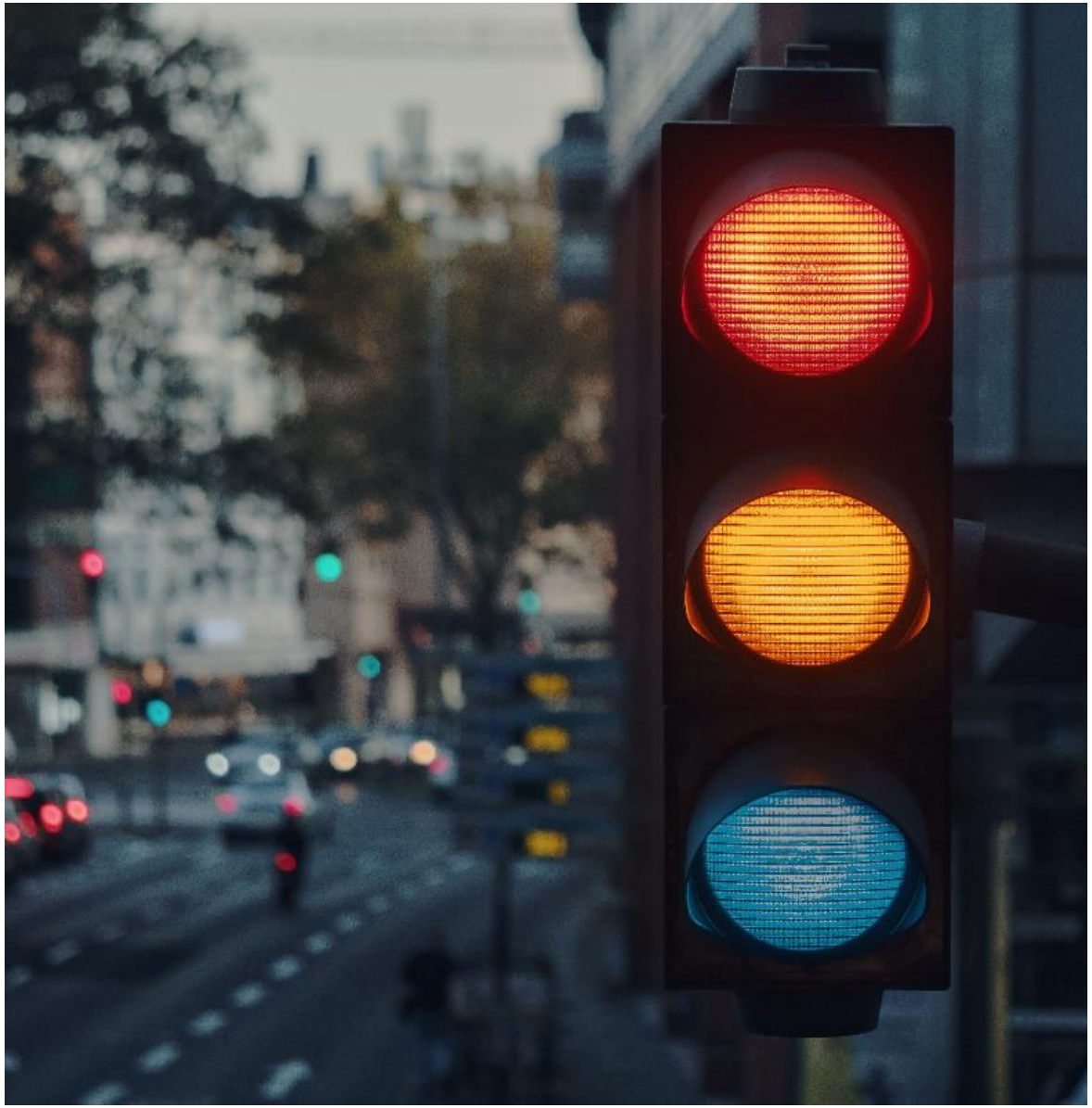

Traffic-Light-Automation using Mediapipe and OpenCV

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Introduction

The idea of the project is to automate Traffic Light System using **Mediapipe, OpenCV and Arduino UNO.** We have taken the idea of Handtracking using the Mediapipe Library to count the finger's to light up the LED's.

