



PUBLIC CRIME DETECTION SYSTEM FOR COMMONERS IN INDIA

PROJECT PROPOSAL



Meet Our Team



Sutharsan.V
Testing lead



Barath Balaji
Team Lead



Nishanth.D
Developer

Objective

- To implement a fully embedded Crime detection system using OpenCV.
- To make the project in low budget and as user friendly.
- To make the project to work on all situations and environment.



Cybercrime police clamp down on violations against children

MISSING SOCIAL MEDIA Experts say many do not know what content would land them in trouble



ABOUT THE ACT
Section 69 of Cyber Crime Act
Section 69A of Cyber Crime Act
Section 69B of Cyber Crime Act
WHAT IS IT?
It often goes very easily. The police have arrested the person who sent the message and the victim has been identified.

CRIMES ON PHONES
Cyberstalking, Harassment, Bullying, Harassment, and intimacy on Internet.

TOO MUCH TEXTING A 'RED FLAG' TXT 2 MUCH?

TEXT-MESSAGE MURDER

MURDER

Harassment

cyberbullies hig. Cyberstalking Tough killing Emails

cell use

stop

text message

ashamed

E-mail

Study: Tech innovation spurs sleep deprivation

Online meanness pervasive

Teens still misinformed about textine's dangers

cyberterrorist

This multime

meltdown is s

not entertain

right to dissent a core principle of democracy

right to dissent a core principle of democracy

Smartphones teen sexting

phone use

phone laws

principal text scandal

smartphone

Email breach sparks worries ONLY

for WikiLeaks

Distracted driving an 'epidemic'

'Sextortion' of teens on rise

Technology | Nude photos on Web lead to online blackmail

Keep security in mind on Cyber Monday

Hackers access Nasdaq sys

Can LOL still be cool

On Social Netw

Concern Over S

Of Under-Age U

Technology? Message Cellphones in school

Theft: smart phones 'A weird thing'

Wiki

On Social Netw

cern Over the Safety If you're texting, let your

in the walking

DAILY FROM: AHMEDABAD, CHANDIGARH, DELHI, JAIPUR, KOLKATA, LUCKNOW, MUMBAI, BHUBANESWAR, PUNE, VADODARA

LAW COP SAME DAY

in play leaves teen dead murder

family mourns teen sexually abusing student

charged in 2 rapes

BANK SHOOTOUT

CRIME SOARS

bloody day

Man slain

slain living ugly

death

5'S DEATH

ED HOMICIDE

KILLING

Going to hell in a handbasket

Stabbings

A WORLD SO CRUEL' REPEATED

13-YEAR-OLD

BOY SHOT AGAIN

Anti-violence message is lost on thug element

mom killed crimes

Stain student

9 dead after workplace

as neighbors watch, Fear of crime

80 YEARS FOR BOY'S MURDER

KILLED ARREST MADE COPS' MURDER

OMG, Late-night texting slows kids the next day but...
phones: Distracted driving an 'epidemic'
cyberstalking
TOO MUCH TEXTING A 'RED FLAG' TXT 2 MUCH?

harassment
killing
Emails
cyberbullies hig. Cyberstalking Tough

Harassment victims
awkward, creepy' texts

TEXT-MESSAGE MURDER

ashamed

E-mail

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DAILY FROM: AHMEDABAD, CHANDIGARH, DELHI, JAIPUR, KOLKATA, LUCKNOW, MUMBAI, BHUBANESWAR, PUNE, VADODARA

YOU NEED 100-110 MARKS TO CLEAR PRELIMS

WE HAVE ALWAYS DELIVERED 150+ MARKS

We have Delivered

77 Qs

In UPSC CS Prelims 2019

75 Qs

In IIT-JEE 2019

75 Qs

In NEET 2019

75 Qs

In JEE Advanced 2019

75 Qs

In IIT-JEE 2019

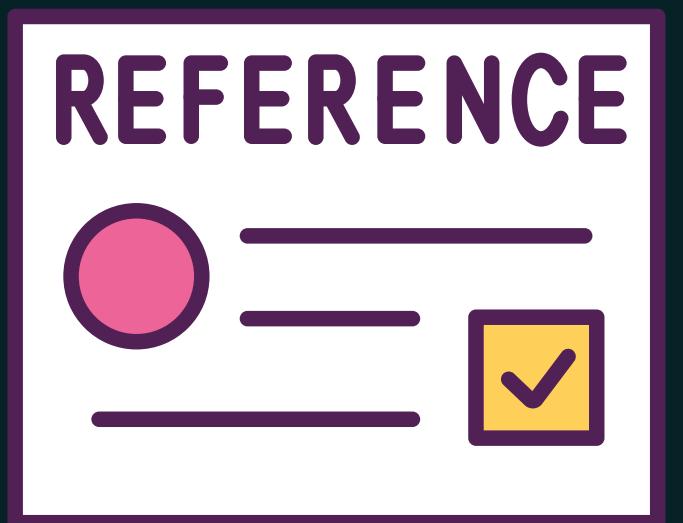
Abstract

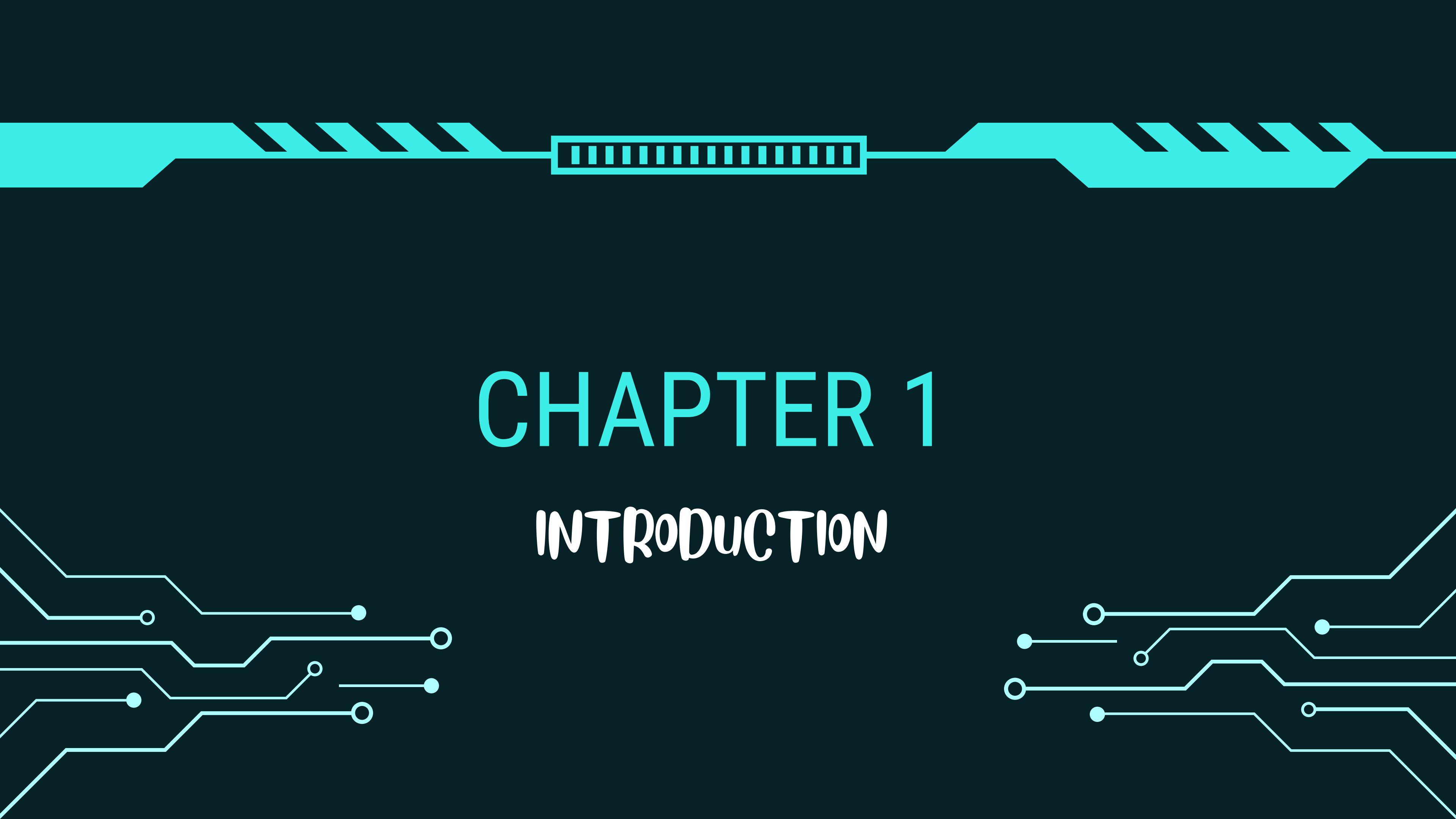


- Crime detection system using OpenCV, and AI is an innovative solution to overcome and solve numerous crimes happening in and around us. This project helps to identify the culprit in fraction of seconds using AI and OpenCV. .
- This project will consist of all the tools and applications needed for each scenario like house robbery, Bike theft, etc. The input is given as image data using real time web cam.The input is given as image data using real time web cam.The technologies used in this project is OpenCV ,AI, ML, Neural Networks (Media pipe).

