Jack Schultz

Mechanical Engineer – Graduate Research Assistant

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Passionate and driven mechanical engineer with 4+ years of experience in robotics and controls research, and 1+ years of experience in the automotive industry. Primary research goal is to develop intelligent assistive technologies to empower individuals to lead productive and healthy lifestyles.

RELEVANT WORK EXPERIENCE

Graduate Research Assistant
Center for Human Machine Systems
07/2018 – Present

Achievements/Roles
- Lead the development of a ROS enabled robot-assisted feeding system combining robotics, computer vision, eye-tracking, and speech recognition for individuals with spinal cord injury.
- Performed a research study investigating the effects of entangled sensory and motor responsibilities on eye-hand coordination.
- Developed a model architecture using MATLAB & Simulink with dSPACE Control Desk to facilitate real-time 3D gaze-control of a rehabilitation robot.

Contact: Eric Schearer – e.schearer@csuohio.edu

Undergraduate Research Assistant
Engineering Wellness Through Biomechanics Lab
01/2017 – 12/2017

Achievements/Roles
- Lead the development of an assistive device that monitored a walker user's posture as a part of the University's STEM Catalyst grant.
- Mentored undergraduate students in the design of other rollator walker adaptive devices such as a lighting system.

Contact: Kim Bigelow – kbigelow1@udayton.edu

Mechanical Engineering Co-op
Inteva Products, LLC
05/2015 – 12/2016

Achievements/Roles
- *Product Design*: Developed new materials and technologies to improve the current manufacturing process
- *Injection Molding and Facilities*: Oversaw and executed installation of new injection molding machines in existing plant facilities
- *Soft Tooling*: Designed, fabricated, and tested injection tooling for prototype polyurethane armrest liners.

EDUCATION

Ph.D. Mechanical Engineering
Cleveland State University — *Cleveland, OH*
07/2018 – Present — *GPA: 3.94/4.0*

B.S. Mechanical Engineering
University of Dayton — *Dayton, OH*
08/2013 – 12/2017 — *GPA: 3.77/4.0*

SKILLS

MATLAB & Simulink	●●●●	ROS/Gazebo	●●●●
SolidWorks 3D CAD	●●●●	Python	●●●●
Version Control/Git	●●●○	C/C++	●●●○

AWARDS

Graduate Student Research Award
Cleveland State University – 2022

Excellent Doctoral Dissertation Award
Cleveland State University – 2022

3 Minute Thesis 1st Place Winner
Cleveland State University – 2021 & 2022

INTERESTS

Robotics | Controls | Machine Learning | Technology

PUBLICATIONS

Conference

Proof of Concept: A Hands-Free Interface for Robot-Assisted Self-Feeding
J. Schultz, A. Slifkin, H. Yu, E. Schearer
RehabWeek ICORR – (07/2022)

Journal

Controlling an Effector with Eye Movements: The Effect of Entangled Sensory and Motor Responsibilities
J. Schultz, A. Slifkin, E. Schearer
PLoS One – (02/2022)

Journal

The Effects of a Positional Feedback Device on Rollator Walker Use: A Validation Study
C. Golembiewski, J. Schultz, et al.
Assistive Technology – (07/2019)