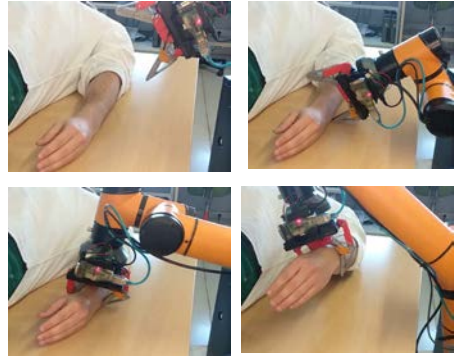
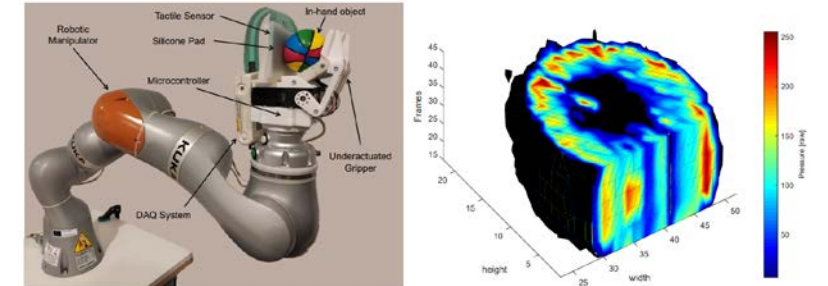


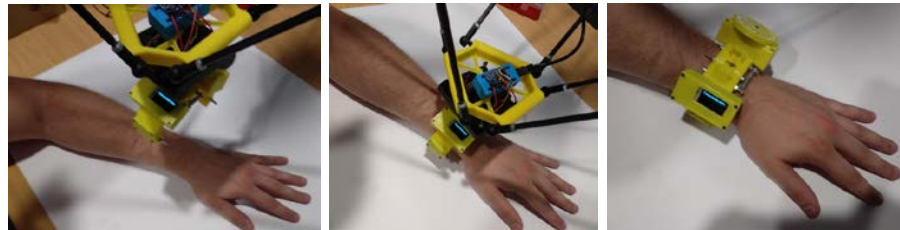
pHRI with Robot-Initiated Contact



Underactuated grippers for Human limb manipulation



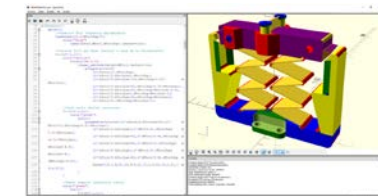
Tactile Object-Recognition using Convolutional Neural Networks (DCNN)



Automatic wristband placement from aerial or terrestrial manipulators



Proprioceptive position/force estimation using ML methods



Rapid robot tooling with multi-material 3D-printing



Publications

- Open-loop position control in collaborative, modular Variable-Stiffness-Link (VSL) robots JM Gandarias, Y Wang, A Stilli, AJ García-Cerezo, JM Gómez-de-Gabriel, IEEE Robotics and Automation Letters + ICRA 2020,
- Rapid end-of-arm-tooling manufacturing of vacuum grippers JM Gómez-de-Gabriel, AJ Muñoz-Ramírez, M Palacios, L Parras International Journal of Computer Integrated Manufacturing 32 (12), 1231-1241
- Grasping Angle Estimation of Human Forearm with Underactuated Grippers Using Proprioceptive Feedback F Pastor, JM Gandarias, AJ García-Cerezo, AJ Muñoz-Ramírez, ... Iberian Robotics conference, 441-452
- Underactuated Gripper with Forearm Roll Estimation for Human Limbs Manipulation in Rescue Robotics JM Gandarias, F Pastor, AJ Muñoz-Ramírez, AJ García-Cerezo, ... 2019 IEEE/RSJ International Conference on Intelligent Robots and Systems ...
- Human-Arm Roll Estimation in Underactuated Grippers with Proprioceptive Feedback JM Gandarias, JM Gómez-de-Gabriel, F Pastor-Martín, ...
- Active Tactile Recognition of Deformable Objects with 3D Convolutional Neural Networks JM Gandarias, F Pastor, AJ García-Cerezo, JM Gómez-de-Gabriel 2019 IEEE World Haptics Conference (WHC), 551-555
- CNN-based methods for object recognition with high-resolution tactile sensors JM Gandarias, AJ Garcia-Cerezo, JM Gomez-de-Gabriel IEEE Sensors Journal 19 (16), 6872-6882
- Using 3D Convolutional Neural Networks for Tactile Object Recognition with Robotic Palpation F Pastor, JM Gandarias, AJ García-Cerezo, JM Gómez-de-Gabriel Sensors 19 (24), 5356
- Monitoring harness use in construction with BLE beacons JM Gomez-de-Gabriel, JA Fernandez-Madrigal, A Lopez-Arquillos, ... Measurement 131, 329-340
- Transfer learning or design a custom CNN for tactile object recognition JM Gandarias, F Pastor-Martín, AJ Muñoz-Ramirez, AJ Garcia-Cerezo, ...
- Methods for autonomous wristband placement with a search-and-rescue aerial manipulator JM Gómez-de-Gabriel, JM Gandarias, FJ Pérez-Maldonado, ... 2018 IEEE/RSJ International Conference on Intelligent Robots and Systems ...
- Enhancing perception with tactile object recognition in adaptive grippers for human-robot interaction JM Gandarias, JM Gómez-de-Gabriel, AJ García-Cerezo Sensors 18 (3), 692
- Tactile sensing and machine learning for human and object recognition in disaster scenarios JM Gandarias, JM Gómez-de-Gabriel, AJ García-Cerezo Iberian Robotics conference, 165-175
- Human and object recognition with a high-resolution tactile sensor JM Gandarias, JM Gómez-de-Gabriel, AJ Garcia-Cerezo IEEE Sensors 2017
- Evaluation of sensor configurations for robotic surgical instruments JM Gómez-de-Gabriel, W Harwin Sensors 15 (10), 27341-27358

Projects

- Intelligent Physical Help Robot (RAFI). Singular Project UMA-CEIATECH-23 (Main Researcher).
- RTI2018-093421-B-I00 Towards Resilient UGV and UAV Manipulator Teams for Robotic Search and Rescue Tasks (TRUST-ROB) (Human interaction Task Responsible).
- DPI2015-65186-R FIRST-ROB: MULTI-ROBOT SYSTEM FOR COOPERATION WITH FIRST RESPONSE HUMAN AND CANINE RESCUE TEAMS IN CATASTROPHE SCENARIOS (Human interaction Task Responsible).