References

1. Online att system - <https://www.ijert.org/research/online-attendance-system-IJERTCONV5IS09052.pdf>
2. Face detection system -
<https://arxiv.org/ftp/arxiv/papers/1901/1901.02452.pdf>





CHAPTER 1

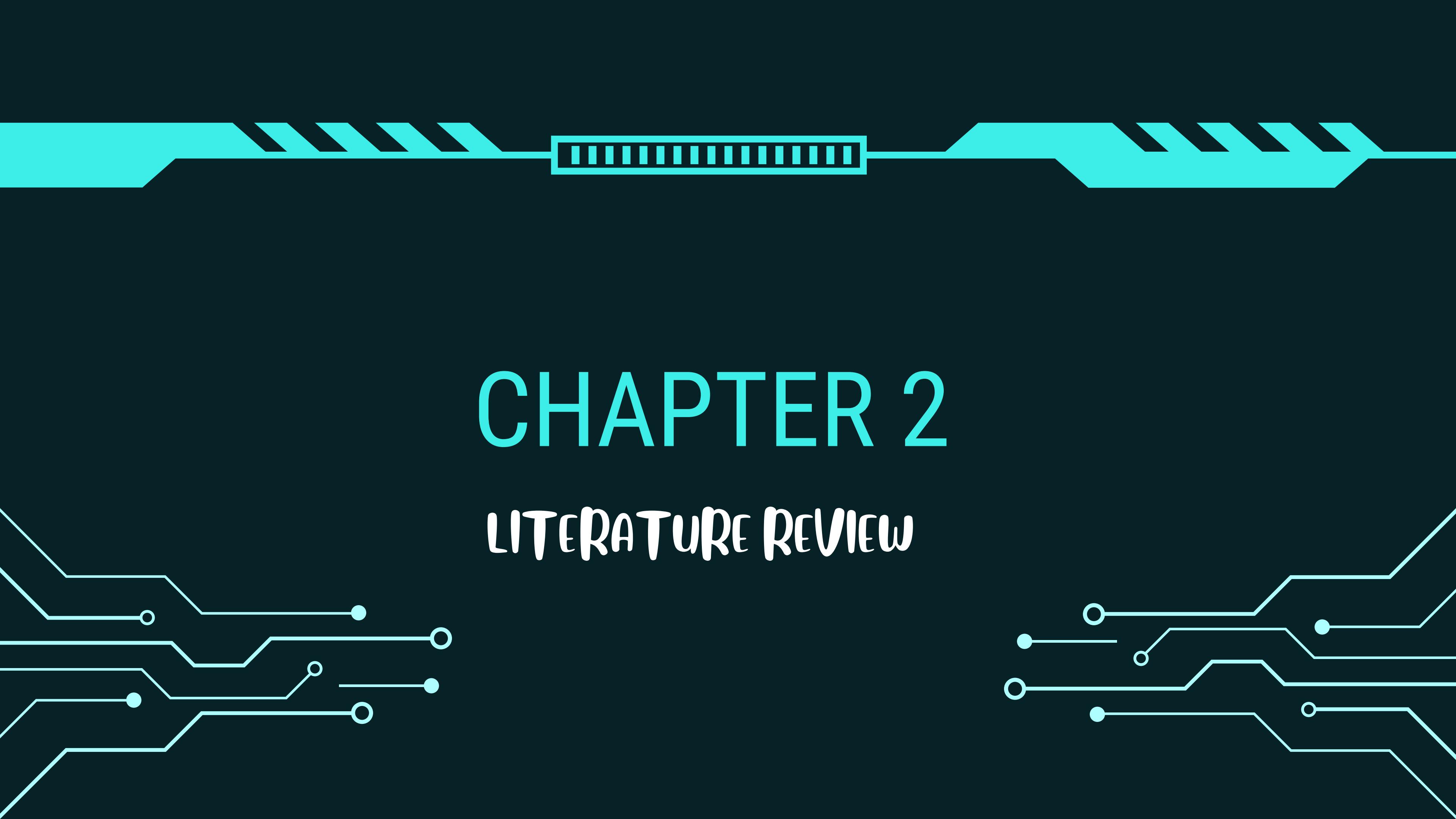
INTRODUCTION

Introduction

Many surveillance cameras have been installed in stations, commercial facilities, and city areas to deter crime. However, as the number of cameras increases, the volume of video data has also become massive.

These basic actions can be recognized with an average accuracy of 90 percent or more. The proposed Crime Detection System using OpenCV and AI involves detecting movements and identifying the person's face using computer vision.



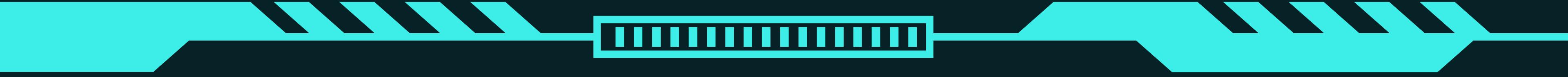


CHAPTER 2

LITERATURE REVIEW

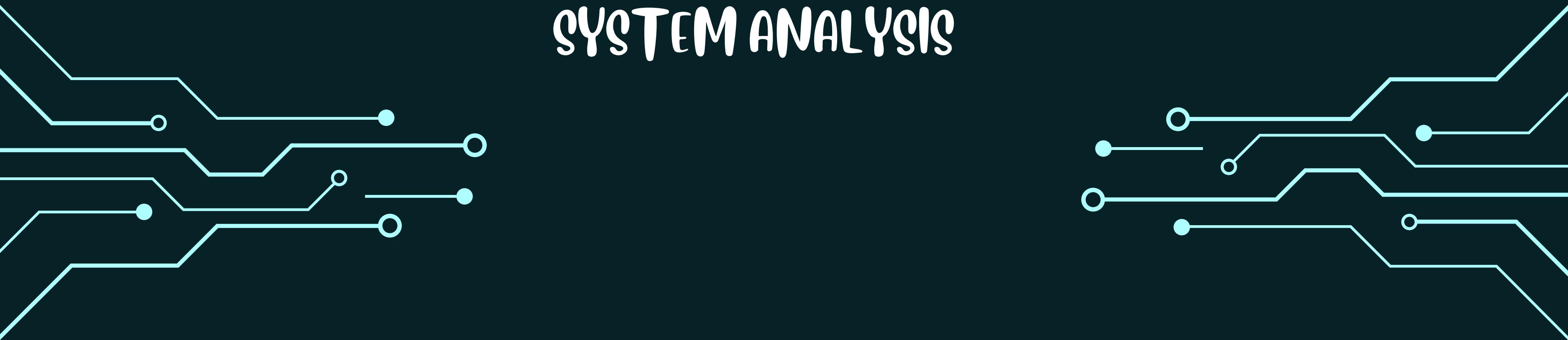
S.NO	TITLE	AUTHOR	PROPOSAL
1.	A Survey on Crime Occurrence Detection and prediction Techniques,	Shruti S.Gosavi, Shraddha S. Kavathekar,	predicting crime hotspots is a very important task also applying post-processing will help in lowering the rate of crimes
2.	Analysis for crime prevention using ICT,	Yulihño Ochante-Huamaccto, Francis Robles-Delgado, Michael Cabanillas-Carbonell	a systemic analysis was carried out to determine the importance of how to prevent crime using new information technologies
3.	Theoretical and Empirical Analysis of Crime Data,	Manisha Mudgal, Deepika Punj and Anuradha Pillai,	This paper describes the summary of the different methods and techniques used to identify, analyze and predict upcoming and present crimes.
4.	Crime prediction and intrusion detection with iot and machine learning,	Anirudh Kumar Tiwari Prof.(Dr.) Bhavana Narain	We have taken a condition that if any person is going somewhere and after seeing an accident, when the photo of that accident is taken then automatically it will be sent to nearest police Station.
5.	Crime Detection Technique Using Data Mining and K-Means,	Khushabu A. Bokde, Tiksha P. Kakade, Dnyaneshwari S. Tumsare	The main objective of this paper is to classify clustered crimes based on occurrence frequency during different years

S.NO	TITLE	AUTHOR	PROPOSAL
1.	Criminal face detection system,	shiva tamrkar	This project aims to build a automated Criminal Face Detection system by levering the human ability to recall minute facial details
2.	Empirical Analysis for Crime Prediction and Forecasting	Wajiha safat , Sohail asghar, Saira andleeb gillani	Despite considerable research efforts, yet there is a need to have a better predictive algorithm, which direct police patrols toward criminal activities.
3.	Survey on crime analysis and prediction using data mining techniques	H. Benjamin Fredrick David and A. Suruliandi	Many approaches for analysis and prediction in data mining had been performed. But, many few efforts has made in the criminology field.
4.	survey on video surveillance crime activity recognition	K Kishore Kumar	This survey is useful to improve the crime detection techniques using video surveillance. Moreover, it is a useful tool to gather information
5.	Literature Survey on Criminal Identification	Akshay Rathod, , Rushikesh Sawant, Ashish Choudhary	In this paper, literature survey of crime analysis using DBSCAN clustering on crime dataset is done.