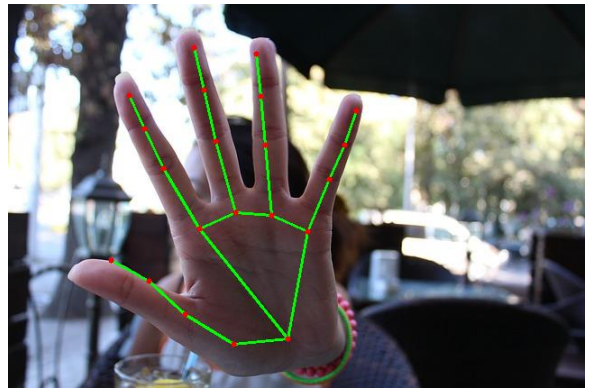
We have encoded the count of fingers as :-

- 1 fingers--> Green Light
- 2 fingers--> Yellow Light
- 3 fingers --> Red Light

What is Mediapipe?

MediaPipe

MediaPipe is a cross-platform framework for building multimodal applied machine learning pipelines. MediaPipe is a framework for building multimodal (eg. video, audio, any time series data), cross platform (i.e Android, iOS, web, edge devices) applied ML pipelines.



What is OpenCV?

OpenCV (Open Source Computer Vision Library) is an **open source computer vision and machine learning software library**. OpenCV was built to provide a common infrastructure for computer vision applications and to accelerate the use of machine perception in the commercial products.

How to set up locally?

- Check if your system has python installed in it before!
- Fork the repository
- Git clone your forked repository
- Create virtual environment

```
- pip install --user virtualenv
- python -m venv env
- source env/bin/activate (Linux)
- env\Scripts\activate (Windows)
```

- Install dependencies

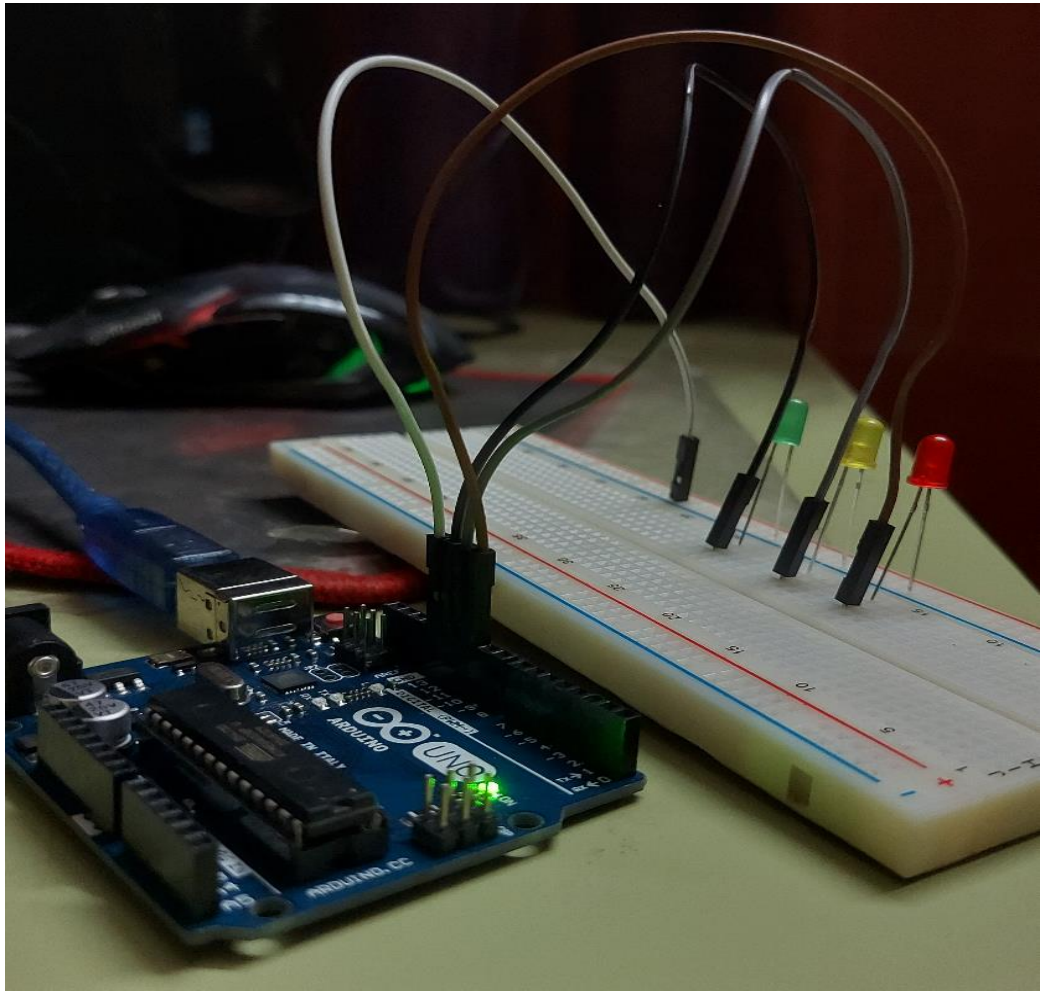
```
- pip install -r requirements.txt
```

