

Real-Time Indian Traffic Sign Recognition System

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1 Summary

We aim to build a system that takes an image as input, checks whether the image contains a traffic sign or not, if it does, then outputs the meaning of the traffic sign. The problem of Real-time traffic sign recognition can be broken into two parts – the first part, Sign Detection, checks whether an image contains a traffic sign or not. The second part, Sign Classification, comes into the picture if the result of Sign Detection is positive and gives the meaning of the detected traffic sign. We can use machine learning techniques for Sign Classification, but the data required to do so is limited to only some traffic signs. There is another approach called Content-Based Image Retrieval which can be applied to match real-time traffic signs with virtual images of traffic signs. Depending on the results obtained by CBIR we may/may not switch to ML.

2 Objectives and Time-line

1. Create a suitable database for the problem statement. (August)
2. Pre-process the images for quality improvement by considering all weather factors. (September)
3. Develop a Sign Detection algorithm. (October)
4. Develop a Sign Classification algorithm. (November)

3 Database

MapmyIndia has created an Indian Speed Signs dataset which contains Speed Limit 20, Speed Limit 30, Speed Limit 40, Speed Limit 50, Speed Limit 60, Speed Limit 80 traffic signs.

References

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