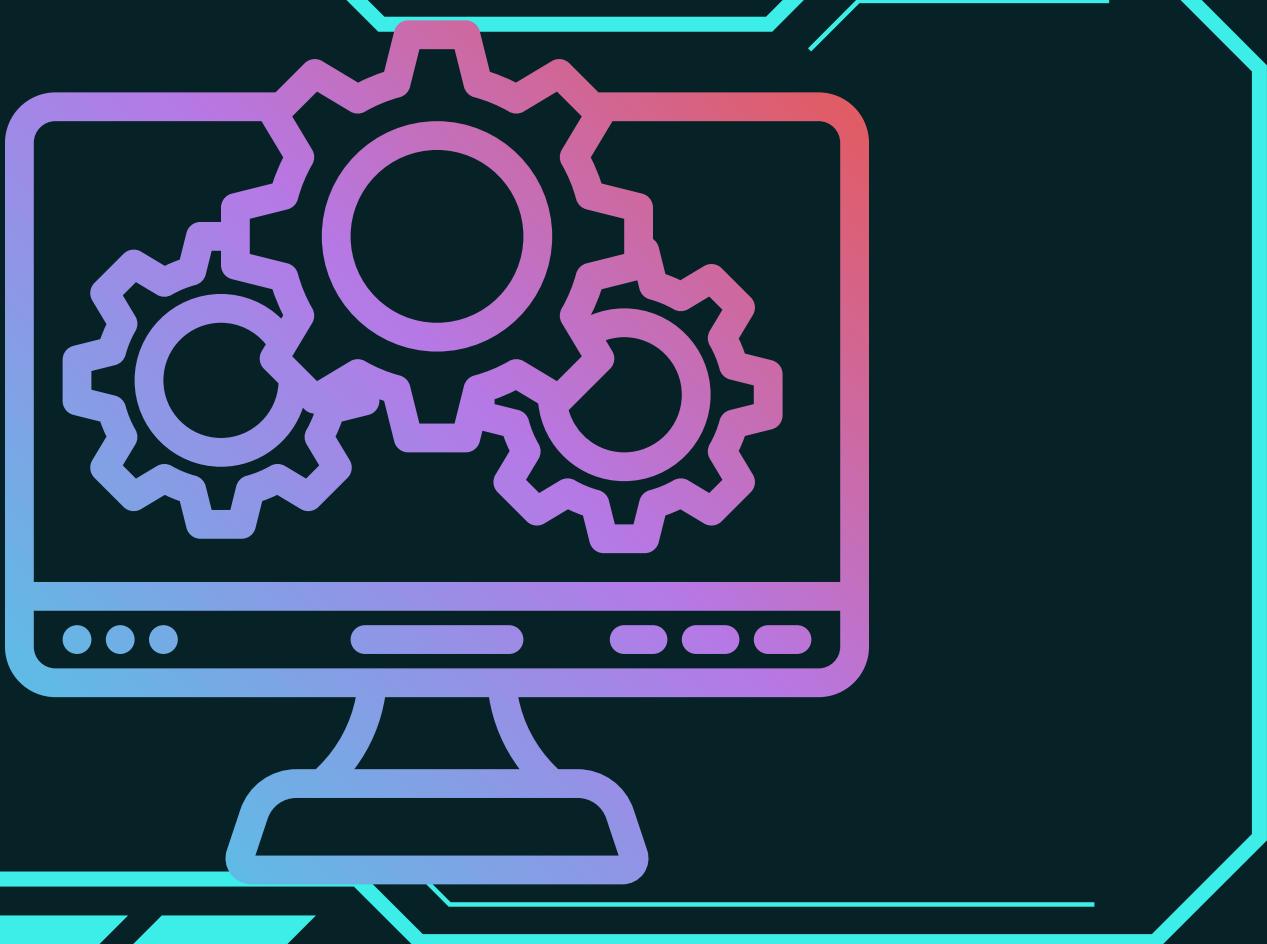
CHAPTER 3

SYSTEM ANALYSIS



SYSTEM ANALYSIS

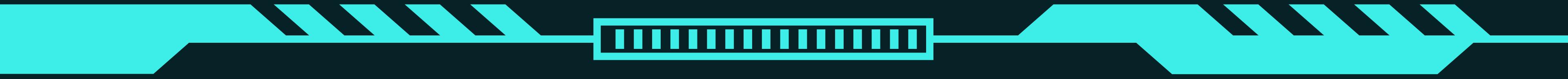
It is evident from the research of the existing systems that there is a need for advanced and most feasible version for the crime detection system. The solutions which are currently available may provide a wide area of knowledge and satisfy the urgent needs of people. It's to be believed that the current technologies have multiple tech solutions enabled which can be challenging . Python has been proven to implement latest technologies with the help of modules such as OpenCV for crime detection. Python's easy to understand code complexity and inbuilt modules makes it a feasible choice for programmers. Imbibing the likes of HTML,CSS & BOOTSTRAP, provides users a platform for accessing our application using website.



Advantages

- Enabling the project with Python improves Productivity and increases Versatility
- ADABOOST algorithm reduces the time complexity of the process.
- Highly accurate
- Provides high security with alarms



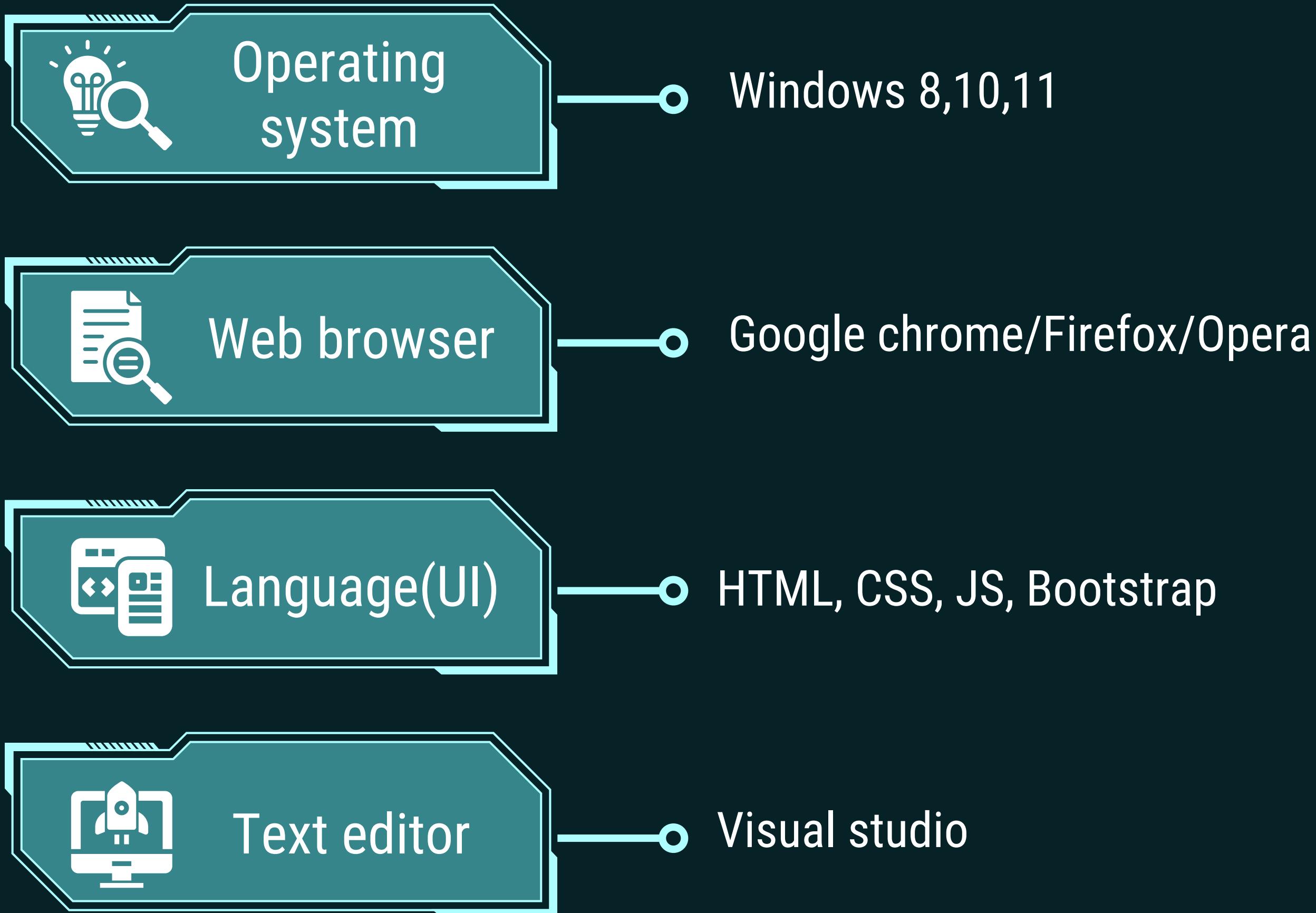


CHAPTER 4

SYSTEM REQUIREMENTS



SYSTEM REQUIREMENTS



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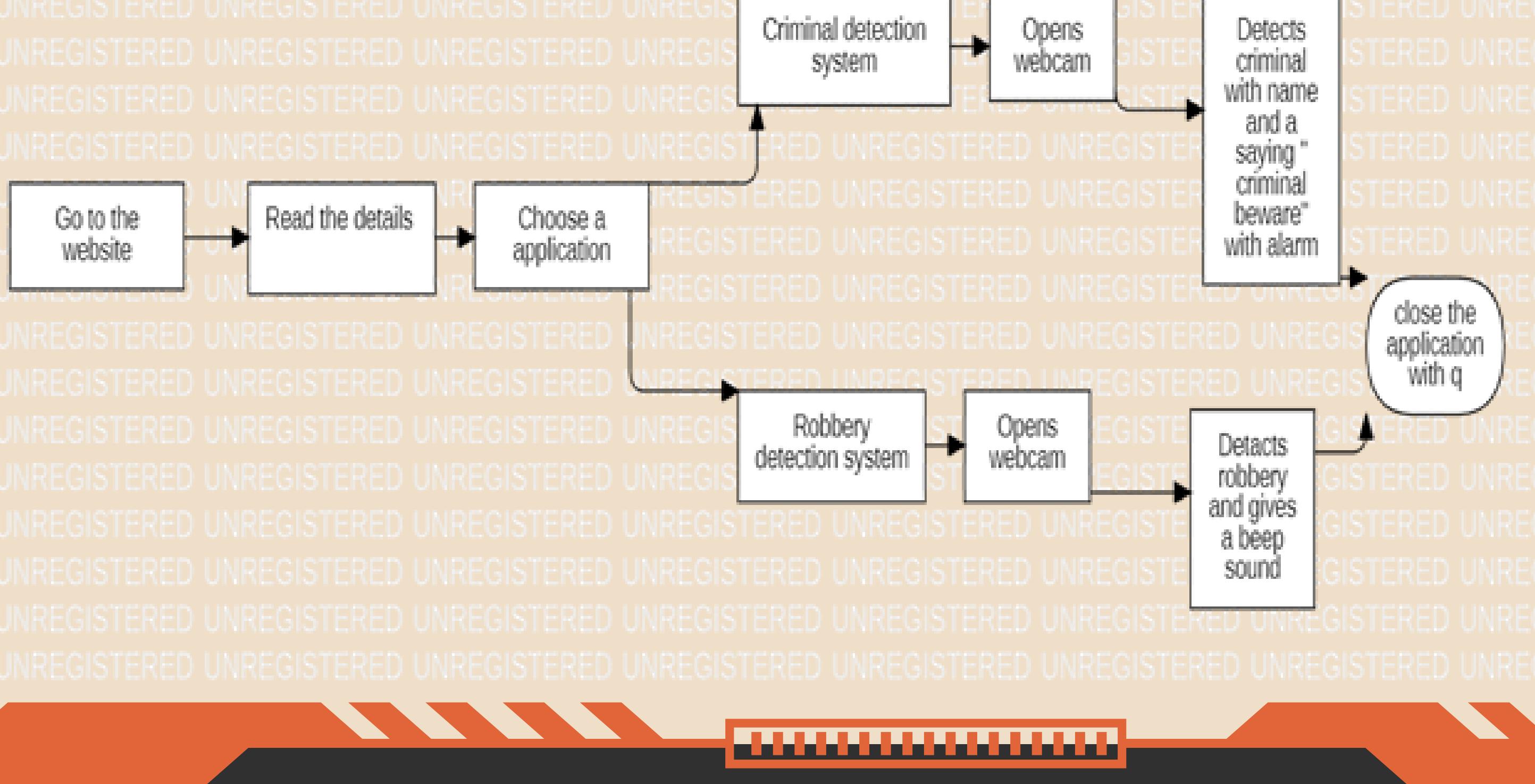
-  Processor INTEL CORE I7 - 7th GEN or HIGHER
-  Processor speed Min 1ghz, recommended 2ghz or more
-  Camera 1.3 MP or higher
-  Memory(RAM) Min 8GB, recommended 8GB or above



