Smart Traffic Signal Control System

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Abstract: *The project is designed to develop a density-based dynamic traffic signal system. At the junction, the traffic density is sensed, and the signal timings will be changed automatically. Across the globe, in many prime & metro cities, traffic congestion is a serious problem, and it has become a nightmare for citizens in these cities. In a traditional traffic signal system fixed timing is allocated to either side of the junction which cannot be varied as per diverse traffic density. Timings allotted to junctions and intersections are fixed. Sometimes longer green light is demanded at one side of excessive traffic density as compared to the standard assigned time. In the smart traffic signal, the object detection is processed and transformed into a proposed system and various features are extracted. The profile has been drawn based on the calculated threshold. The drawn contour calculates the density and number of vehicles present in the area. We will come to know on which side the density is high after calculating the number of vehicles. Based on the collected data it will be concluded that on which green signal and the red signal will be allotted for the specified time on a particular side.*

Keywords: "Deep Learning"; "Feature Extraction"; "Segmentation"; "Convolutional Neural Network CNN".

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DOI: 10.48175/IJARSCT-9515

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ISSN
2581-9429
IJARSCT

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