Hollis A. Schuler

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EDUCATION

University of Colorado Boulder, College of Engineering **Columbus, OH**
Master of Engineering in Robotics *Expected Completion: May 2027*
Courses Include: Algorithmic Motion Planning, Statistical State Estimation, Intro to Robotics

The Ohio State University, College of Engineering **Columbus, OH**
Bachelor of Science in Mechanical Engineering *Completed: May 2025*
Robotics and Autonomous Systems Minor GPA: 3.90

- Graduated with Honors in Engineering, Summa Cum Laude, and was a Honda STEM Scholar
- Courses Included: Real-Time Robotics, Feedback Control, Compliant Mechanisms and Robot Design

WORK EXPERIENCE

Ohio State Department of Mechanical and Aerospace Engineering **Columbus, OH**
Student Intern / Undergraduate Research Assistant *May 2023-August 2025*

- Worked to ensure Autonomous Mobile Robots (AMRs) meet performance and reliability requirements
- Developed a software architecture to minimize overhead when switching between various test scenarios
- Implemented routing algorithms and a centralized controller to manage an AMR swarm
- Developed physical model of AMRs in an automotive manufacturing environment
- Optimized and benchmarked task prioritization algorithms against existing solutions

Oceaneering International **Hanover, MD**
Summer Intern *May 2024-August 2024*

- Worked to develop a full simulation chassis for ROV electronics and software including sensory components
- Performed tensile testing on sub-sea connectors and evaluated mode of failure

Schottenstein Center **Columbus, OH**
Student Production Technician *October 2022 – August 2023*

- Prepared and operated production equipment to ensure high standards for event production are met

INVOLVEMENT

The Ohio State Underwater Robotics Team **Columbus, OH**
President *May 2024 -May 2025*

- Managed day-to-day operations of the student organization including recruitment, finance and sponsor outreach
- Organized the team's logistics for attending the 2023 & 2024 RoboSub competitions in California
- Led the organization to a 2nd place finish at the 2024 RoboSub competition; first finals appearance in team history
- Assisted in writing the team's technical design report outlining the development and testing of the Talos AUV
- Spearheaded the application for multiple grants to fund the organization and associated outreach projects

Controller Project Lead *August 2023 – Present*

- Implemented a stability observer to assist in timing torpedo firing in an Autonomous Underwater Vehicle (AUV)
- Lead the redesign of the thrust optimization algorithm for an AUV operating in six degrees of freedom
- Implemented Sliding Mode and PID control on an AUV system using MATLAB Simulink

Simulation Project Lead *September 2021 – May 2023*

- Created Simulink physics engine with direct integration into robot control software (ROS 2)

Underwater Intervehicle Communication Capstone **Columbus, OH**
Transducer Development and Integration *August 2024 - Present*

- Designed a transducer capable of generating ultrasonic waves while withstanding an underwater environment
- Simulated the transducer design using Ansys to ensure the device met intensity and frequency requirements
- Manufactured and integrated the transducer to ensure successful communication between sub-sea vehicles

Autonomous Underwater Vehicle Restoration Research **Columbus, OH**
Mechanical Redesign & Controls *January 2023 – May 2023*

- Redesigned physical components to reduce vehicle weight and accommodate new technology
- Machined several parts using a vertical mill, lathe, and 3-Axis CNC mill

ADDITIONAL EXPERIENCE

- **Computer Modelling Experience:** Solidworks, Fusion 360, Autodesk Inventor, Onshape, Cura, Simulink, Ansys
- **Software Development Experience:** Matlab, C/C++/C#, Python, ROS 2, Git/Github, Solidworks VBA
- **Mechanical Experience:** Various power/hand tools, Vertical Mill, Lathe, CNC mills, 3D printers
- **Electrical Experience:** Oscilloscope, Multimeter, Soldering, Perfboarding, Breadboarding
- **Office Programs:** Microsoft Excel, Word, PowerPoint, Teams, Google Drive Suite, LaTex