Traffic Signs

Deep learning

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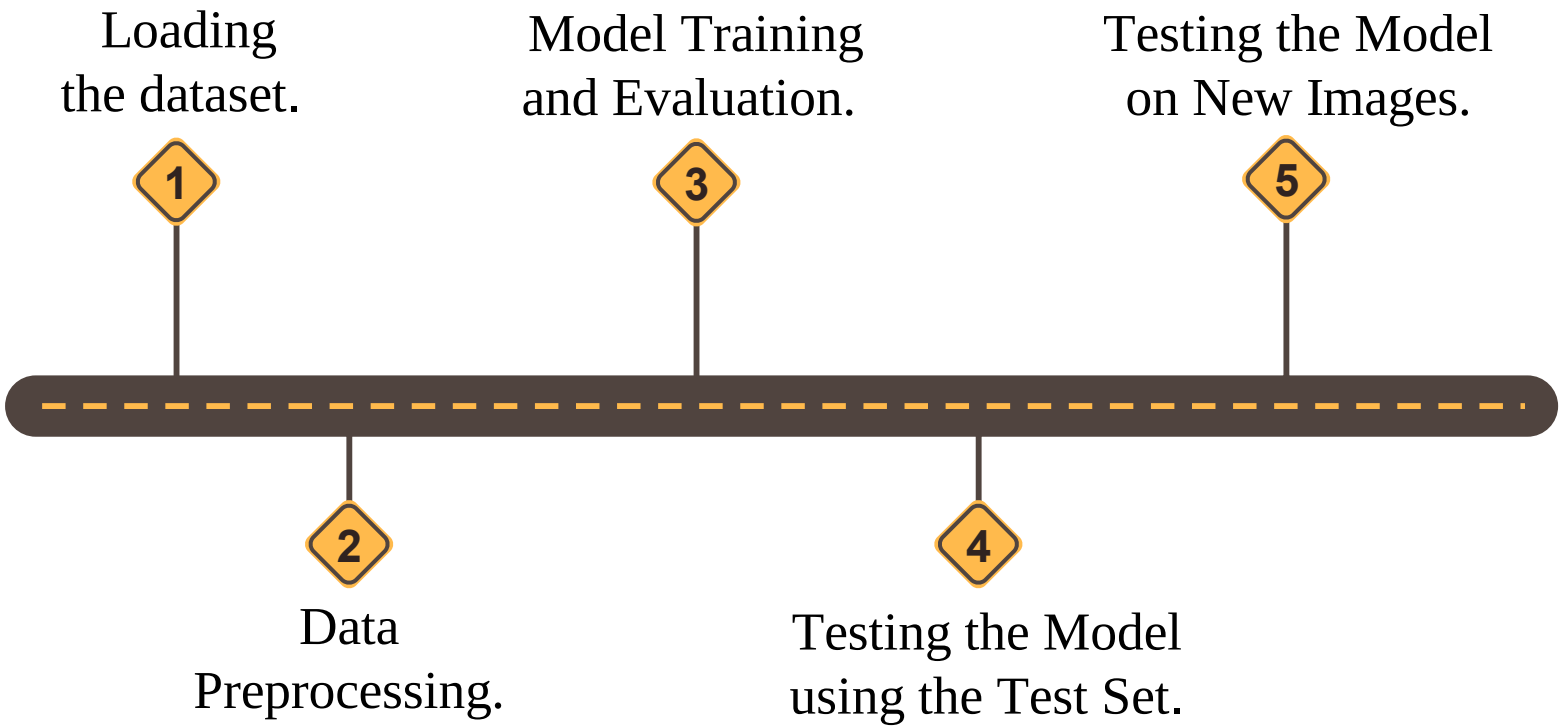
Project Goal

The project aimed to build deep learning model to predict traffic signs and identify which model is outperformed based on accuracy.

Work Flow


Loading
the dataset.
1
Data
Preprocessing.
2
Model Training
and Evaluation.
3
Testing the Model
using the Test Set.
4
Testing the Model
on New Images.
5

