

Science and Engineering Research Program 2020 Project Proposal

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institute: Institute of Assembly Technology

project title: Learning tool for skin-like sensor optimization

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 contact events of the robots. For these sensors, the electrical properties are defined by the physical interaction with external objects from this the following project task place. The student should apply a learning tool to identify different contact event with external objects. The tool should define whether there is contact between an external object and the skin-like sensor and define the

type of impact, for example, an abrupt collision between the sensor and another object or a smooth interaction.

required skills: Matlab skills, machine learning knowledge, basic electronics.

contact/ supervisor: Ditzia Susana Garcia Morales

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