Computer Vision: To Control Computers' Cursors

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Computer vision is the science that aims to visually sense the world around it. It is concerned with the automatic extraction, analysis, and understanding of useful information from a single image or a sequence of images. Also, involved in the development of a theoretical and algorithmic basis to achieve automatic visual understanding. According to WHO, there are about 15% of the world population are suffering from physical disability, who are challenging to unemployment, difficulties of interacting with others and education. In this study, the researcher aims to help physically disabled people to use a computer. To achieve the purpose of the study the researcher analyzed the movement of the face and the tongue. This is done by using Python language to develop this program. The program analyses the range of colors, each color has a specific area on a mask the user wears, through an attached camera to the computer, the program detects changes of colors happens when the head or the tongue of the user moves. Once a change has been detected, the program calculates the mov.ement occurred through the difference between color ranges to set the new location of the cursor on the screen, detect and set actions based on the user’s choice for right or left click or if the user has chosen to exit the mask mode and shut down the computer. From analyzing the results, the researcher concluded that by using computer vision and python libraries, it is possible to help the physically disabled in using computers. Keywords: Computer Vision, Python

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