

SRM IST CHENNAI TAMIL NADU

EYE-CONTROLLED CURSOR

A programme developed to control the cursor with respect to the movement of the eye-ball along with the functionality of click on the screen with just a blink of the eye

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PROBLEM STATEMENT

The current eye ball cursor has the following problems:

- ▶ The present programme identifies just eyes
- ▶ There is no other useful feature other than the identification of the eye ball movement and is not at all interactive.
- ▶ Even though it identifies the eye the programme fails to decide when the user actually blinking his/her eye.

SOLUTIONS OFFERED

The programme improvised by us has the following functions:

- ▶ It now comes with the feature of click
- ▶ Better precise eye blink detection
- ▶ Helpful in proctored exams, physically challenged people, new generation self driving cars, etc

Overview of Project

The programme mainly runs on 3 different libraries namely the

- **MEDIPIPE:**

The MediaPipe framework is mainly used for rapid prototyping of perception pipelines with AI models for inferencing and other reusable components.

- **CV2**

OpenCV has a function to read video, which is `cv2.VideoCapture()`. We can access our webcam using pass 0 in the function parameter. If you want to capture CCTV footage then we can pass RTSP url in the function parameter, which is really useful for video analysis.

- **PYAUTOGUI**

Graphical User Interfaces (GUIs) Python supports a variety of GUI frameworks or toolkits, from Tkinter which is traditionally bundled with Python, to a number of cross-platform solutions, such as PyQt or wxPython, that you can install as third-party libraries.