

(54) Title of the invention : VLSI BASED IMPLEMENTATION OF ROBOTIC ARM CONTROL WITH LEAP MOTION

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(57) Abstract :

The present invention is adapting a technology to track the movement of the body especially the movement of the hands and fingers are likely to grow in the field of research. The objective of this research was to design and construction of the system for control robot arm using VLSI Designbased LEAP Motion Controller. This approach has adapted the principle of LEAP Motion Controller and servo motor control. In this current pandemic situation, this type of invention will be helpful for the enhanced touchless technology and also supportive for physically handicapped persons. This system is designed using ATMega 328 for robotic arm control and leap motion thereby implemented using VLSI technology. This invention mainly focuses to provide a relation between human and machine by the interaction of human hand and robotic arm. The idea converges towards the conception of a robotic arm identical to human hand with gesture that is more precise. The arm consists of five Degree of Freedom (DOF) and an end effector, which allows the interaction with the real world. The exploitation of the leap motion results in explicitly acquiring for hand gesture and provides set of points. This innovation enables more perceptive leap motion control with an end effector. The results showed the reduction in the complexity approach and gain in control accuracy.

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