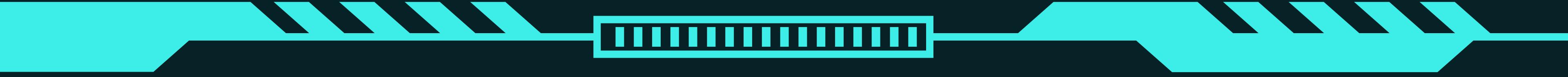
CHAPTER 5

ARCHITECTURE DIAGRAM





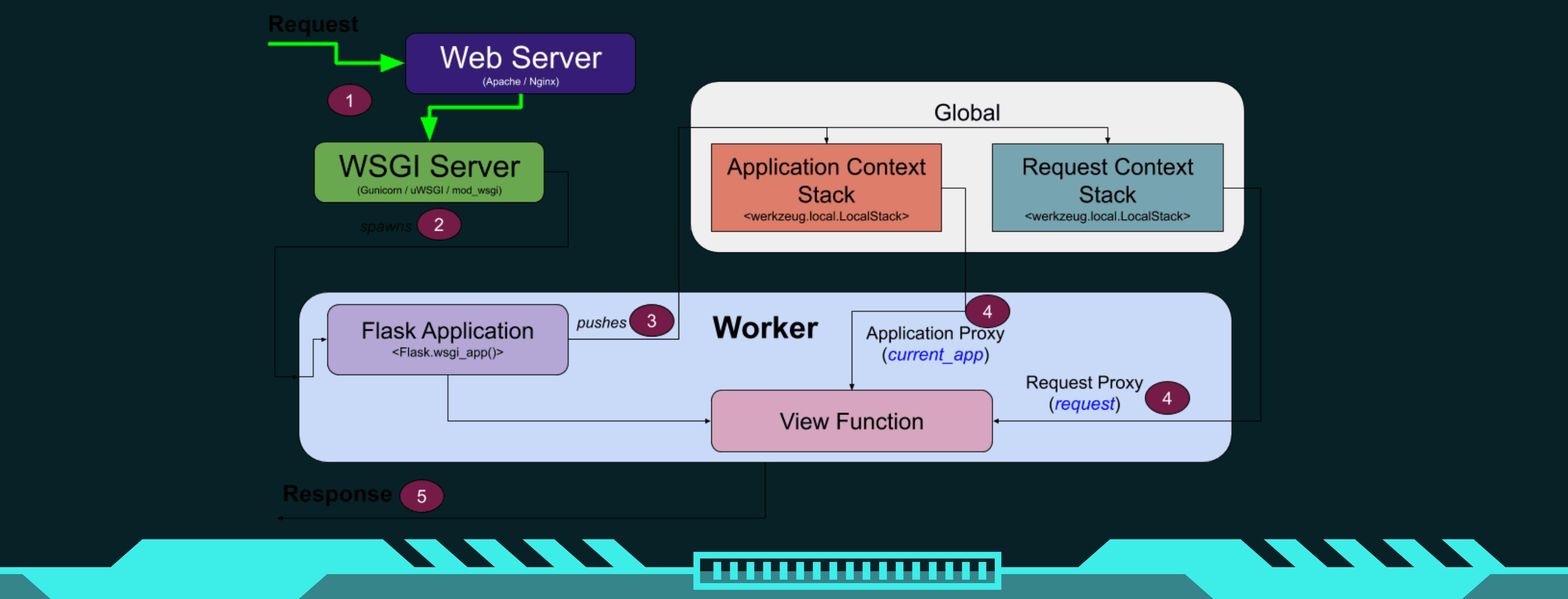
Architecture diagram



CHAPTER 6

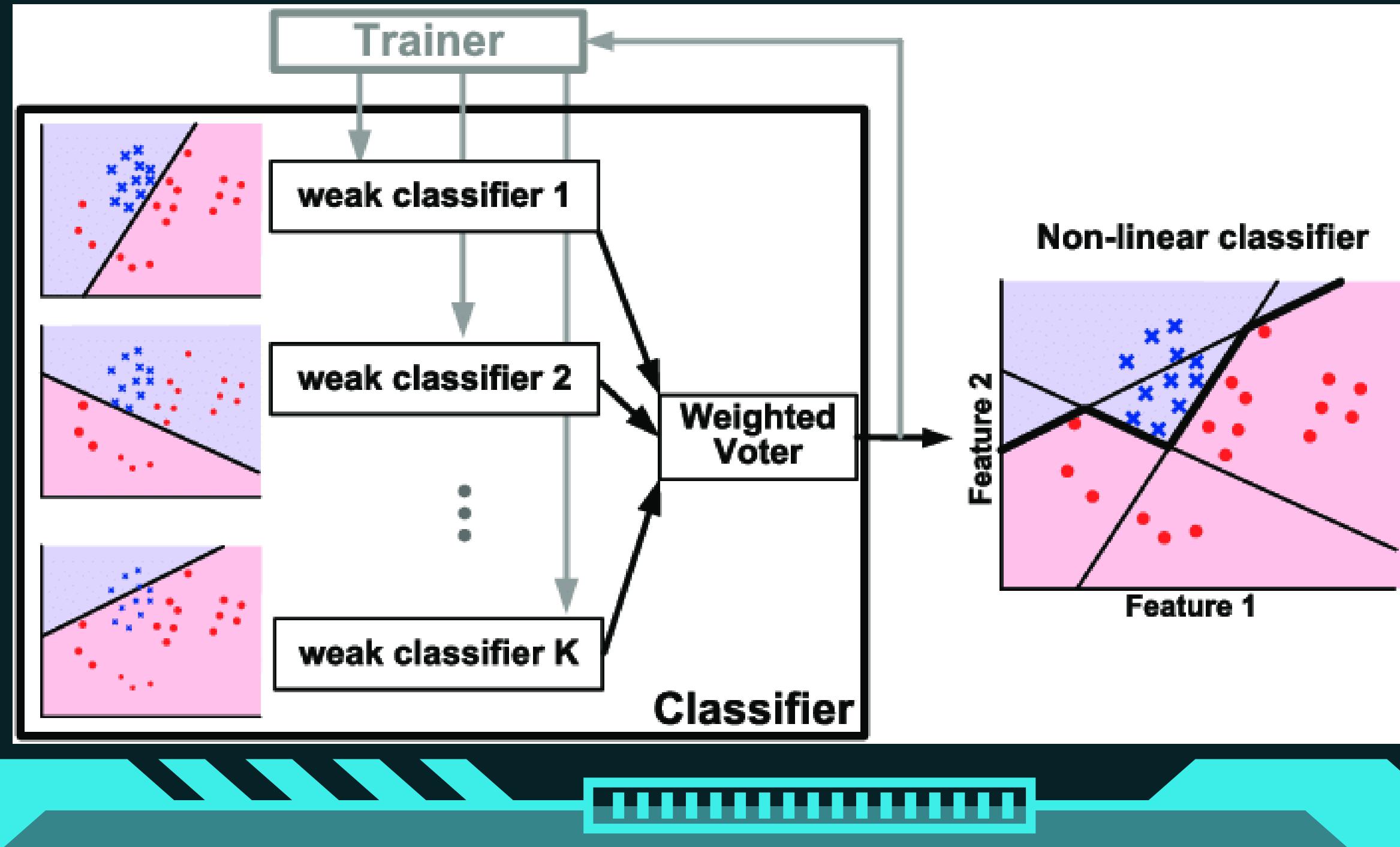
SYSTEM MODULES





Flask module

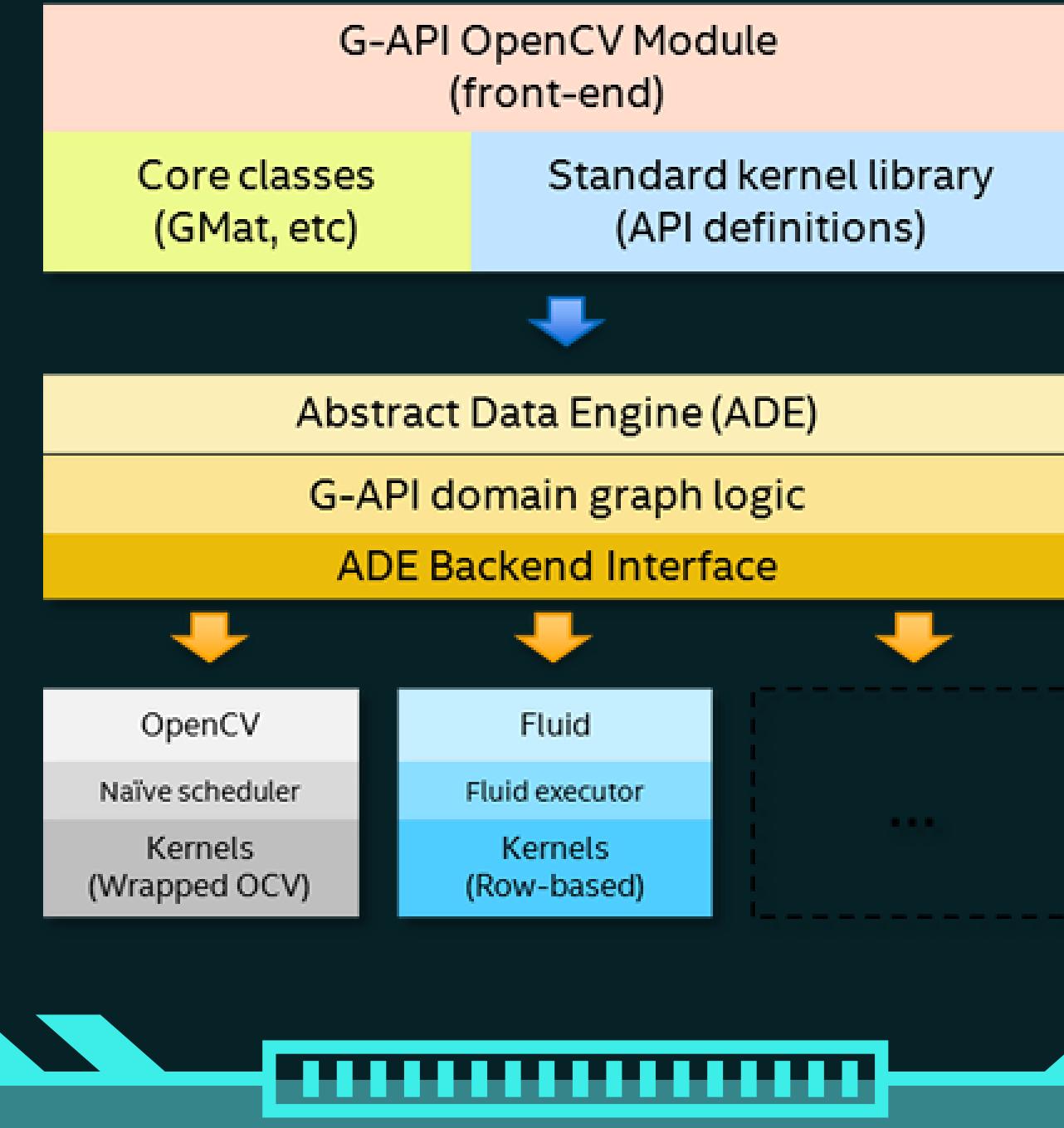
The data is received by python application and the data is analyzed respective to the purpose of the application. The further process will be taken care of GET and POST requests simultaneously. GET request is used to collect the input from the user.



