overhead. 75% of all crashes are the result of drunk driving. Based on recent government research, drunk driving is at fault for 75% of all accidents on the road. Every 40 to 70 minutes, an accident occurs in smaller cities. According to government estimates, not using a seat belt results in 100 accidents and 25–27 fatalities. This project is constructed using the open-source electronics platform Arduino. It can read data from light sensors and convert it into outputs that start a motor. As a result, there is limited inference regarding drinking in vehicles. The suggested approach might be used to correctly identify drivers who are under the influence of alcohol.

Keywords: Vehicle Accidents

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