# RECOGNISIGN

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This model is meant to classify traffic signs using webcam.

## Working:

The training data is loaded from the folder path and split. Then preprocessing is done on all images and then they are converted into numpy arrays. The model is built. During training of model, 43 categories of images are trained using Neural Network. The dataset used is GTSRB dataset taken from Kaggle.

## Specifications:

->In this, Neural Network is used as deep learning model.
-> OpenCV is used for image detection and

classification.

## Capabilities:

->Capable of classifying signs into different categories.
->High Accuracy.
->After training the model once, it is saved and can be loaded easily anytime without training again which sames time.

## How To Run The Code:

1. Run the command to install libraries:
   pip install -r requirements.txt
   Or view pt.5
2. train.py file contains the code that creates and saves the model. It is not necessary to run it as the model is already saved in the folder, still we recommend running it once. Not much changes will occur, but running it will ensure the run of other files as well as the saved model will be updated(minimally).
3. test.py file is meant to test images one by one, by feeding their path in the code. The line 1 in this file has the instruction on how to do it.
4. cam_test.py starts the default/inbuilt webcam of

the computer and it starts classifying the images(printouts) of traffic signs. Using mobile phone to show images to cam is not recommended as it can give vague results because of high intensity, brightness and radiation from mobile screen.

5. The files can be run using the following command (change ‘file_name’ to the name of the file):

    python3 file_name.py

   Or they can be run in PyCharm (recommended). The required libraries can be installed in PyCharm with ease:

   1. Press Ctrl+Alt+S
   2. Go to Project
   3. Go to Python Interpreter
   4. Click + sign to install new packages