

Pressure sensor: state of art, design and application for robotic hand

ABSTRACT

We survey the state of the art in a variety of force sensors for designing and application of robotic hand. Most of the force sensors are examined based on tactile sensing. For a decade, many papers have widely discussed various sensor technologies and transducer methods which are based on microelectromechanical system (MEMS) and silicon used for improving the accuracy and performance measurement of tactile sensing capabilities especially for robotic hand applications. We found that transducers and materials such as piezoresistive and polymer, respectively, are used in order to improve the sensing sensitivity for grasping mechanisms in future. This predicted growth in such applications will explode into high risk tasks which requires very precise purposes. It shows considerable potential and significant levels of research attention.

Keyword: Pressure sensor; State of art; Robotic hand; Sensor technologies; Microelectromechanical system (MEMS)