**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