

Traffic Sign Recognition Presentation

The traffic sign recognition senior project aims to identify traffic signs existing in diverse backgrounds. These signs will exist in diverse backgrounds and may be partially obscured. The software functions in spite of these conditions. This project is implemented in MatLab code. There are many ways this project can be expanded in the future. Applications like autonomous vehicles give this project great versatility.

I. Project Overview

A. Applications

1. Autonomous Vehicles
2. Also useful in other fields

B. Objective

1. Identify a traffic sign from digital photograph.
2. Overcome diverse background and being partially obscured.

II. System Description

A. Simple flowchart

1. Load image from hard drive
2. Pre-Processing algorithms applied
3. Main processing algorithms applied
 - a. Gather and analyze color
 - b. Erode and close
4. Identify sign
5. Classify sign
6. Highlight area of interest
7. Pertinent data output

III. Current Functionality

A. Divides into three color planes

B. Look for red signs (stop, do not enter, wrong way)

1. Finds red signs well

C. Look for yellow signs

1. Needs optimization but can isolate some signs.
2. Lots of yellow light from the sun

D. Sequence of images being processed shown.

IV. Future Work

A. Recognize shape of sign (stop sign)

B. Identify region of interest and crop out background to streamline processing.

C. Continuing senior project?