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# Sleeper Awakers

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**ABSTRACT:** Driver drowsiness is a major cause of road accidents, injuries, and fatalities worldwide. To mitigate this issue, researchers have developed various driver drowsiness detection systems that use physiological signals, driving behavior, and vehicle data to assess driver alertness levels. These systems employ machine learning algorithms to classify driver drowsiness based on various features extracted from the aforementioned signals. In this abstract, we review the current state-of-the-art techniques for detecting driver drowsiness and highlight their strengths and limitations. We also discuss the challenges and future directions for improving the accuracy and robustness of these systems to prevent accidents and enhance road safety.

**KEYWORDS:** Sleeper Awakers ,Manual ,Website

## I. INTRODUCTION

When a driver is tired or distracted, their reaction time slows down, and they may not be able to respond quickly to changes in traffic conditions or road hazards. Impaired drivers, such as those under the influence of alcohol or drugs, are also a significant risk on the road. The eye detection project can help prevent accidents caused by driver fatigue, distraction, or impairment by detecting signs of these conditions in real-time. For example, if the system detects that the driver's eyes are closing or drooping, it can alert the driver or take automated actions, such as slowing down the vehicle or activating an alarm. Similarly, if the system detects that the driver is looking away from the road or using a mobile phone while driving, it can alert the driver or take automated actions to bring their attention back to the road.

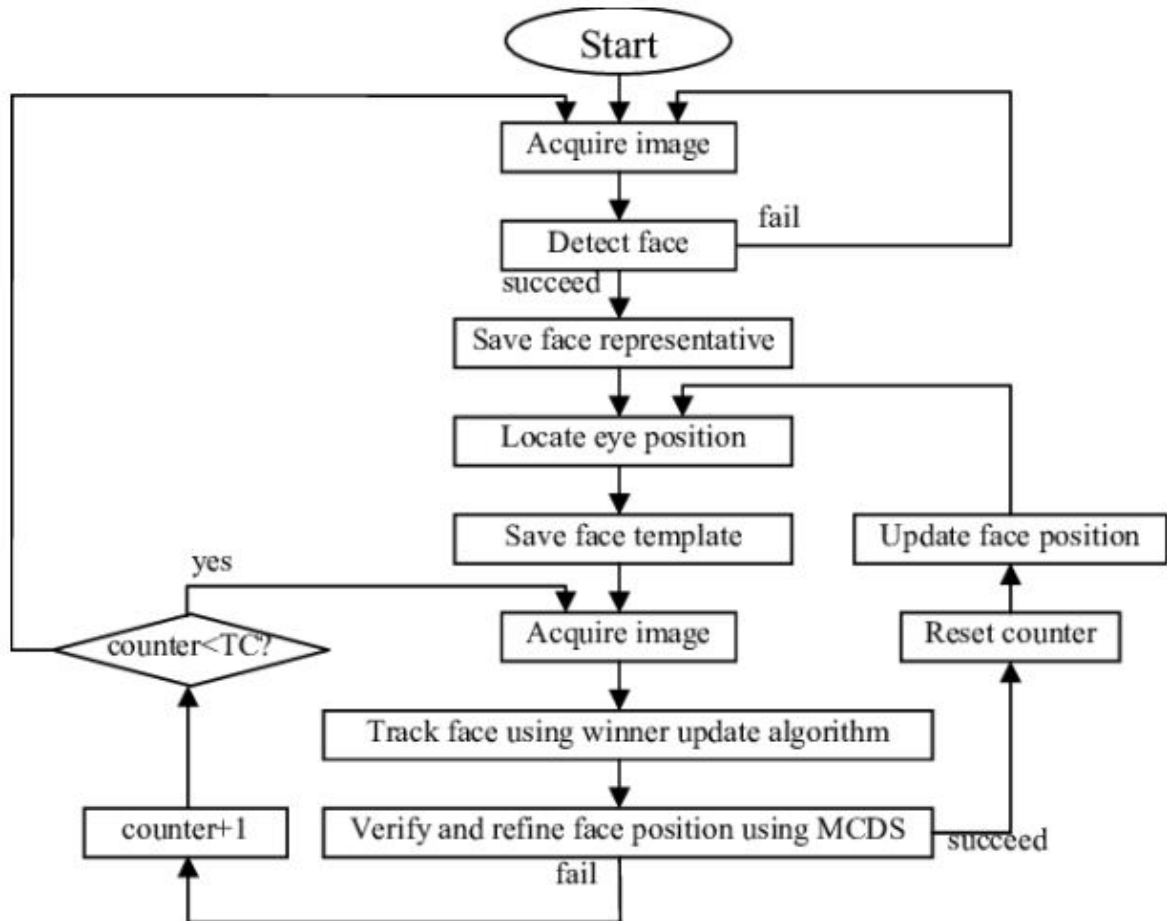
The purpose of an eye detection project for driver safety is to prevent accidents caused by driver fatigue, distraction, or impairment. The eye detection project uses computer vision algorithms to analyze the driver's eye movements and behavior in real-time and alert the driver or take automated actions to prevent accidents. Driver fatigue, distraction, and impairment are major causes of road accidents.

