Traffic Management SYSTEM

Team Members

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PHASE-1 SUBMISSION DOCUMENT

Definition

- Traffic Management Systems (TMS) provide permanent control across the network, automatically sets routes for trains and logs train movements as well as detects and solves potential conflicts.

Example

- Traffic Management can include: flagging, lane closures, detours, full freeway closures, pedestrian access, traffic plans, and sidewalk closures.

How to make traffic management system

- General components of an efficient intelligent traffic management system
- Data collection. That’s the part where hardware devices like sensors, cameras, GPS trackers, etc., are called into action. …
- Data transmission. …
- Data analysis. …
- Data conversion into intelligent information. …
- Data transmission

What are the Objectives of Smart Traffic Management System?

Abstract

- Traffic congestion is becoming a serious problem with a large number of cars on the roads. Vehicles queue length waiting to be processed at the intersection is rising sharply with the increase of the traffic flow, and the traditional traffic lights cannot efficiently schedule it.
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- In fact, we use computer vision and machine learning to have the characteristics of the competing traf□c □ows at the signalized road intersection. This is done by a state-of-the-art, real-time object detection based on a deep Convolutional Neural Networks called You Only Look Once (YOLO). Then traffic signal phases are optimized according to collected data, mainly queue density and waiting time per vehicle, to enable as much as more vehicles to pass safely with minimum waiting time. YOLO can be implemented on embedded controllers using Trans

Problem statement

- Build a self adaptive traffic light control system based on yolo.Disproportionate and diverse traffic in different lanes leads to inefficient utilization of same time slot for each of them characterized by slower speeds, longer trip times, and increased vehicular queuing.To create a system which enable the traffic management system to take time allocation decisions for a particular lane according to the traffic density on other different lanes with the help of cameras, image processing modules

Coding

- F = open(“out.txt”, “r”)
- no_of_vehicles=[]
- no_of_vehicles.append(int(f.readline()))
- no_of_vehicles.append(int(f.readline()))
- no_of_vehicles.append(int(f.readline()))
- no_of_vehicles.append(int(f.readline()))
- baseTimer = 120 # baseTimer = int(input(“Enter the base timer value”))
- timeLimits = [5, 30] # timeLimits = list(map(int,input(“Enter the time limits “).split()))
- print(“Input no of vehicles : “, *no_of_vehicles)
-
- t = [(I / sum(no_of_vehicles)) * baseTimer if timeLimits[0] < (I / sum(no_of_vehicles)) * baseTimer < timeLimits[1] else min(timeLimits, key=lambda x: abs(x – (I / sum(no_of_vehicles)) * baseTimer)) for I in no_of_vehicles]
- print(t, sum(t))