Abstract

A task as simple as picking up a ball comprises of very complex interaction between our neural, mechanical and sensory systems. Even though technological advances such as cutting edge actuators, sensors, microprocessor and the likes have been around, getting a prosthetic arm to mimic the activities of the human hand has not progressed at the same stride. This is particularly true for bio-signals controlled prostheses.

A simulator would be handy in the design and synthesis of such bio-signals controlled prostheses. Taking the open source iCub simulator, we propose to develop modules for emulation of human grasps. In order to make a substantial contribution to rehabilitation robotics particularly bio-signals controlled prostheses, the proposal is to integrate bio-signals to initiate grasping behavior.