## II. PROPOSED ALGORITHM

The purpose of these algorithms is to provide accurate and reliable detection of driver drowsiness based on various types of data such as physiological signals, driving behavior, and vehicle data. The selection of the algorithm depends on the type of data available and the desired level of accuracy and reliability.

Driver drowsiness can be caused by various factors, such as sleep deprivation, sleep disorders, medication side effects, and alcohol consumption. When a driver is drowsy, their reaction time, attention, and decision-making abilities are impaired, making it difficult for them to respond to unexpected events on the road. As a result, drowsy driving can lead to serious accidents, injuries, and fatalities.

III. METHODOLOGY



IV. TECHNICAL

PYTHON

Python is a high-level programming language that is widely used for web development, scientific computing, data analysis, artificial intelligence, and many other applications. It was first released in 1991 by Guido van Rossum and is now maintained by a community of developers. Python is open-source, meaning that its source code is freely available and can be modified and distributed by anyone. One of the main advantages of Python is its ease of use and readability. Its syntax is simple and intuitive, making it an ideal language for beginners to learn. It is also very versatile, with a vast array of libraries and frameworks that make it suitable for a wide range of tasks, from simple scripting to complex data analysis. Python has gained popularity in recent years due to its use in data science and machine learning. The language

has a rich ecosystem of libraries and frameworks, such as NumPy, Pandas, Scikit-learn, and TensorFlow, that make it easy to work with large datasets and build machine learning models.

