ABSTRACT

In this globalization era, the use of electronic devices has become a necessity for every human being. Starting from using it manually to using it automatically as it is happening now. Researchers are developing a technology that can provide input using body movements or what we can call poses. Pose is a form of non-verbal communication that uses poses. Thus, an invention was made, namely the control of lamp using poses.

There is a module in OpenCV called Posenet. Posenet is a detector of the body, legs, hands and face using a webcam in real time. By using Posenet (especially the upper abdomen) the author can control lamp using gestures. There are several codes that the writer uses for the lamp's on / off control process. With the use of this code, it is easy for users to choose whether to control on / off available lamp. In this project the author can produce an automatic system to control on / off of lamp using poses and coding on all registered poses.

In this final project, the writer produces an automatic system to control the lights using poses in front of the camera and coding on all poses that have been registered. The exact distance used for the standing position from the user is 110 cm and the minimum angle is 100 degrees. This pose is translated into a command to control the lights according to a predetermined classification, using the K-Nearest Neighbor (KNN) method. The mAP value (mean Average Precision) of 30 tests for 60 training data is 95%, 120 training data is 98% and 180 training data is 99%.

Keypoints: OpenCV, Posenet, lamp, webcam