

عنوان مقاله:

Simulation and Experimental Characterization of Tactile Sensors Using in Robotic Hand Prostheses

محل انتشار:

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خلاصه مقاله:

The main topic of this research is the simulation of a sensor for a humanoid robot hand prosthesis in order to grasp objects. In this research, an attempt has been made to use the finite element analysis method using Abaqus software and to construct a laboratory setup and perform experimental tests in the laboratory to investigate and study the sensor used in the humanoid robot hand prosthesis, which enables the robot to grasp objects. In this research, using the mentioned methods, the values of various quantities such as stress, strain, and electrical resistance are obtained for a specific amount of force applied to the sensor in the robot's finger. Based on the values of these quantities, the trend of changes in one quantity based on another can be obtained and their diagrams can be drawn. These calculations and their results are used in various simulations regarding the sensors of the robot's hand. These simulations include the simulation of object gripping by the robot's hand and also the control of the robot's hand sensors for gripping different objects

کلمات کلیدی:

simulation of robot hand sensor, finite element analysis, experimental test

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