

Human Face Detecting and Centering for Robotic Vision System

Abstract

Robotic vision system has taken a great leap in the field of robotics. Vision system is an essential tool to be implemented in a robot for visual communication between robot and human especially in the application of Tele-Diagnostic Robot. The robot vision system must always be in the field of view. The ability for the vision system to automatically track the person in communication is crucial for the remote medical specialist. To circumvent this problem, a face detection technique is implemented and it is performed using skin color segmentation with two color space which are YCbCr and HSV. Besides that, morphological operations are also done to detect the face region accurately. Two DOF servo mechanism were designed to ensure that the servo motor rotates to centralize the detected face region. A real-time testing were conducted and it was found that this system results a good performance.