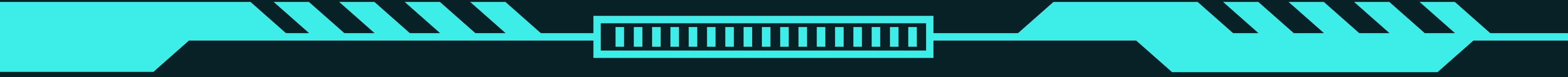
ADABOOST MODULE

This algorithm has a preprogrammed trainer inbuilt with weak classifiers. The weak classifiers help to classify the images in the application. It's a supervised learning and it has already pre trained data inserted. OpenCV has a module named HAAR Cascade classifier. ADABOOST is hidden under HAAR cascade classifier. The HAAR cascade is a powerful algorithm which uses edge or line detection to detect the face

OPEN CV MODULE



Open CV is a python module which is used in applications which uses face comparisons. OpenCV has a front end of G-API OpenCV Module. The front end uses Core classes of GMat and standard kernel library of API definitions. The data is sent to abstract data engine (ADE). The data is than analyzed using G-API domain graph logic and ADE Backend interface.



CHAPTER 7

IMPLEMENTATION



Steps for implementation

Create virtual environment and implement flask.

Create robbery detection system.

Create criminal detection system

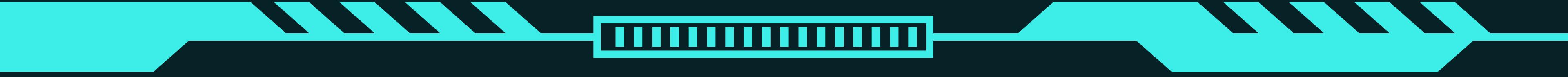
Implementation of flask.

Create UI

Create landing page

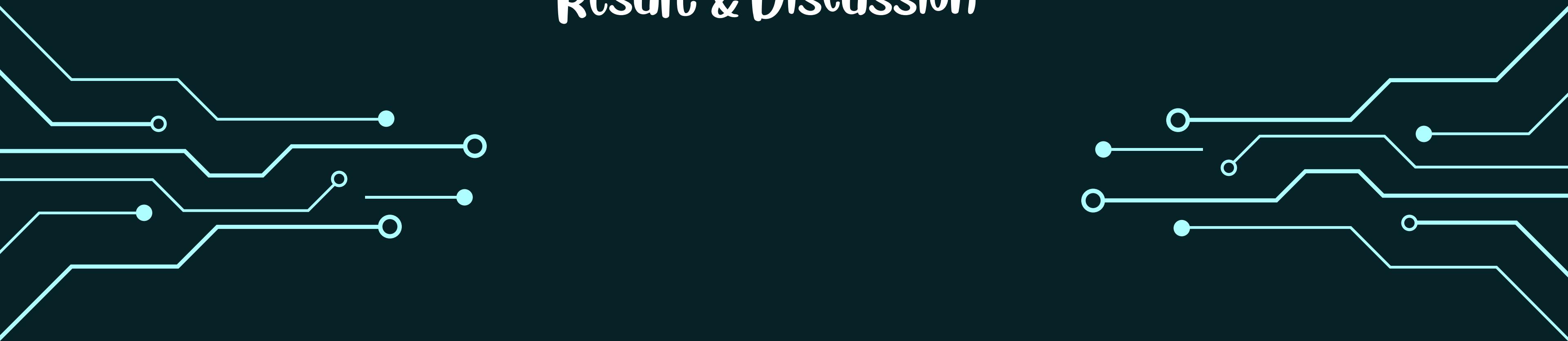
Create database

Deploying the system in python anywhere



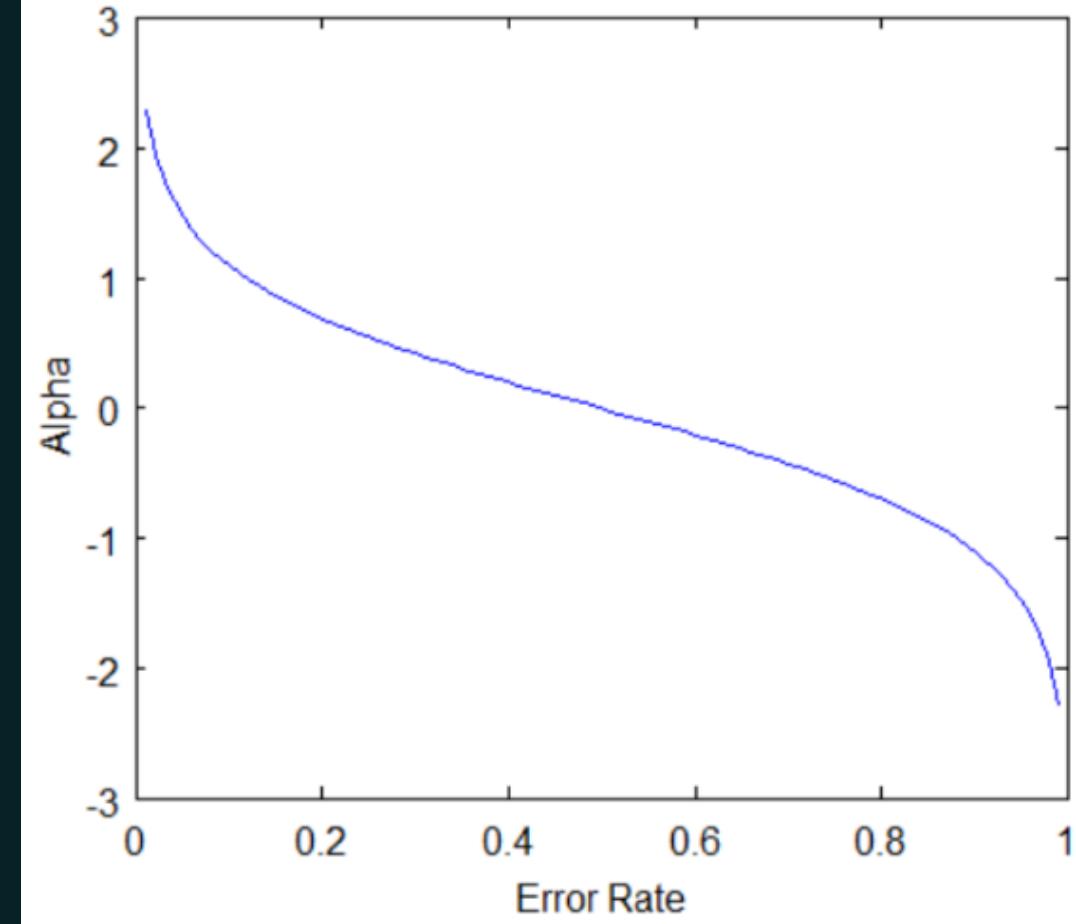
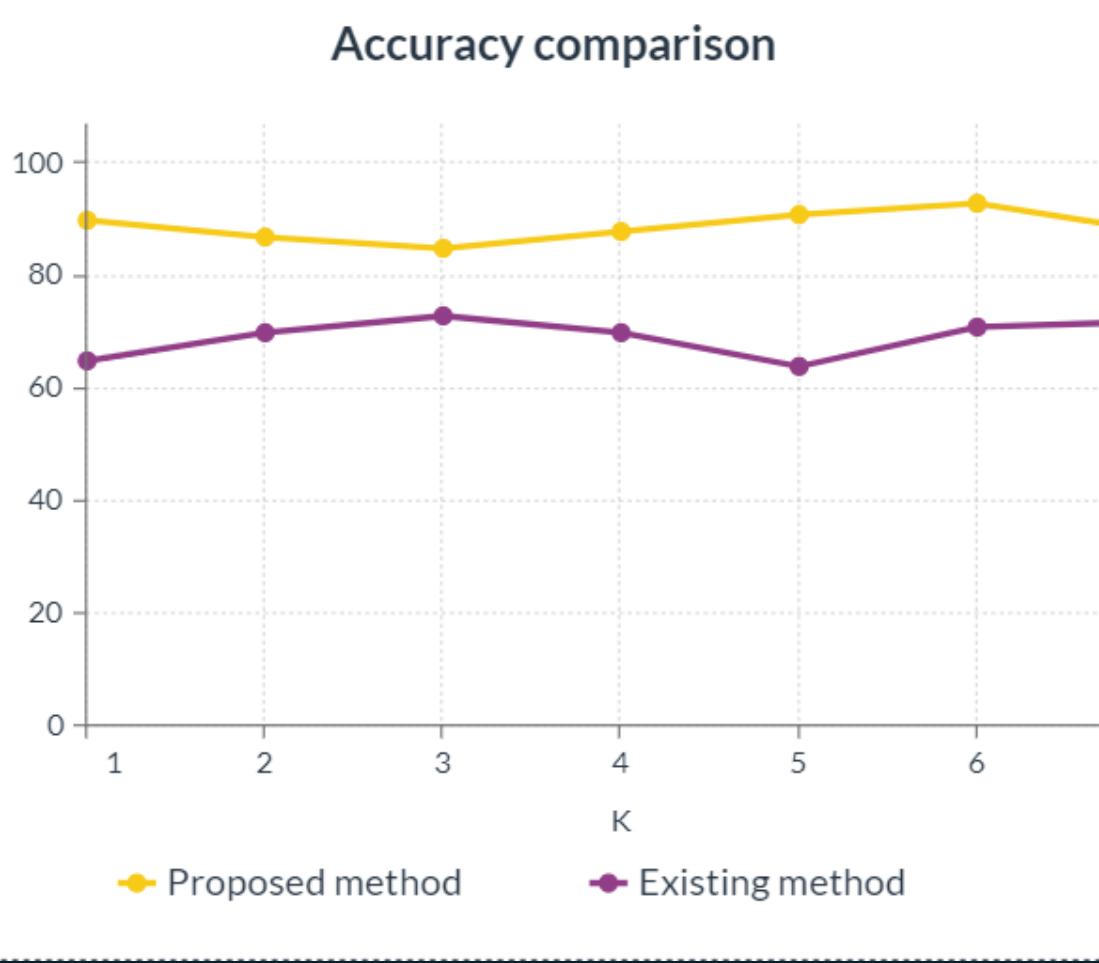
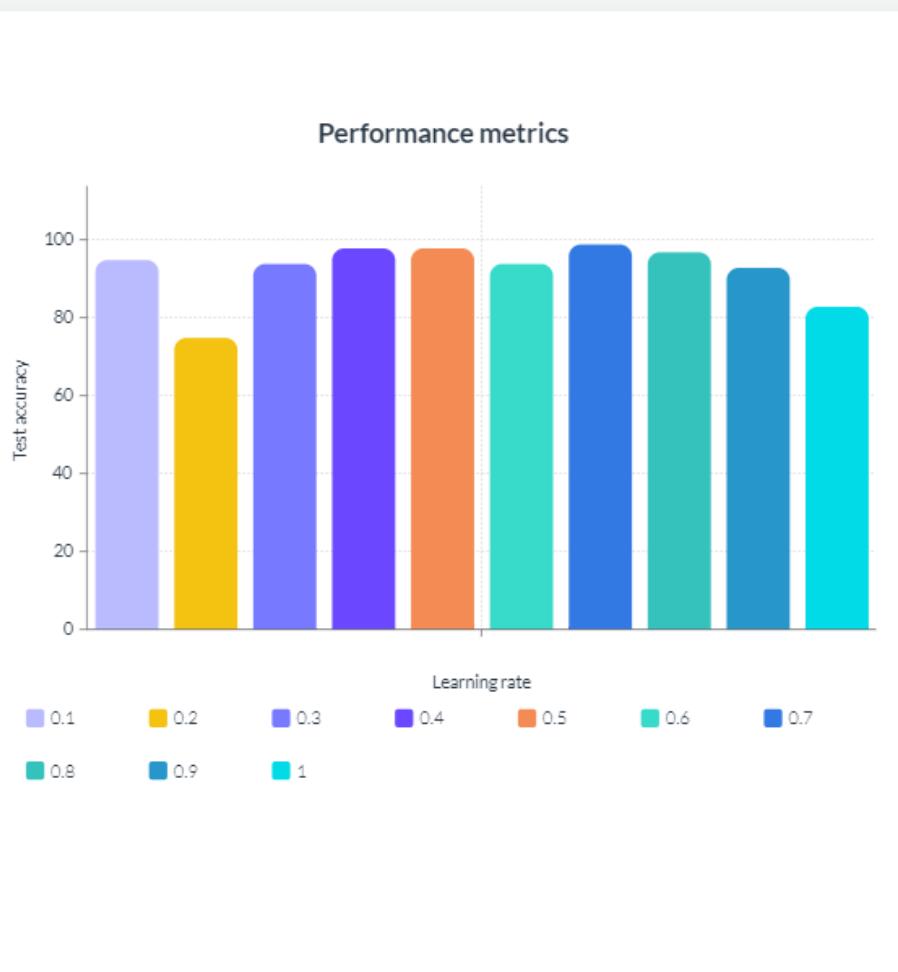
CHAPTER 8

