

DEPARTMENT OF INFORMATION TECHNOLOGY

MAJOR PROJECT

Batch No. : 07

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Title of the Project : **Traffic Signal Recognition System for Blind using ML**

Abstract

Nowadays, a blind man finds it very difficult to cross the roads. They should be very vigilant with every step they take. To resolve this problem Machine learning is a best method as it analyses the data and automates the model without intervention of human being. A similar kind of approach was done by using Raspberry Pi which is an IoT device in real-time situation. Zebra crossing is recognized using EDLines algorithm to give accurate results. In this project, we designed traffic lights recognition system using ML for the visually impaired providing real-time lights state by voice so that a safe walking environment for the visually impaired can be guaranteed. We have divided this project into two phases. In the first phase, we trained the CNN(Convolutional Neural Network) model to classify different images which have been captured at traffic signals. Based on the traffic signal displayed CNN model gives the desired output in text format. In the second phase, the text message generated will be sent to the text-to-speech conversion model to make voice guidance for the blind person. By the above model, the visually impaired people are able to recognize the traffic signals and it is helpful for them to cross the roads without any danger, hence resulting a safe walk.

Signature of Supervisor

Signature of HoD