10-27-2015

Electrical & Computer Engineering News

Georgia Southern University

GS Undergraduate Research: Robotic Arm for Mimicking Human Arm Movements

October 27, 2015

Robotic mimicking has begun to be a new important topic of research. Robotic mimicking is a convenient way to teach robots the operations they are to perform. The advantage of mimicking is that instead of developing a complex control system, a human can demonstrate the operations that a robot needs to perform so that the robot could mimic those operations.

Electrical engineering undergraduate students, Imani Augusma and Joshua Stroud, proposed to design and implement a robotic arm with 3 degrees of freedom that is capable of mimicking simple human arm actions. The implementation of this project involves three major modules: (a) the capture of signals from the human arms, in particular the shoulder, elbow, and wrist, using wireless motion tracking sensors; (b) the classification of the signal to identify the particular movement been performed; and (c) the electronic interface to control a robotic arm that will mimic the movements. Preliminary results of this project were presented by the students at the 2015 Georgia Southern University Research Symposium.

The on-going project was funded by a College of Engineering & Information Technology Undergraduate Research grant and was supervised by Dr. Fernando Rios, Associate Professor of Electrical Engineering and advisor for the Robotics Club and the IEEE student chapter at Georgia Southern.

Posted in News, Robotics, Undergraduate Research