Domain: Artificiai Intelligence

Batch No:D8

G. Narayanamma Institute of Technology & Science (For Women) (Autonomous)

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Shaikpet, Hyderabad-500104

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (DATA SCIENCE)

GN-R-18 (2022 - 2023) II B.Tech II Sem Hobby Project

on

AI Virtual Mouse

Abstract

The AI Virtual Mouse project is a computer vision-based application that enables users to control the computer cursor using hand gestures. The project is built using Python and relies on several software libraries and modules to function, including OpenCV, NumPy, HandTrackingModule, Autopy, and Time.

When a user starts the application, the camera on their computer captures a live video stream of their hand movements. The application uses computer vision techniques to analyze the video frames in real-time, detect the user's hand, and track its movements.

The HandTrackingModule is used to detect the landmarks of the user's hand, such as the tips of the fingers and the center of the palm. This information is then used to calculate the position and orientation of the hand in 3D space. The application then maps the hand movements to cursor movements on the screen.

The Autopy library is used to simulate mouse clicks and movements, allowing the user to interact with the computer using hand gestures.

The Time module is used to ensure that the cursor movements are synchronized with the user's hand movements.

S/W Requirements	H/W Requirements
1. Python	1.Processor:1.1GHz Quad-Core Intel Core i5
2. OpenCV	2. Graphics: Intel Iris Plus Graphics 1536 MB
3. NumPy	
4. Hand Tracking Module	
5. AutoPy	

***Dept R&D: No** *** If No : GNITS**

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