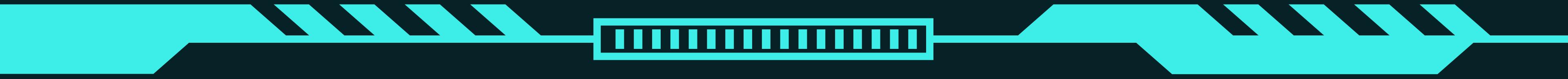
Result & Discussion



Data analysis

Ada boost Classifier algorithm combines weak classifier algorithms to create a strong classifier. The accuracy rate of this algorithm will be high when comparing to other algorithms. After training a classifier at any level the Adaboost algorithm assigns weight to each classifier based on accuracy to categorize the classifier into weak and strong.





CHAPTER 9

Conclusion

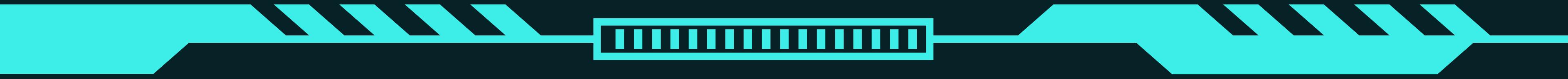


Conclusion



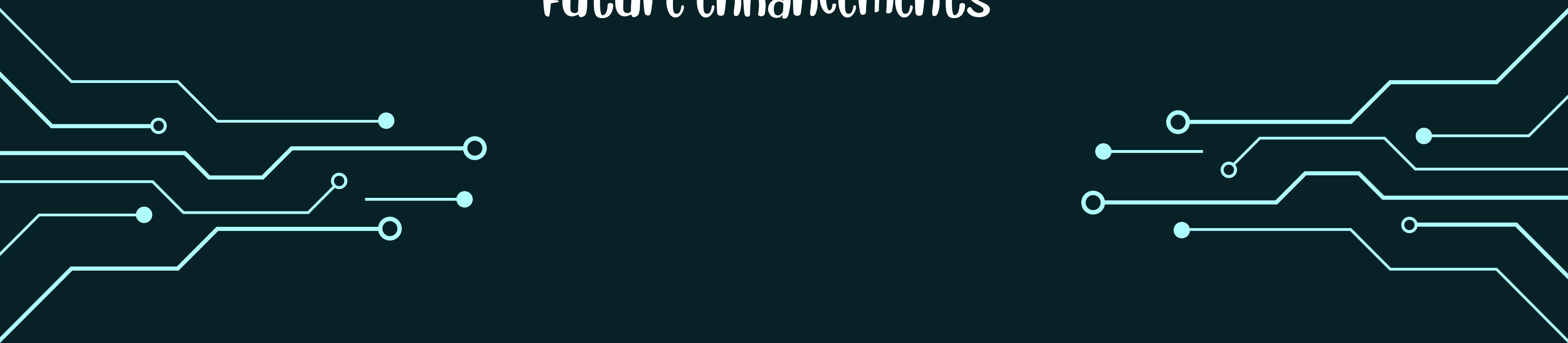
CONCLUSION

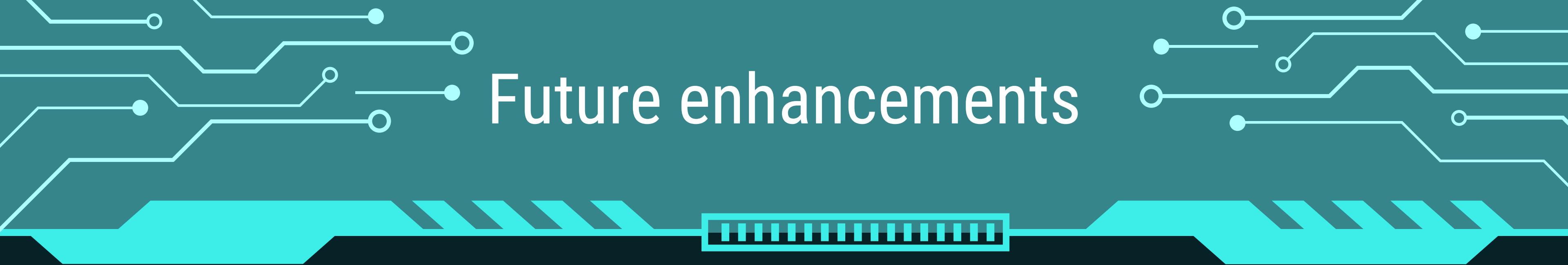
The public crime detection system for commoners helps all kind of public in residential areas and in public places too. This system is highly effective and gears the nation security above the existing systems. This system is also easy to maintain, and it gives an ease of access to all the users. This paper explains about the deployment of criminal detection system, Modules integrations, Webcam integrations and much more. This is a very useful project as it can protect our homes and nation. The website is quick responsive, fast, and feasible.



CHAPTER 10

Future enhancements



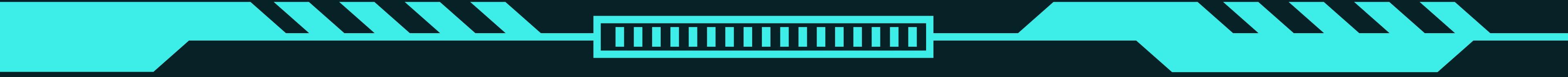


Future enhancements



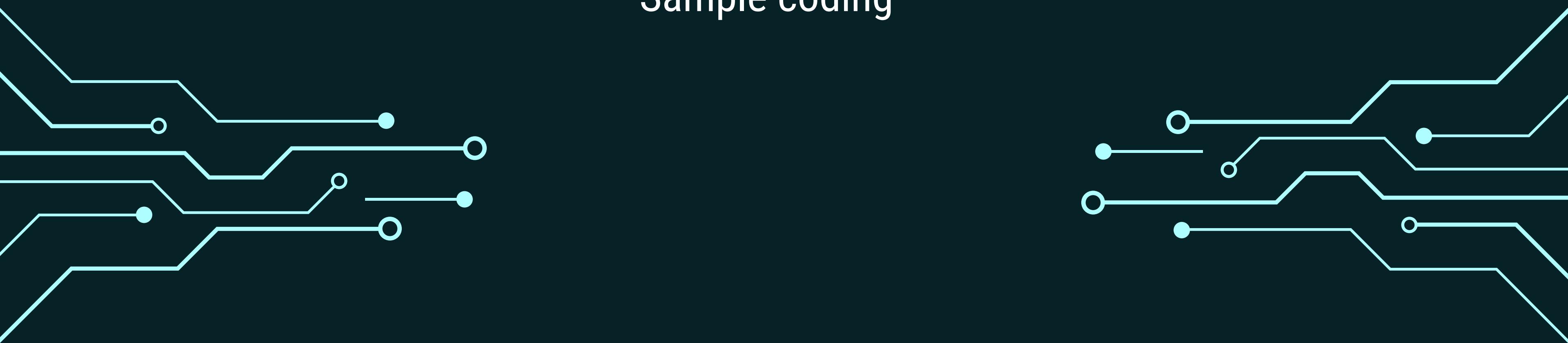
Future enhancements

- The addition of systems like bike theft detection system, Pickpocket detection system, etc. will be the enhancements for this project.
- Advanced machine learning algorithms will be implemented to reinforce accurate predictions.
- The system will be reinforcing with certain advanced optimization techniques to improve speed and reduce page loading time.
- The ease of access will be improved



