

HAND GESTURE RECOGNITION FOR HUMAN COMPUTER INTERACTION

Introduction:

Hand gesture recognition for human computer interaction, being a natural way of human computer interaction, is an area of active research in computer vision and machine learning. This is an area with many different possible applications, giving users a simpler and more natural way to communicate with robots/systems interfaces, without the need for extra devices. So, the primary goal of gesture recognition research is to create systems, which can identify specific human gestures and use them to convey information or for device control. For that, vision-based hand gesture interfaces require fast and extremely robust hand detection, and gesture recognition in real time.

Problem Statement:

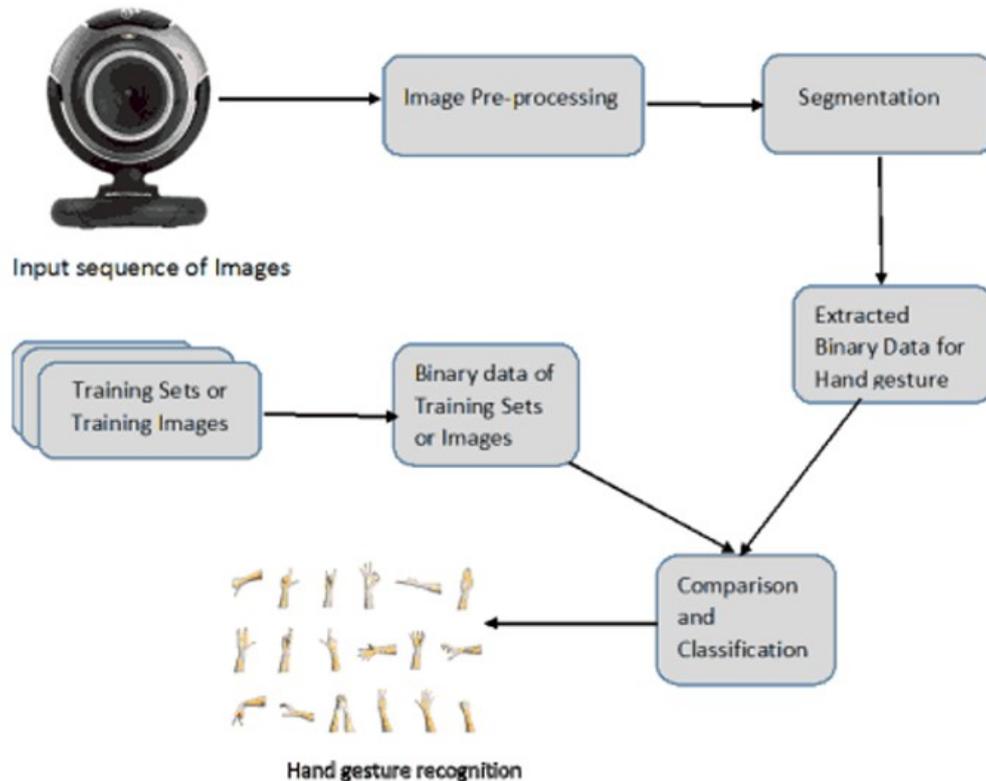
Develop a simple and effective method for users to interact with computers in real time.

Project Abstract:

The proposed solution for the above problem statement is a software that utilises image based hand detection to identify gestures in real time and do the related action.

The input is taken from a camera attached to the computer that continuously captures video and sends it to the software. The software then uses image processing to identify the user's hand and its movement. It compares this with the known gestures and identifies the related action to be performed.

Architecture:



Development Progress:

- ◆ **Dataset formation**
For this project, the dataset consist of multiple images of the hands in different orientations.
- ◆ **Training the model**
The model is being trained to recognise hands and its orientation in a picture.