

## Science and Engineering Research Program 2020 Project Proposal

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institute: Institute of Assembly Technology

project title: Sensor characterization tool

project description: In robotics, a new paradigm has emerged which aims to solve the human-robot collaboration through the development of soft, flexible and compliant robots. As part of this, the institute is developing soft sensors which can fulfil the performance of soft robots and provide reliable and accurate information about its status. One of the purposes of these sensors is the measurement of the bending angle of the robots. For these sensors, the electrical properties are defined by its physical shape from this the following project task place. The student should develop a program which can associate the sensor output and the bending angle of an actuator. The algorithm should define the resistance-angle relation using image processing and the output of the sensor.

required skills: Image processing, Matlab skills, basic electronics.

contact/ supervisor: Ditzia Susana Garcia Morales

Please return to Kristina Schmidt or Uta Knoche till 15th of November.