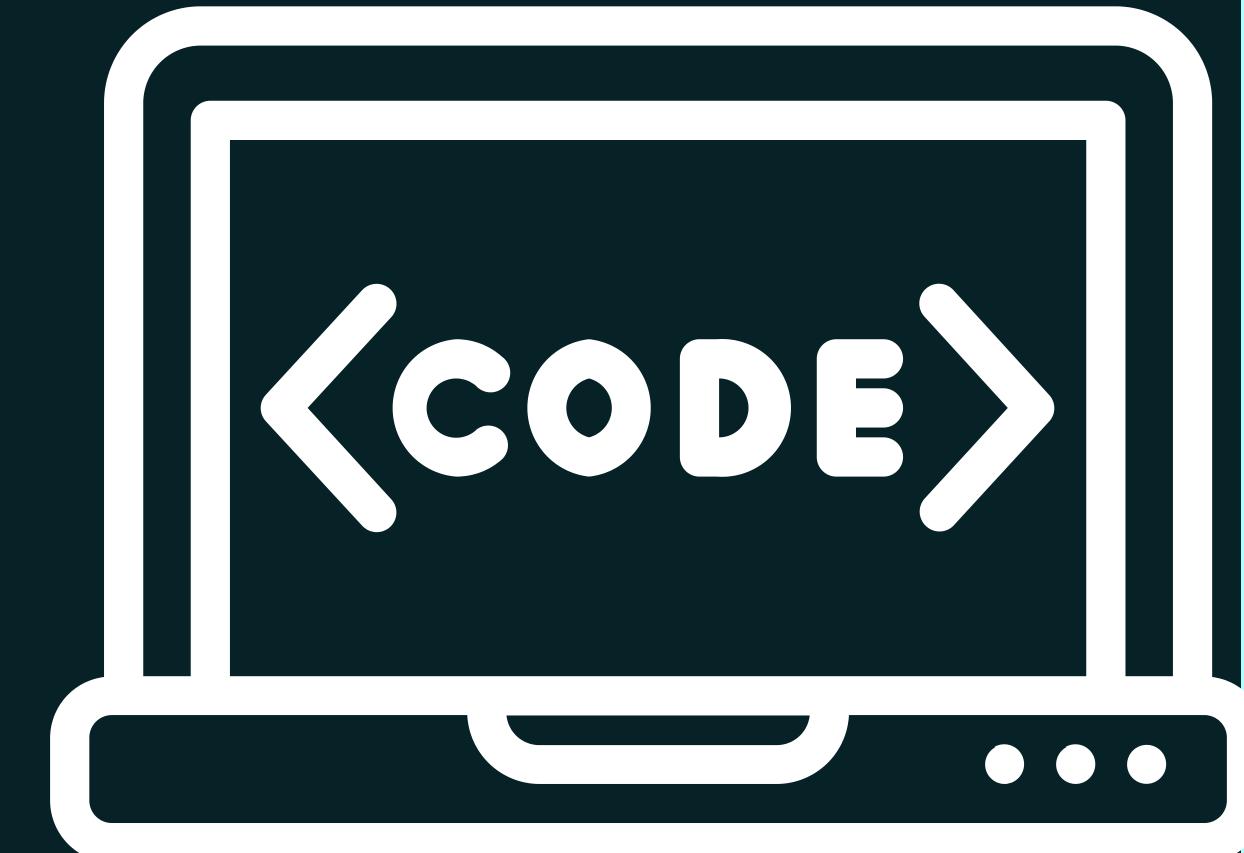
APPENDIX 1

Sample coding



Coding implementation

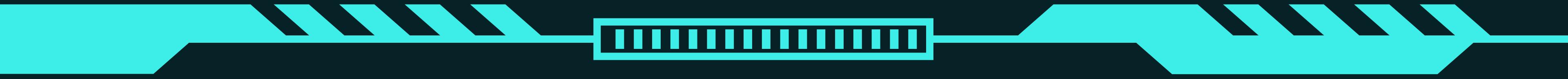
- The code is entirely coded by python.
- The packages termed as flask, openCV has been implemented.
- The frontend is coded using html,css,js,bootstrap,etc.



The screenshot shows a Visual Studio Code interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Title Bar:** main.py - Robbery detector - Visual Studio Code.
- Left Sidebar:** Icons for File, Find, Replace, Open, Save, Undo, Redo, Copy, Paste, Find in Files, Open Recent, and Settings.
- Editor Area:** The main workspace displays the Python script `main.py`. The code implements a face recognition system using OpenCV, Flask, and other libraries. It includes functions for loading images, finding encodings, and defining a face detection function.
- Status Bar:** Shows line 81, column 10, spaces: 4, encoding: UTF-8, file type: CRLF, language: Python, version: 3.9.1.
- Bottom Icons:** Icons for Windows Start, Task View, File Explorer, Mail, Photos, Google Chrome, Word, and VS Code settings.

```
1  from pickle import FALSE
2  import cv2
3  import numpy as np
4  import os
5  import face_recognition
6  from datetime import datetime
7  import speech_recognition as sr
8  import pytsx3
9  import win32api
10 import random
11 import pythoncom
12 from flask import Flask, render_template,request
13 pythoncom.CoInitialize()
14 app=Flask(__name__)
15 face_cascade = cv2.CascadeClassifier(cv2.data.haarcascades +'haarcascade_frontalface_default.xml')
16
17
18 def fa():
19     i=0
20     path = 'ImagesAttendance'
21     images = []
22     classNames = []
23     myList = os.listdir(path)
24     print(myList)
25     for cl in myList:
26         curImg = cv2.imread(f'{path}/{cl}')
27         images.append(curImg)
28         classNames.append(os.path.splitext(cl)[0])
29         print(classNames)
30     def findEncodings(images):
```



APPENDIX 2

Sample output



CYBERSPY

OUR OFFICE
Dept of IT, SRM IST,Ramapuram.Chennai

EMAIL US
cyberspy@gmail.com

YOUR SAFETY, OUR EFFORTS

BEST DETECTION SYSTEM

PROFESSIONAL TEAM

We, IT Team from SRM University having team figure as 7. We are working in great spirit for your safety.

CUTTING EDGE TECHNOLOGY

Cyberspy is made of OpenCV 5.0 and AI with integration of ADABOOST algorithm using the mastermind python 5.0.

24/7 WORKING

Dont worry... Cyberspy will protect the nation and home

CLICK THE BELOW IMAGES TO SEE THE APP IN ACTION

After clicking there will be a window popping in your start bar..open the window and use it...😊

Kindly note that the start of the application will take time to detect the camera...Be patient to witness the magic.😊😊

CYBERSPY

OUR TEAM

3

300

HAPPY CUSTOMERS

2

APPLICATIONS INSTALLED

4.5

RATINGS

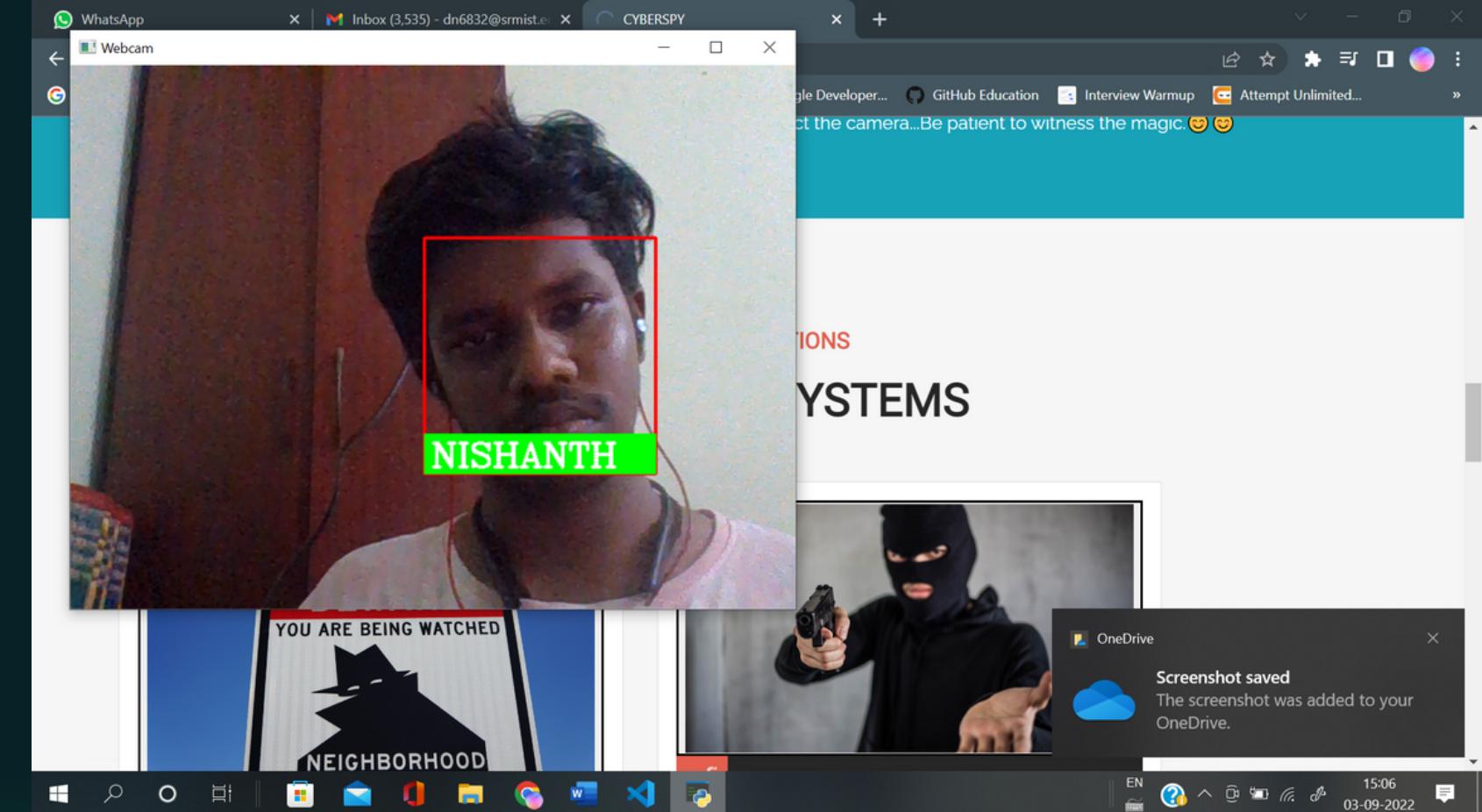
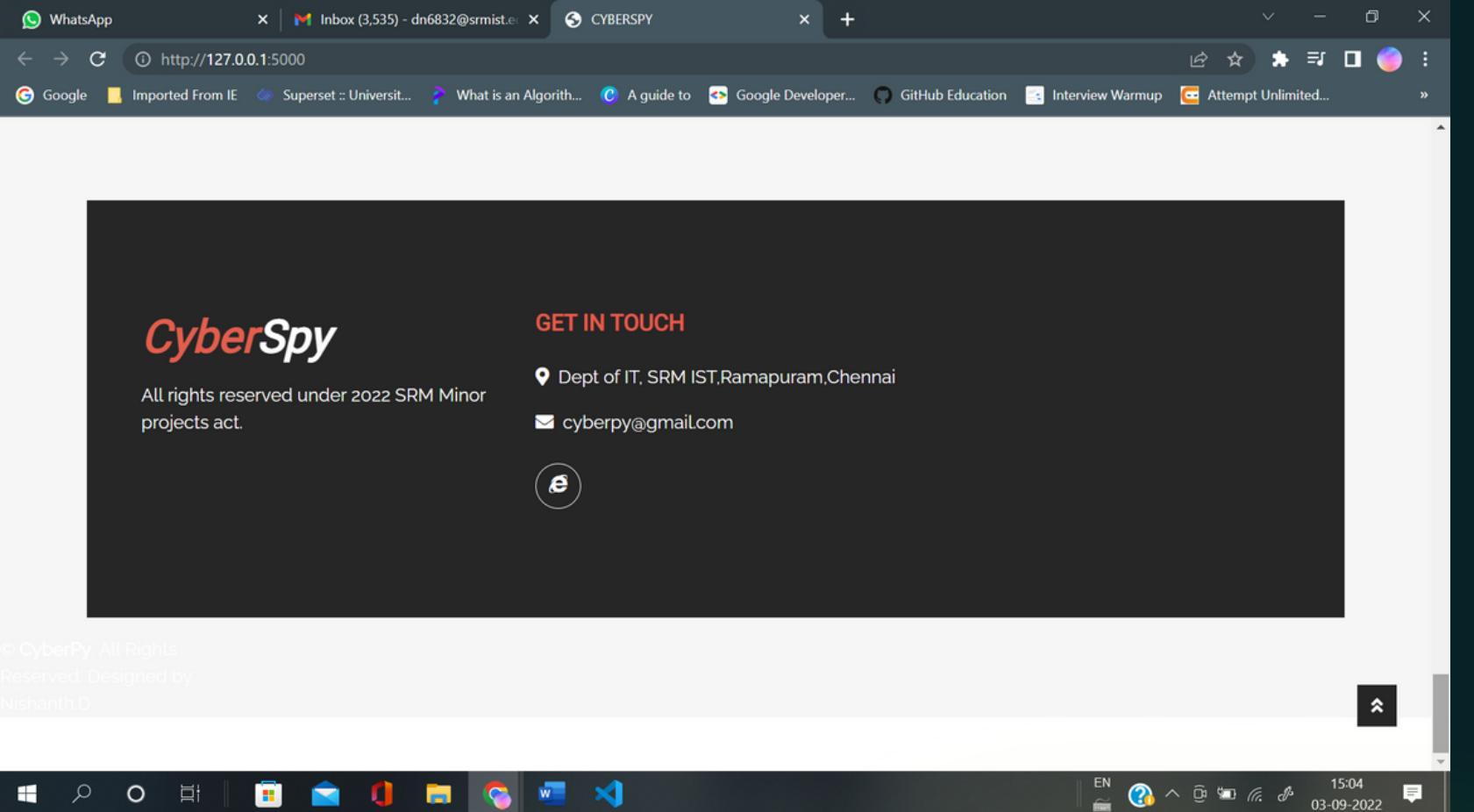
OUR WARRIOR

