



**IJIRCCCE**

e-ISSN: 2320-9801 | p-ISSN: 2320-9798



# INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

Volume 12, Issue 5, May 2024

**ISSN** INTERNATIONAL  
STANDARD  
SERIAL  
NUMBER  
INDIA

**Impact Factor: 8.379**

 9940 572 462

 6381 907 438

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# Trust Level Warning System Using VANET

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**ABSTRACT:** The Automatic image to text reorganization (AITR) is one of the solutions of such kind of problem. There is a Text of methodologies but it is challenging task as some of the factors like high speed of image Files,. The Automatic image to text recognition (LPR) system have many application like payment of Text images ; text monitoring system; border security system; signal system etc. In this paper, the different method of Automatic image to text recognition is discussed. The systems first detects the Image File and capture the image then the Image File of Image File is extracted from the image using image Segmentation optical character recognition technique is used for the character recognition. YOLO framework to determine the green time for each lane based on images captured at the lanes. The system is designed considering the parameters like delay, accuracy, performance, cost, and reliability. The system uses a single webcam to capture images of the vehicle in the lane that can be rotated after green time is concluded for a particular lane and has to be estimated for the next lane. The master controller unit which is the raspberry pi is powerful enough to run ML-based algorithms that can be subjected to the input images obtained from the webcam. The entire system works in real-time and can have a very minimal delay. The YOLO Framework is used to determine the number of vehicles in each lane from the obtained images and the green time is scheduled accordingly concerning minimum and maximum allotted green time for each lane. In general considerations, it is assumed that each vehicle takes 3 seconds on average to exit the lane in the intersection. The maximum time for any lane a set for 30 seconds, and a minimum of five seconds of green time is given to each lane irrespective of the number of vehicles. If the number of vehicles is large and the green time exceeds 30 seconds for the number of vehicles present in the lane, cycles may have to wait for the next cycle, no longer than 90 seconds. Python Language is used for the design of the system.

**KEYWORDS:** Image to text, ML Algorithm, YOLO, Python Framework

## I. INTRODUCTION

In this project In our present life situation congestion in traffic is a big problem in faster lifestyle. One of the main reasons for the congestion is large delay or the time fixed for the red light in the signal. The turnover time of corresponding light is already fixed in the traffic system and it is not based on the number of vehicles on the particular direction. In our idea, we proposed the enhancement of traffic system controller in a road junction using microcontroller. This idea tries to reduce the occurrence of congestion caused by traffic lights, to an extent. The proposed idea is based on Live traffic analysis signal. The proposed model contains IR transmitter and IR receiver which are fixed at the possible direction on the traffic signal roads. Based on the number of vehicles count, the live traffic analysis signal decides and controls the traffic signal time duration as a result. The vehicle count produced from live traffic analysis signal data will be recorded. For correct classification, the record details can be stored to the controller by informing Live traffic analysis signal to the computer system then it will send correct delay of signal into the LED lights. In future this model can be used to giving information to travelers about different areas and the traffic condition for the same.

## II. RELATED WORK

In We are presenting a real time people tracking system also able to work under severe low-lighting conditions. The system relies on a novel active sensor or cmos sensor that that provides brightness and depth images based on a Time of Flight (TOF) technology. The tracking algorithm is simple and efficient, being based on geometrical necessity and invariants. Experiments accomplished under changing lighting conditions and involving multiple people closely interacting with each other have proved the reliability of the system. Time of Flight: Time of Flight detects the time of light between the camera and the object. By sending the laser beams to many directions, the sensor knows the exact positioning of objects. Kinect is also a sensor that detects people in motion. The video camera, depth detector, and multi-array microphone generate a three-dimensional image of objects within the field of view. The camera also detects body-type and facial features. Time-of-flight works like sonar: If you know how long the light takes to return, you know how far away an object is .Camera-based TOF scanner-less sensors are able to deliver an entire depth image at a time without employing any moving mechanical Part.

### III. EXISTING SYSTEM

In existing system they executed RGB color extractor on various sorts of tags. The test pictures are caught from the front and back of the Image Files under various conditions, for example, unique edges, diverse luminance, and distinctive climate conditions. Despite the fact that the calculations were upgraded for the Illinois Text file, which can be effortlessly stretched out to perceive other state tags of different conditions of the United States. RGB color observer is a criterion instrument in picture examination that permits us to separate the color data for the pre-preparing in this procedure. The calculations that we make use of in this paper can full fill character identification precisely. The exploratory outcomes demonstrate that the planned strategy is about compelling and practical. Be that as it may, there is opportunity to get better in calculation because it doesn't work viably in circumstances beneath dim lights and mistakes as of various states of characters we remove. The execution of perusing tags from different states is additionally very much fulfilled the achievement rate is near 100% which demonstrates this strategy is moderately proficient and exact at extricating the characters with an empowering.

