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Real-Time Video Monitoring Of Vehicular Traffic Management Using Machine Learning

Omkar Argade[1], Sunny Geete[2], AmriteshPandey[3], Abhinav Sinha[4], Prof. Prathmesh Bajare[5]
Students, Department of Computer Engineering[1,2,3,4]
Faculty, Department of Computer Engineering[5]
NBN Sinhgad School of Engineering, Pune, Maharashtra, India

Abstract: *The goal of the project is to create a density-based dynamic traffic light system. When the traffic intensity at the intersection is detected, the signal time adjusts automatically. Many major cities throughout theworld are experiencing extreme traffic congestion, which has turned commuters' lives into a nightmare. The traditional traffic signal system is based on a set time notion that is assigned to each side of the intersection andcannot be adjusted to accommodate changing traffic congestion. Junction timings allotted are fixed. In certain cases, heavier traffic congestion on one side of the intersection necessitates a longer green duration than the typical permitted time. The object detection in the traffic signal is processed and transformed into a simulator, after which a threshold is created based on which a contour has been made to compute the number of cars present in the region. After estimating the number of cars, we will be able to determine which side has the highest density depending on which signals will be allocated to that side.*

Keywords: Traffic Signal, Machine Learning, Convolutional Neural Network, Training

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