

Project #4: Traffic sign detection

Project dataset: The dataset consists of a number of sample color images for 58 different traffic signs. The dataset is divided by two training (4170 images) and testing sets (1994 images). The size of all images are 75*75 pixels.

Project definition: In this project, you must design a Convolutional Neural Network (CNN) to classify the input image and detect the type of the traffic sign. To this end, the training set is used for training of the model, and then, the testing set is used for evaluation of the model. As a result, you must report accuracy of the model based on the evaluation metrics including Accuracy score as:

$$\text{Accuracy score} = (TP + TN) / N$$

where

True Class	Predicted class	
	Yes	No
Yes	TP: True Positive	FN: False Negative
No	FP: False Positive	TN: True Negative

Also, you must draw the confusion matrix. For each class, the matrix represents the number of images truly classified to the same class (True positive) or misclassified to another (False Positive).