BVRIT HYDERABAD
College of Engineering for Women
Department of Information Technology
Mini Project - Academic Year 2021-22

TEAM 7

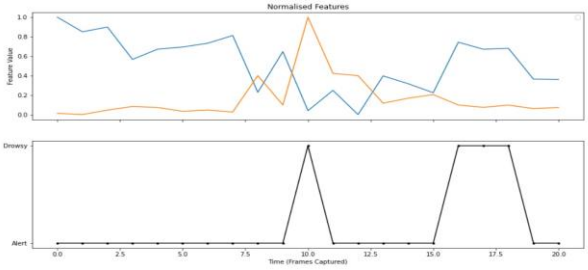
Driver Face Detection

Abstract

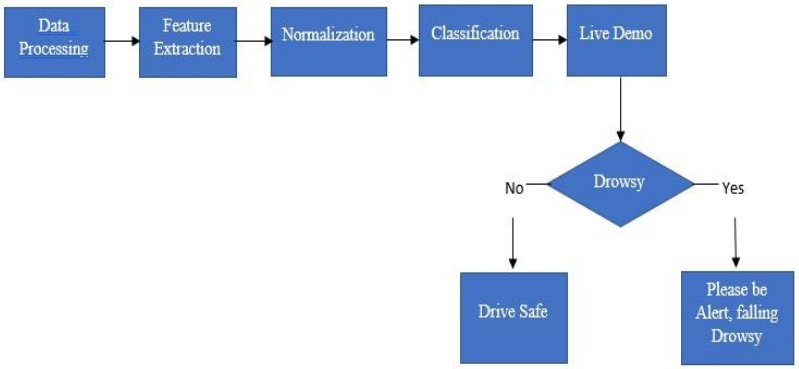
Drowsiness and Fatigue of drivers are amongst the significant causes of road accidents. A module for Advanced Driver Assistance System (ADAS) is presented to reduce the number of accidents due to drivers fatigue and hence increase the transportation safety, this system deals with automatic driver drowsiness detection based on visual information using Machine Learning.

Modules

Data Preparation
Model Construction
Model Evaluation



Architecture



Tools and Technologies

- **Numpy**
- **Pandas**
- **dlib**
- **Google Colab**
- **Keras**
- **OpenCV**
- **MatplotLib**

Conclusion and Future Scope

Every human has a different baseline for eye and mouth aspect ratios and normalizing for each participant was necessary. The participants cannot be static on the screen for a long time and sudden movements by the participant may signal drowsiness or waking up from micro-sleep. The system focuses on detecting the drowsiness of the driver through live web camera using KNN-CNN algorithm. In future, we want to update parameters with more complex models (NNs, ensembles, etc.) and sensors to achieve real-time results.

Guide

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Team


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Github Links:

1. https://github.com/18wh1a1234/MiniProject
2. https://github.com/18wh1a1238/Miniproject
3. https://github.com/18wh1a1244/MiniProject