Final Year Project Report

Visual Distraction Detection for Safety Driving

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Dedication

We dedicate out project to our parents, teachers and friends who have been our support throughout this project. Without their support and backbone, we could not complete this milestone.

Final Approval

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ABSTRACT

Every day we see and hear about road accidents caused by irresponsible behavior of the drivers. The majority of the misfortunes happen because of the eye off the road while driving, not concentrating on the road signs and also of driver's distraction from the road. This project is here to discuss and highlight the driver's facial motion distraction and gives methods which use facial points and head rotation of the driver to indicate the problem. These facial points are detected by ASM and Boosted Regression with Markov Networks (BoRMaN). Classifiers like (Neural Networks (Multilayer Perceptron (MLP)), Naïve Byes, J48, Decision Table, NNGE, SMO (Support Vector Machine (SVM)) and Adaboost were used to prepare and test the features of various frames.

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1. INTRODUCTION

1.1 Problem Overview

Driver's distraction is one of the main reason of many traffic accidents. Distraction can generally be divided into two types, i.e., Non-Visual and Visual Distraction [1]. Non-visual distraction is related to cognition and can be termed as "Mind-off-road". On the contrary, visual distraction is related to the eyes off the driver and can be termed as "Eyes-off-road". Majority of accidents and most death risks occur in US and Europe during driving on highway roads due to Eyes-off-Road. This study mainly focuses on the approaches and techniques to detect visual distraction. We can solve this problem by detect the driver in real time, and when distraction occur then activate warning system works to reduce the effect of the problem [1]. Now a day several manufacturers introduced advanced technology internet enabled computers in cars and these devices have also capability to make driving more efficient an enjoyable, for helping drivers take advantages from these devices and avoid distraction effected crashes [2].We can save human lives by automatic monitoring of driver. It can be installed in autos, trucks and transports to dodge the diversion affected accidents.