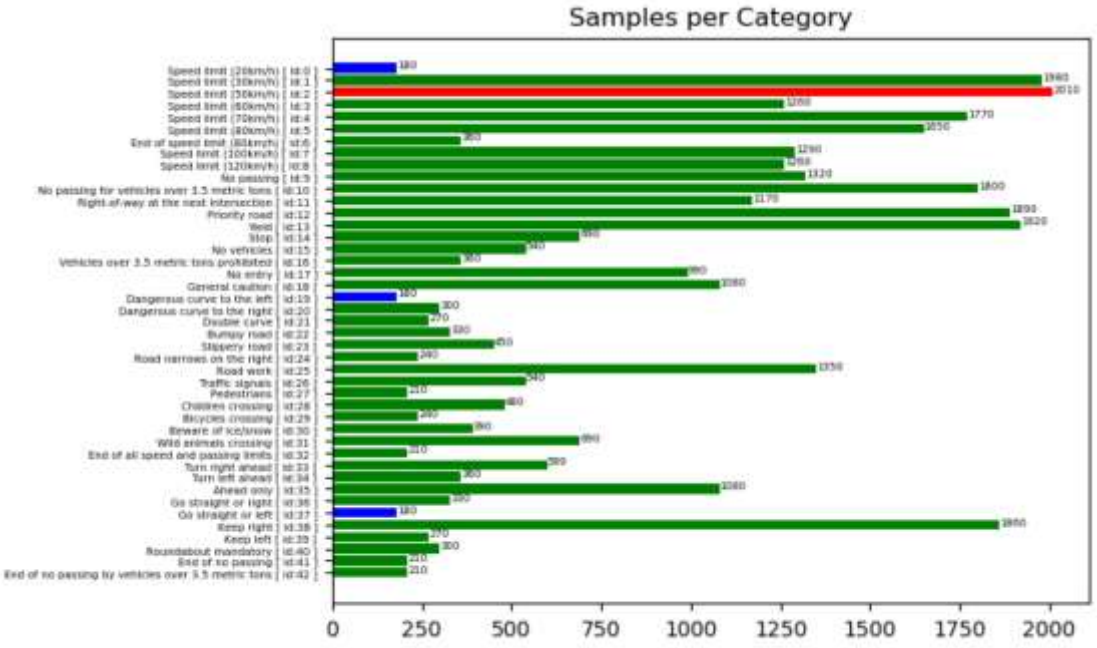
UDACITY Traffic_Sign_Classifier Project

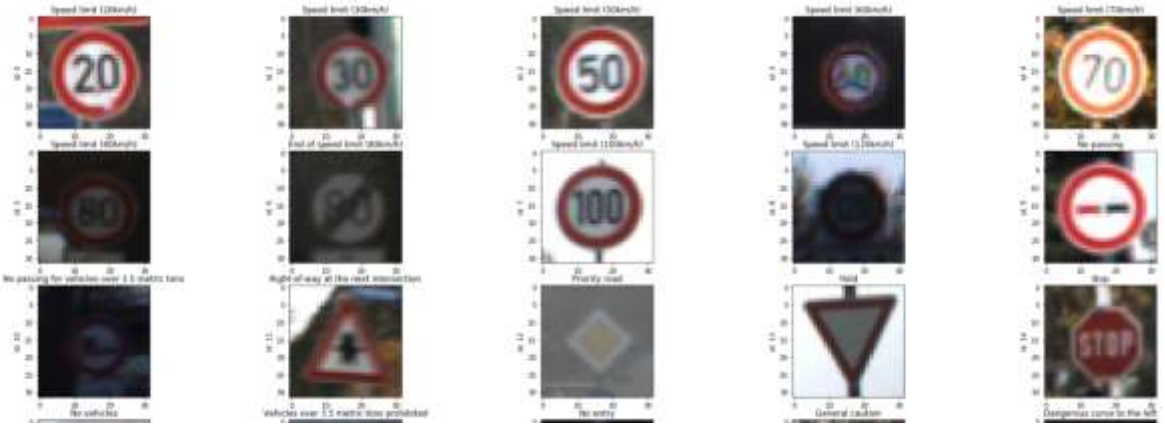
Overview of the process choosen

1. **Load The Data**
2. **DataSet Summary & Exploration**
   2.1 Retrieve Summary from DataSet
   2.2 Visualizing oft the DataSet
   Viewing the Samples per Category distribution



2.3 *Showing Images of the DataSet*

Showing some random images from the provided data set



3. **Design an Test a Model Architecture**

3.1 PreProcess the DataSet

3.1.1 Shuffle the Data
To shuffle the training data is a good practice to avoid biased learning

3.1.2 Prepare the Images
Normalize the images and convert the images from RGB to GRAYSCALE

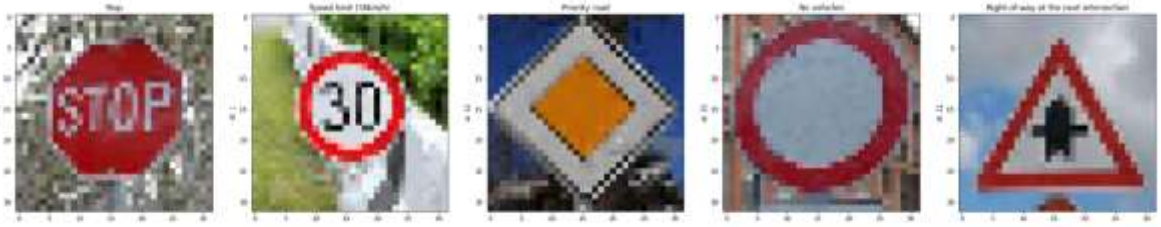
3.2 Define the Model
Implementation of the LeNet function

3.3 Train, Validate and Test the Model

3.3.1 Features & Labels
3.3.2 Training Pipeline
3.3.3 Evaluation of the Model
Definition of the Evaluation function
3.3.4 Training of the Data Model
3.3.5 Evaluate the Trained Model Using Test Data

4. Test A Model On New Images

4.1 Load And Output The Images
Show the 5 internet found images



4.2 Predict The Sign Type For Each Image

4.3 Analyze Performance

4.4 Output Top 5 Softmax Propabilities For Each Image Found On The Web

Attribution :

- Book : « Neuronale Netze selbst Programmieren » (Tariq Rashid)
- Google and GitHub: various samples reviewed to better unerstand viewing algorithms used
- Udacity: e.g. source for the LeNet algorithm