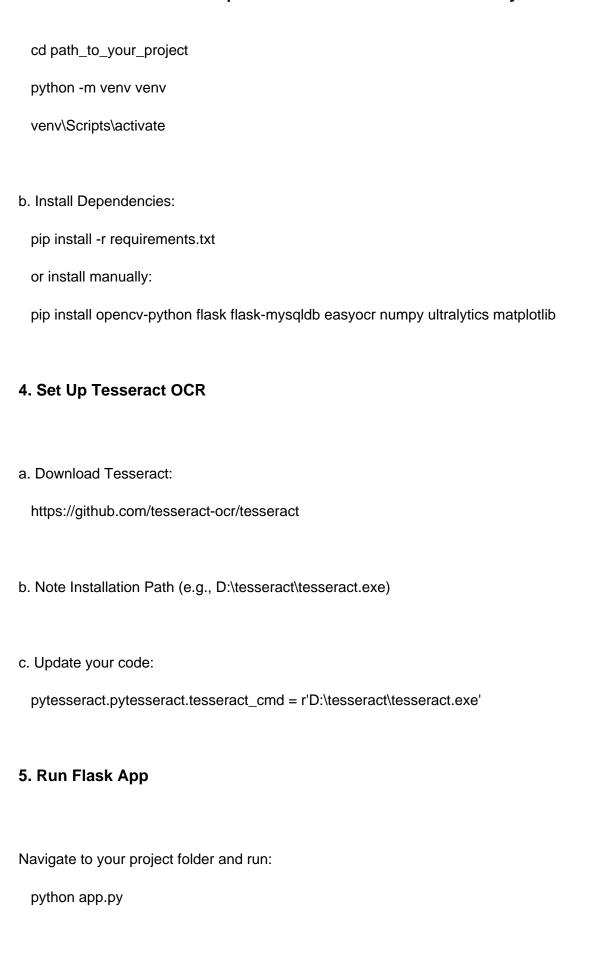# Setup Guide: Traffic Violation Detection System

## 1. Install Prerequisites

a. Install Python (v3.8 or later)

   - Download from: https://www.python.org/downloads/

   - During installation, check "Add Python to PATH"

b. Install XAMPP (for MySQL & phpMyAdmin)

   - Download from: https://www.apachefriends.org/index.html

   - Start Apache and MySQL from XAMPP Control Panel

## 2. Set Up MySQL Database

a. Open phpMyAdmin: http://localhost/phpmyadmin/

b. Create Database: Name it traffic_db

c. Import Database:

   - Select traffic_db

   - Go to Import > Choose File

   - Upload traffic_db.sql and click Go

## 3. Set Up the Python Environment

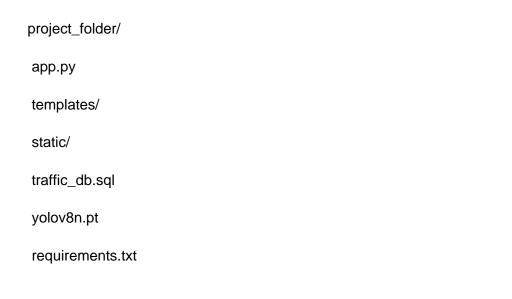a. (Optional) Create a Virtual Environment:

```
cd path_to_your_project
```

```
python -m venv venv
```

```
venv\Scripts\activate
```

b. Install Dependencies:

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

or install manually:

```
pip install opencv-python flask flask-mysqldb easyocr numpy ultralytics matplotlib
```

## 4. Set Up Tesseract OCR

a. Download Tesseract:

https://github.com/tesseract-ocr/tesseract

b. Note Installation Path (e.g., D:\tesseract\tesseract.exe)

c. Update your code:

```
pytesseract.pytesseract.tesseract_cmd = r'D:\tesseract\tesseract.exe'
```

## 5. Run Flask App

Navigate to your project folder and run:

```
python app.py
```

Visit: http://127.0.0.1:5000/

## 6. Directory Structure Checklist

project_folder/

 app.py

 templates/

 static/

 traffic_db.sql

 yolov8n.pt

 requirements.txt

## 7. Common Fixes

- MySQL Error? Check app.py credentials.

- YOLO Not Working? Ensure yolov8n.pt is present and ultralytics is installed.

- OCR Not Working? Recheck Tesseract path.