#### Disadvantages:

- Data Privacy and Security Concerns.
- Initial Costs and Resources.
- Lack of Interpretability.
- Dependence on Data Quality

### IV. PROPOSED SYSTEM

The proposed system Input image is caught by camera Input image will be converted to gray scale value. Then that gray scale is converted into binary image by thresholding method. So we have various filtering techniques, in which we have to select the suitable to reduce the noise. And then we have to apply masks to get neighbors of a pixel and their corresponding gray value. Next we have to detect the size of the Text file. But in general the files are rectangular in shape hence the edges of the file are detected. Then the detection techniques are applied to measure the properties of the image region. So soon after the labeling the connected components, the region will be extracting from the input image. Now segmentation methods are applied to get individual character and Text image. Finally identification techniques are applied for identification of divided characters and Texts. Traffic control, stolen cars etc. The system has color image inputs of a Image File and the output has the registration Text of that Image File. The system first senses the Image File and then gets an image of Image File from the front or back view of the Image File. The system has four main steps to get the required information. These are image acquisition, file localization, character segmentation and character recognition

#### Advantage

- Orderly movement of traffic
- Increase the traffic-handling capacity of the intersection
- A Reduce the frequency and severity of certain types of crashes
- Provide for continuous or nearly continuous movement of traffic at a definite speed along a given route under favorable conditions
- Interrupt heavy traffic at intervals to permit other traffic, vehicular or pedestrian, to cross.

### V. SOFTWARE DESCRIPTION

- **Python**  
Python is a general-purpose interpreted, interactive, object-oriented, and high-level programming language. It was created by Guido van Rossum during 1985- 1990. Like Perl, Python source code is also available under the GNU General Public License (GPL). This tutorial gives enough understanding on Python programming language. Multimedia
- **Pandas**  
Pandas is a fast, powerful, flexible and easy to use open source data analysis and manipulation tool, built on top of the Python programming language.pandas is a Python package that provides fast, flexible, and expressive data structures designed to make working with "relational" or "labeled" data both easy and intuitive. It aims to be the fundamental high-level building block for doing practical, real world data analysis in Python.
- **NumPy**

NumPy, which stands for Numerical Python, is a library consisting of multidimensional array objects and a collection of routines for processing those arrays. Using NumPy, mathematical and logical operations on arrays can be performed. NumPy is a general-purpose array-processing package. It provides a high-performance multidimensional array object, and tools for working with these arrays.

- **Matplotlib**

Matplotlib is a comprehensive library for creating static, animated, and interactive visualizations in Python. Matplotlib makes easy things easy and hard things possible. Matplotlib is a plotting library for the Python programming language and its numerical mathematics extension NumPy. It provides an object-oriented API for embedding plots into applications using general-purpose GUI toolkits like Tkinter, wxPython, Qt, or GTK.

VI. FLOW DIAGRAM

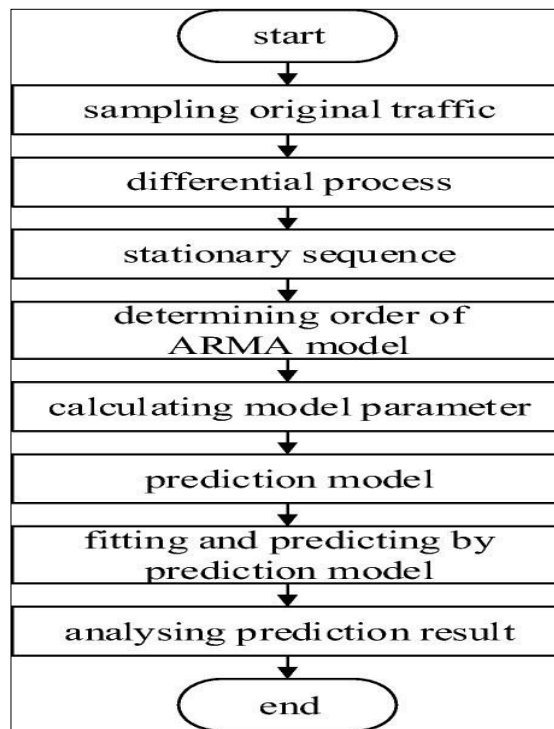


Fig 1: Flow Diagram

VII. CONCLUSION AND FUTURE WORK

This Traffic An automatic traffic light system was developed using IOT and Machine learning algorithm to determine the green traffic light duration based on traffic density. The image was captured using webcam for each lane and the image was subjected to YOLO detection algorithm to identify the number of vehicles based on which the green time was set. The detection was performed using the CNN with pretrained YOLO coco weights. The green time was set optimally to avoid longer waiting times. The entire system was developed with Raspberry pi as master controller and LEDs for traffic signal systems. The prototype was run in real time and the results show 100% accuracy in determining the number of vehicles and setting optimized green time.

In the future, Traffic Monitoring System is a Python window based project to manage various features of Routes, Traffic Polices, Time, Traffic Lights, and-Diversions. Its primary objective is to streamline administrative tasks and reduce the need for manual intervention in managing and overseeing the operations of a Traffic Monitoring System. With its user-friendly interface, the system grants administrators exclusive access to monitor and supervise the entire process of the Traffic Monitoring System.



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