Jack Schultz, Ph.D.

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# Summary

* Flexible and versatile researcher with 5 years of experience in robotics, machine learning, and mechatronic systems resulting in 2 funded grant proposals, 3 publications, 3 poster presentations, and 14 podium presentations.
* Cross-functional collaborator with experience in facilitating and leading dynamic multidisciplinary teams resulting in 12 collaborations across 7 disciplines.
* Creative problem solver with technical expertise in robotics, motion-planning, computer vision, and deep learning as demonstrated by the successful implementation of 16 open-source technologies and solutions.

# Work Experience

**Robotics, Machine Learning, and Mechatronic Systems Research Scientist**

Gained as a Research Assistant in Mechanical Engineering at Cleveland State University in Cleveland, OH and the University of Dayton in Dayton, OH

* Fast paced and dynamic innovator with expertise in deep learning neural networks and modern algorithms as evidenced by training and deploying 4 detection models on robotics hardware with real-time predictions.
* Ability to self-teach and motivated to learn new tools and methods quickly as evidenced by gaining proficiency in 5 programming languages and expertise in over 20 engineering tools and software.
* Strong mentorship experience with broad, translational knowledge across engineering disciplines demonstrated by 14 mentored students across 8 research projects.
* Passionate and skilled engineer with experience in fabrication, prototyping, mechatronics, software programming, and artificial intelligence as evidenced by 6 independent engineering projects.
* Highly motivated life-long learner with in-depth knowledge of machine learning fundamentals as evidenced by 9 independently pursued deep learning courses.
* Desire to have a positive impact on humanity with experience designing human-subject research experiments and analyzing data as demonstrated by working with 32 participants across 3 research studies.

**Product Design and Process Optimization**

Gained as a Mechanical Engineering Co-op at Inteva Products, LLC in Vandalia, OH

* Ability to develop new methods and enhance current processes, with experience in product design and process improvement, resulting in a projected 3 fold decrease in failed parts in a manufacturing process.
* Expertise in systemization and standard operating procedures, and an ability to manage large-scale equipment installation, as demonstrated by the successful installation of 4 injection molding machines in existing plant facilities.
* Ability to contribute to a team, and proficiency in solid modeling and part design, as evidenced by the design and manufacture of 2 injection tools for soft prototypes.

# Education

## Ph.D. in Mechanical Engineering with a focus on Robotics, Machine Learning, and Mechatronic Systems.

## B.S. in Mechanical Engineering with a Minor in Human Movement and Biomechanics

# Techniques, Technical Skills & Documentation

Robotics

Machine Learning

Deep Learning

Computer Vision

Motion-Planning

Python / C++ / MATLAB

ROS / Gazebo / MoveIt

PyTorch / TensorFlow

SolidWorks

Minitab / R / SPSS

Cross-functional Collaboration

Strategic Vision

Presentation Skills

Research / Data Analysis

Creative Problem-Solving

Technical Writing

Project Management

Organization

**Affiliations, Awards & Hobbies**

* 2022 RehabWeek ICORR Best Paper Award – 2nd place
* Member – Spinal Cord Injury Volunteer Corps – Cleveland State University
* Constantly learning and pursuing new projects (casting aluminum, drone, handheld gaming console, motorcycle rebuild, etc.)
* Classic rock enthusiast with a passion for snow sports (snowboarding and broomball)

[Publication List](https://scholar.google.com/citations?user=cBHxyksAAAAJ&hl=en)