MEET OUR TEAM

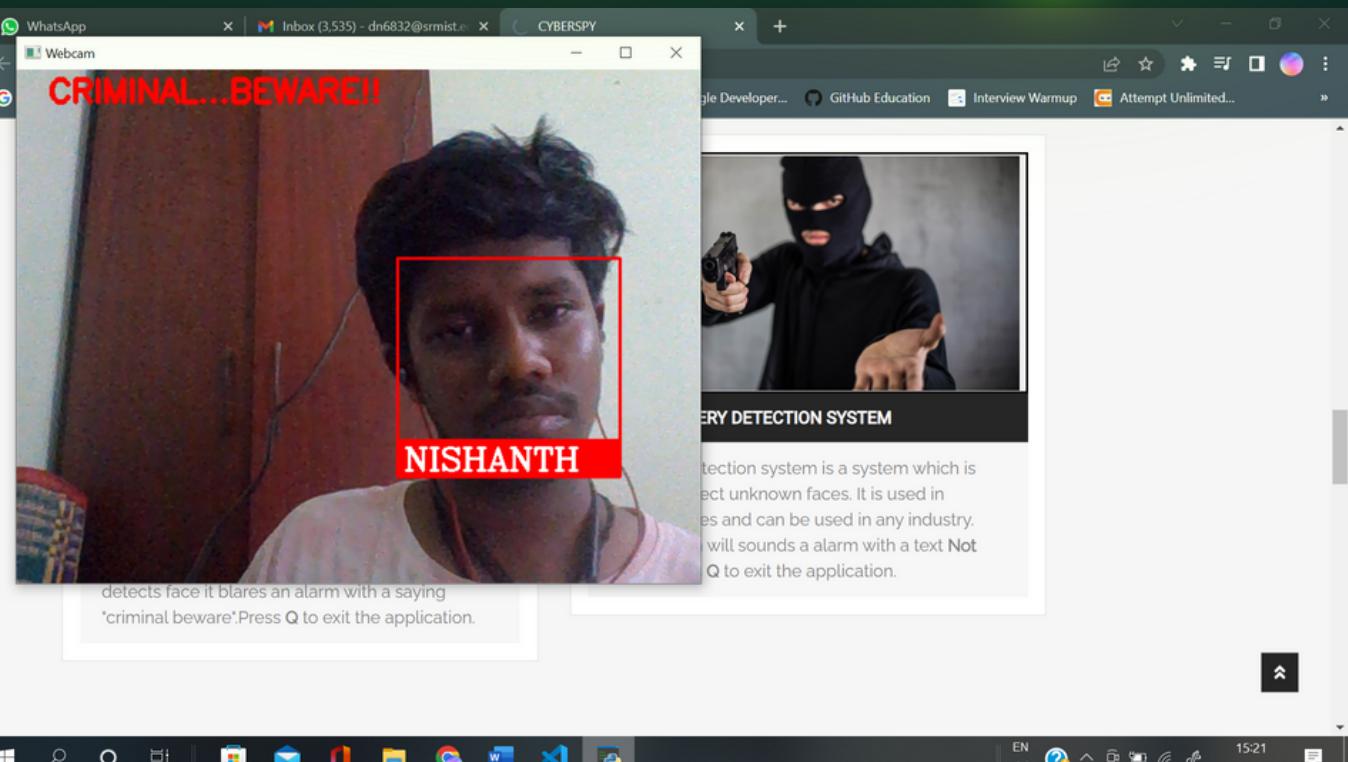
NISHANTH DAMODAR
Team Lead & Core Developer
Experienced in ML and a powerful full stack developer with exemplary knowledge in web building

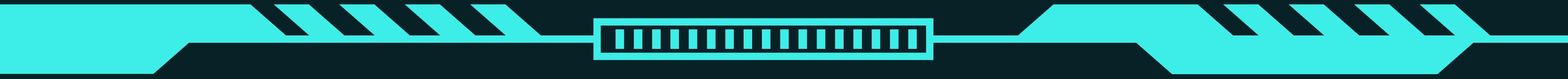
BARATH BALAJI
Innovator & Ideator
Experienced in project management and leading the team in right path.

SUTHARAN.V
Testing Lead
Experienced in testing applications and developing reports for all the authority

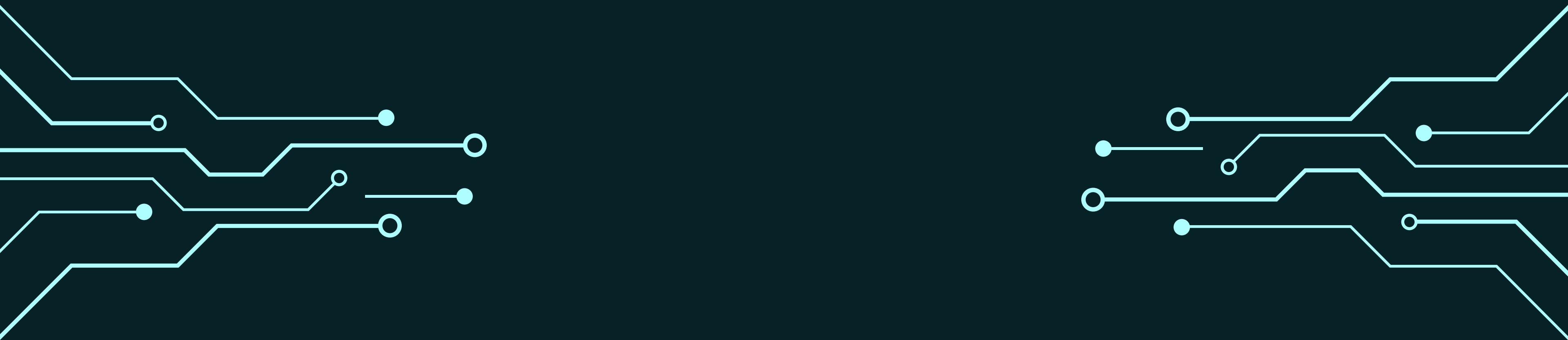


CYBERSPY





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Title	Author	Citation
Writing Overview on Criminal Recognizable proof in Mumbai utilizing DBSCAN	Akshay Rathod, Rushikesh Sawant	Vol 12 No SUP 1 (2020): SAMRIDDHI: A Journal of Physical Sciences, Engineering and Technology.
Face Detection Techniques: A Review	Ashu Kumar, Amandeep Kaur	Artificial Intelligence Review 52(1) DOI:10.1007/s10462-018-9650-2
The system of face detection based on OpenCV	Xinghua Fan, Fuyou Zhang	2012 24th Chinese Control and Decision Conference (CCDC), 2012, pp. 648-651, Doi: 10.1109/CCDC.2012.6242980.
Face detection and tracking: Using OpenCV	Kruti Goyal, Kartikey Agarwal	2017 International conference of Electronics, Communication and Aerospace Technology (ICECA), 2017, pp. 474-478, Doi: 10.1109/ICECA.2017.8203730.
Real time face detection and tracking using opencv	Mamata s.Kalas	IRF International Conference, 5th & 6th February 2014, Pune India. ISBN: 978-93-82702-56-
A comparative study between LBP and Haar-like features for Face Detection using OpenCV	Kushsairy Kadir, Mohd Khairi Kamaruddin	2014 4th International Conference on Engineering Technology and Technopreneurship (ICE2T), 2014, pp. 335-339, Doi: 10.1109/ICE2T.2014.7006273

Title	Author	Citation
Face detection based on adaboost	Jian-Ming Liao	2009 International Conference on Apperceiving Computing and Intelligence Analysis, IEEE
Face Detection and Tracking using OpenCV	S.V. Viraktamath, Aditya Khatakar	The Standard International Journals (The SIJ), ISSN: 2321 - 2403
Face Detection Method Research and Implementation Based on AdaBoost	Dai Chen, Ji-lin Wang	2010 International Symposium on Intelligence Information Processing and Trusted Computing, 2010, pp. 643-646, doi: 10.1109/IPTC.2010.125.
Research of AdaBoost Face Detection and OpenCV Implementation	H.W. Liu, G. Wang, and G.W. Zhang	AMM 2014;651–653:482–5. https://doi.org/10.4028/www.scientific.net/amm.651-653.482 .
University Classroom Attendance Based on Deep Learning	Rong Fu, Dan Wang	2017 10th International Conference on Intelligent Computation Technology and Automation (ICICTA), 2017, pp. 128-131, doi: 10.1109/ICICTA.2017.35.

Thank you for all your
support!!!