### WHAT IS VIDEO CAPTURE

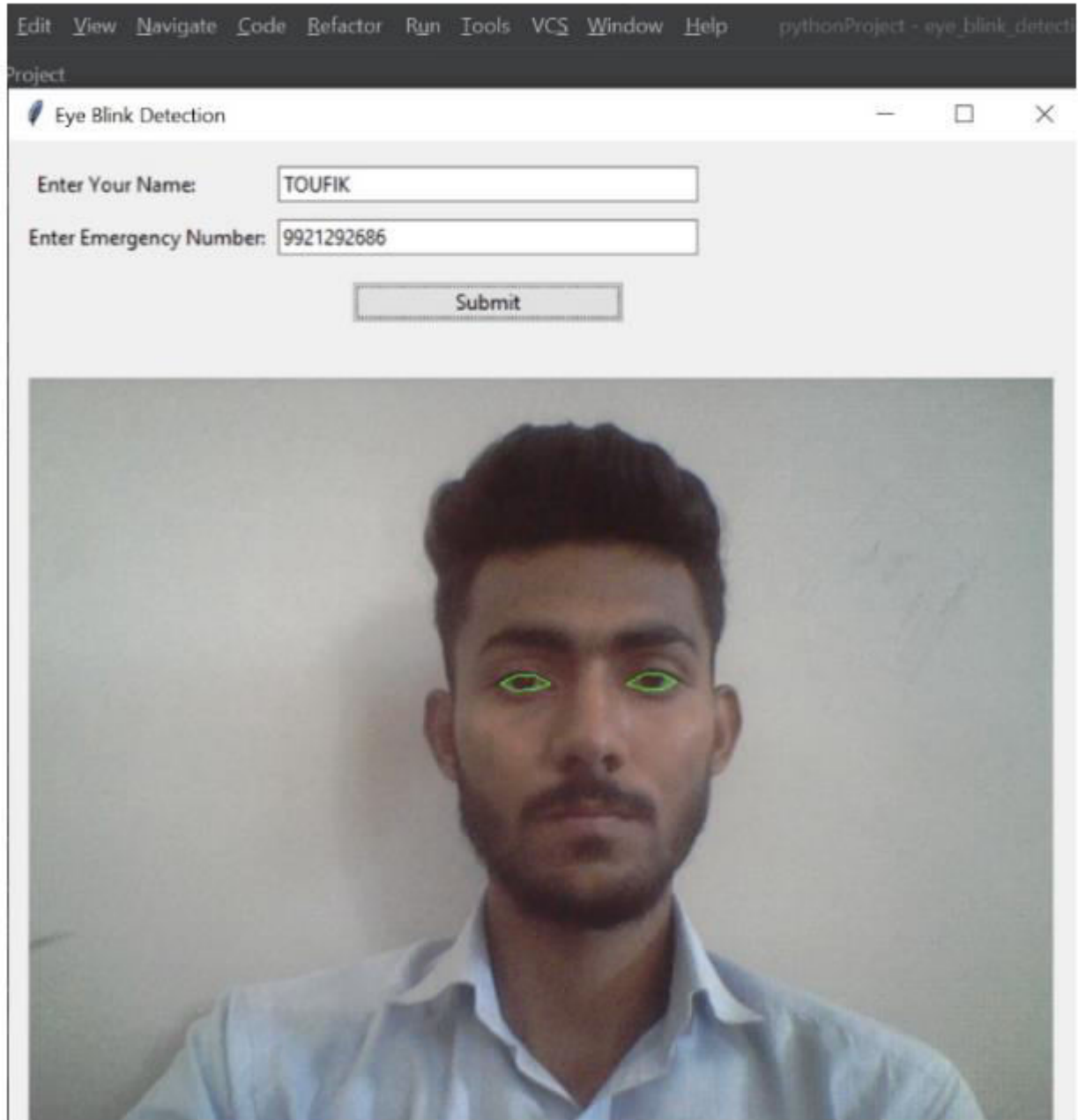
In Python, you can capture video from a webcam or other camera device using the OpenCV library, which is an open-source computer vision library. OpenCV provides a Python interface that allows you to access the camera and capture frames of video in real-time. Here's an example of how to capture video from a webcam using OpenCV in Python:

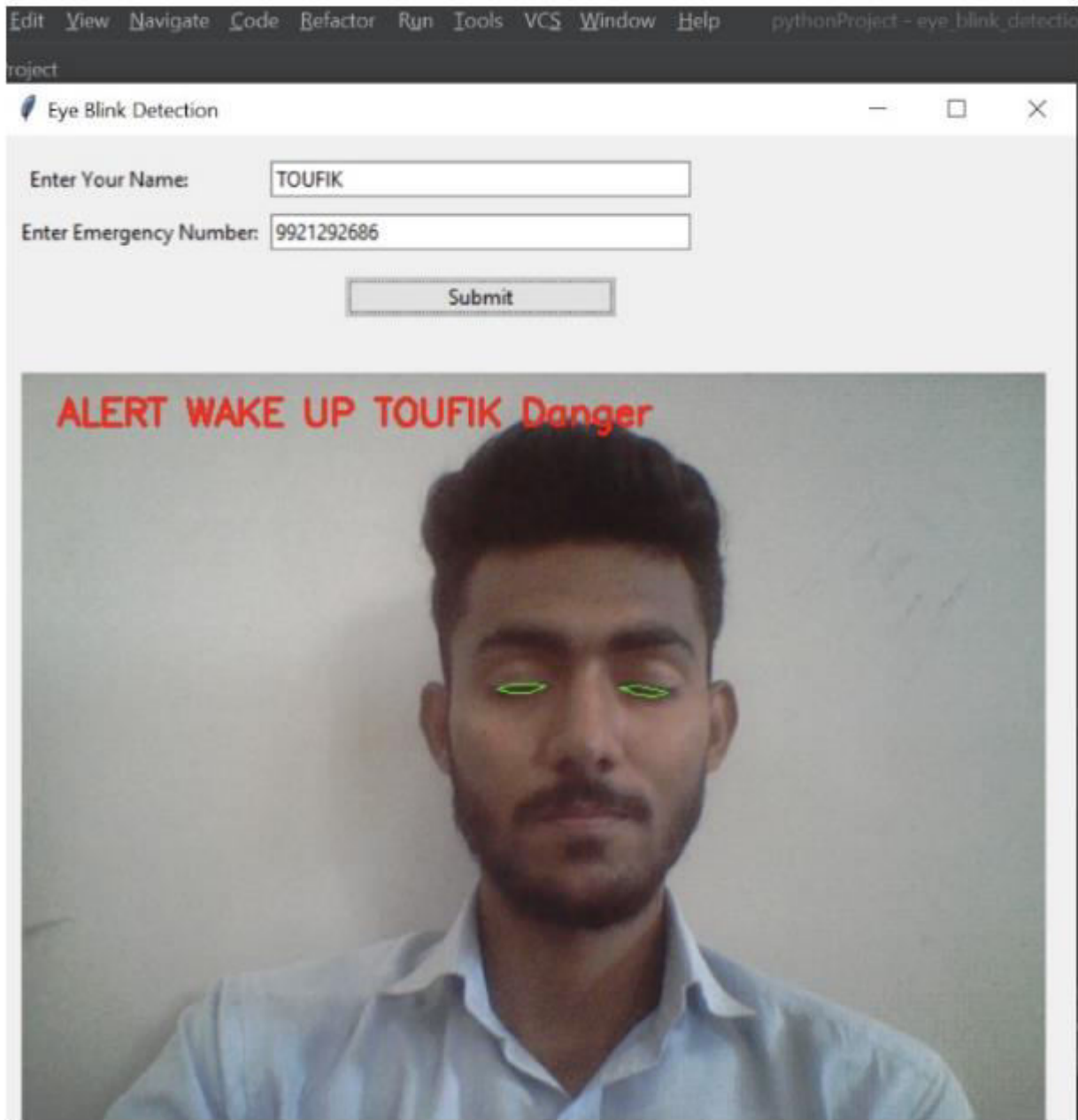
```
import cv2
Create a VideoCapture object to access the camera
cap = cv2.VideoCapture(0)
Loop through each frame of the video
while True:
Read a frame from the camera
ret, frame = cap.read()
Display the frame in a window
cv2.imshow('Video', frame)
Wait for a key press to exit
if cv2.waitKey(1) == ord('q'): break
cap.release()
cv2.destroyAllWindows()
```

In this example, we first import the

library using the `import cv2` statement. We then create a `VideoCapture` object using the `cv2.VideoCapture()` constructor, passing in the index of the camera device to use (0 for the default camera). Sanjay Ghodawat Polytechnic, Atigre 12 EYE DETECTION SYSTEM We then loop through each frame of the video using a `while` loop. Inside the loop, we use the `cap.read()` method to read a frame from the camera, and store it in the `frame` variable. We then use the `cv2.imshow()` method to display the frame in a window with the title "Video". We then use the `cv2.waitKey()` method to wait for a key press from the user. If the user presses the 'q' key, we break out of the loop and release the `VideoCapture` object using the `cap.release()` method and close the window using the `cv2.destroyAllWindows()` method. Note that this is just a basic example of how to capture video using OpenCV in Python. You can customize the video capture and display by setting various options and parameters of the `VideoCapture` object and the `cv2.imshow()` method.

V. RESULTS





## VI. CONCLUSION AND FUTURE WORK

In conclusion, an eye detection project for driver safety has the potential to greatly improve road safety by alerting drivers when they are drowsy or distracted. By using computer vision and machine learning techniques, the system can detect when a driver's eyes are closed or not focused on the road and sound an alarm to wake them up or refocus their attention. Such a project would require a robust dataset of images or videos of drivers' faces and eyes, as well as advanced algorithms for eye detection and tracking. It would also need to be designed with privacy and security in mind, ensuring that the system does not store or transmit any personal information without the driver's consent.

### FUTURE ENHANCEMENT-

- In the next update this system can also perform face detection
- The accuracy for results can be improved



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