To check all the dependencies run the command :

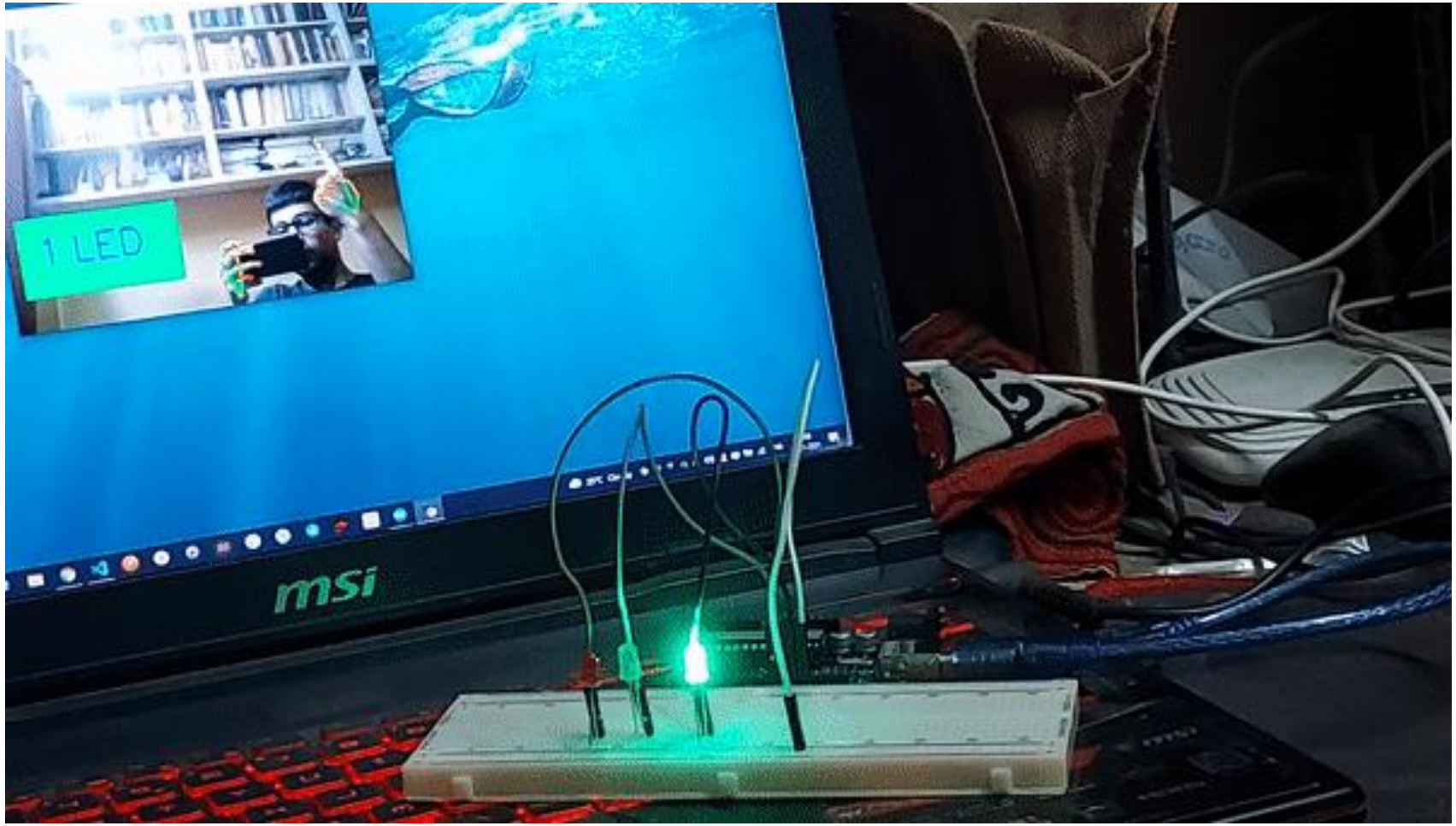
```
- pip list
```

Hardware Used:

- Arduino UNO
- Jumper Wires
- Breadboard
- LED light's - Red, Green, Yellow



DEMO VIDEO



Project Link:

Click here for GitHub Link


THANK
YOU