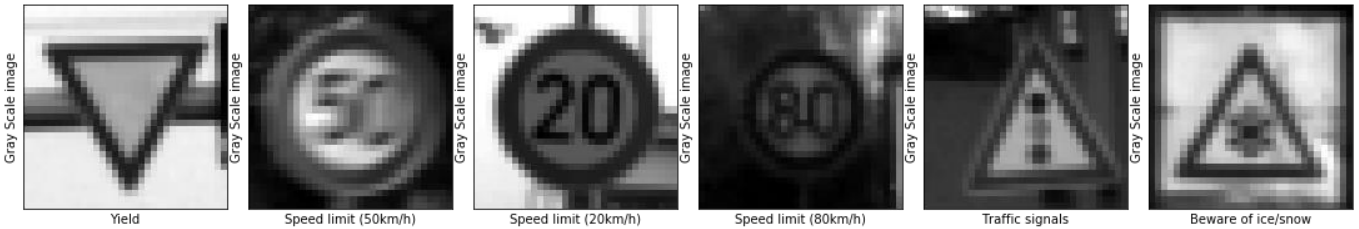
Dataset

Dataset used: German Traffic Sign Dataset.
This dataset has more than 50,000 images of 43 classes.

Data Preprocessing

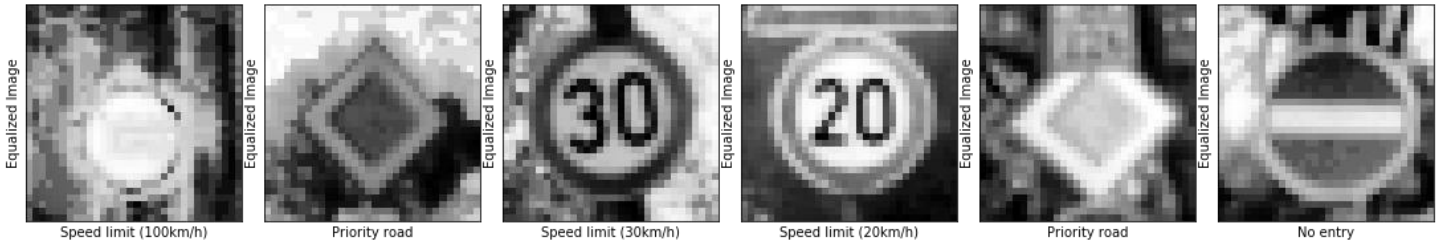
We will use the following preprocessing techniques:

1. Shuffling.
2. Grayscaling.

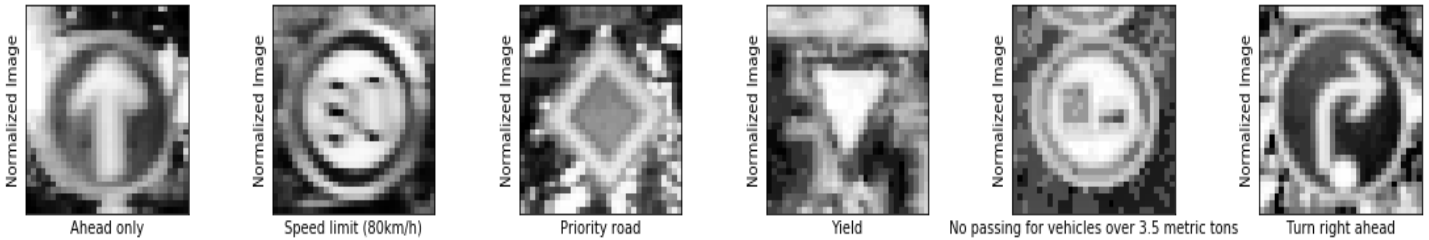


Data Preprocessing

3. Local Histogram Equalization.



4. Normalization.



Models

Testing Models

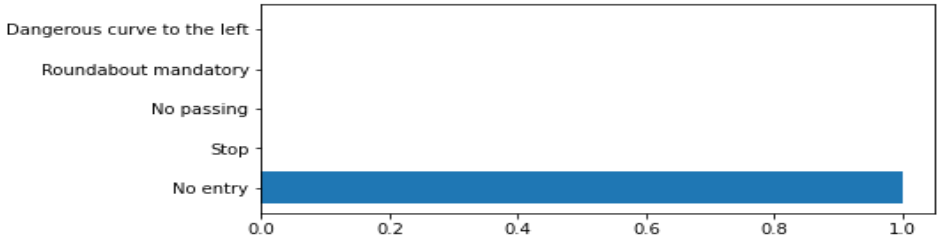
Testing the Model on New Images

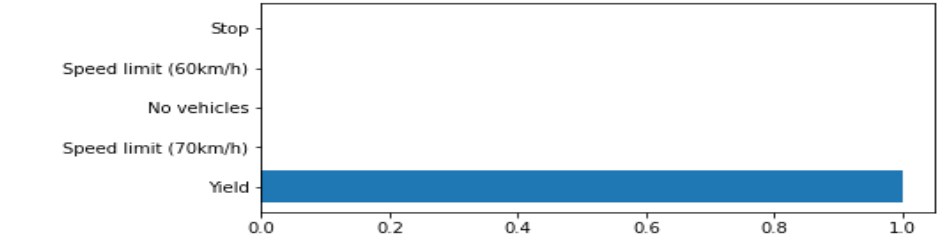
No entry

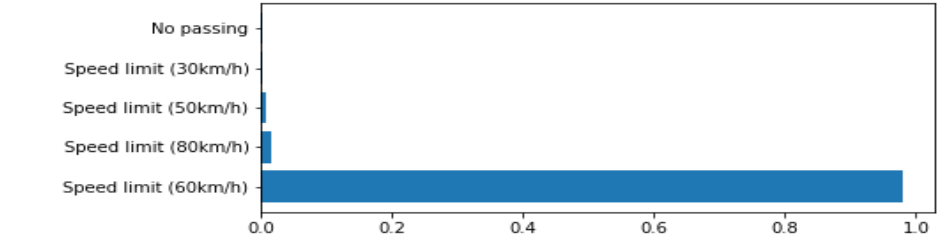
Yield

Speed limit (60km/h)

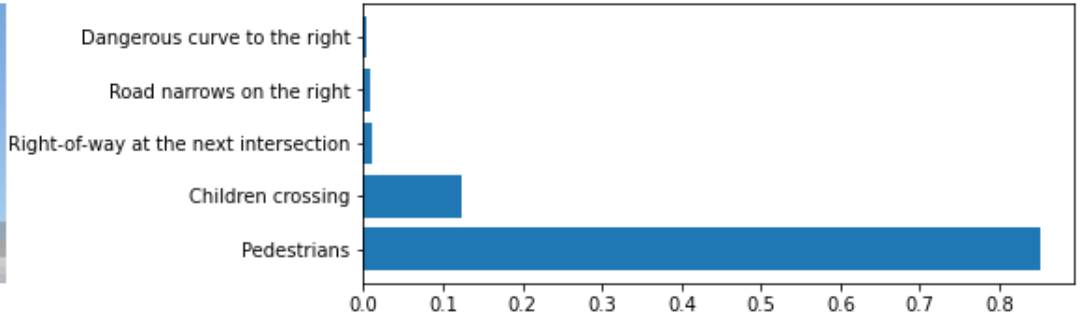
Pedestrians



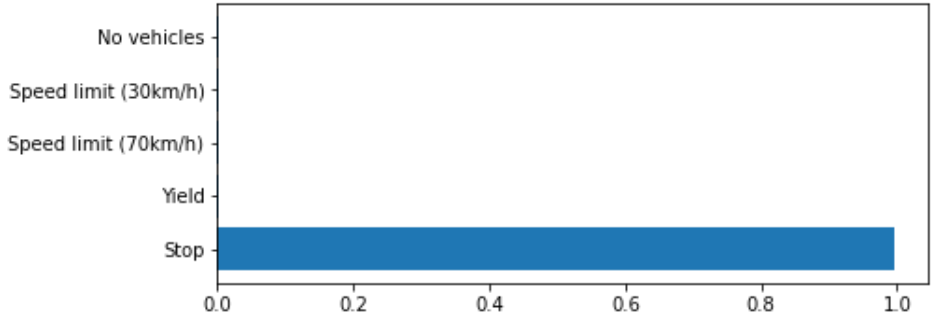


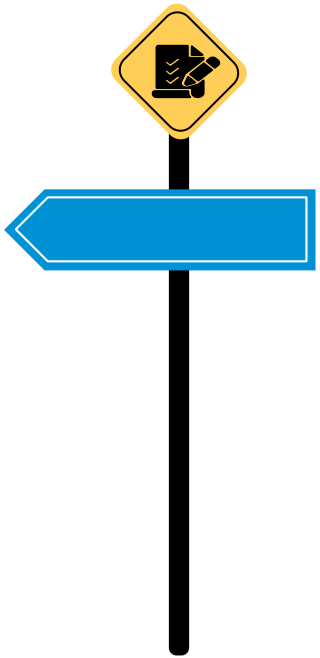


Testing the Model on New Images



Stop





Conclusion

Using VGGNet, we've been able to reach a very high accuracy rate. We can observe that the models saturate after nearly 10 epochs, so we can save some computational resources and reduce the number of epochs to 10. We can also try other preprocessing techniques to further improve the model's accuracy.

Thanks!