Vehicle Detection in a Video Frame Using Machine Learning Technology

Dr. Syed Salim¹, Hadiya Sarwath², Monikamallu S², Priyanka Gavaroji², Yashaswini K N²
Associate Professor, Department of Department of Computer Science & Engineering¹
Final Year Students, Department of Computer Science & Engineering²
Vidya Vikas Institute of Engineering and Technology, Mysuru, India

Abstract: Motion tracking is one of the most active research titles of the computer vision concepts. Vehicle detection process on road are used for vehicle tracking, counts, traffic analysis and vehicle categorizing objectives and it can be implemented under different environments changes. Vehicle counting process provides appropriate information about traffic flow, and the vehicle crash occurrences and also traffic peak times in roadways[2]. Analysis of traffic may account traffic and also streamline the process. Analysis of traffic may account for the number of vehicles in an area per some time period[1]. Most of the design involve use of sensors to detect the vehicles. As it is a detection of vehicle in a video frame it uses the algorithms like Gaussian Mixture Model background subtraction it is a widely used approach for foreground detection. By the digital image processing methods which including object detection, edge detection, frame differentiation and kalman filter using the different library and algorithm with real time image[2]. This paper describes the detection of vehicle in a video frame, tracking in the video frame, counts the number of vehicle passes through the indicative line in roadways.

Keywords: Vehicle Detection, Tracking, Counting, Gaussian Mixture Model, Background, Foreground, Video Frame

REFERENCES
[1]. A Video based Vehicle Detection, Counting and Classification System by Sheeraz Memon
[2]. Vehicle Detection and Counting method based on Digital Image processing in Python by Reha Justin, Dr. Ravindra Kumar


[15]. Learning OpenCV: Computer Vision with the OpenCV Library By Gary Bradski, Adrian Kaehler.

