

Vehicle Detection and Counting for Toll Plaza

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Abstract: Many highway toll collection systems have already been developed and are widely used in India. Some of them contain manual toll collection, RF tags, barcodes and license plates recognition. All of these systems have drawbacks that lead to some errors in the corresponding system. At toll plaza, all lanes have a mixed lane system that is, both MTC and ETC. The delay and queue is mainly due to this two different charging methods vehicles pass through the same lane. In addition, with the help of collected data and visuals onsite investigation, some additional causes of traffic. Considering all these causes, this is the paper proposes solution to these problems. In this project we are using SSD_Mobilenet_V1 architecture. It uses the TensorFlow algorithm, which helps detect objects using images, videos, or CCTVs. It will contain study of areas such as Image processing, image enhancement. The proposed model can support government agencies to dynamically manage the toll plaza. It will help to tally all the cars at the end of the day to help avoid frauds which can be conducted by the toll booth attendee.

Keywords: MTC, ETC, Tensorflow, Image Processing, SSD_mobilenet.V1

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