DEREK SERVIN

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SUMMARY

A robotics engineering student with experience in ROS, robotic manipulators, and mobile robots. Competed in national robotics competitions, conducted autonomous robotics research, and is the Chief Engineer of the Intelligent Systems Club. Dabbles in photography and design, bringing creativity and technical expertise to each project.

SKILLS

Native Speaking Languages: English, Spanish
Programming Languages: C/C++, Python, MATLAB, JSON, YAML, XML, Markdown, LaTeX
Tools: Git/GitHub, Visual Studio Code, Arduino IDE, Google Colab
Software & Programs: AutoCAD, SolidWorks, MATLAB, Blender, LTspice, Oracle VM Virtual Box
Robotics: ROS−Melodic, ROS2−Humble, Webots, TMFlow, RViz, Gazebo, Linux/Ubuntu/Kubuntu

PROJECTS

Phoenix The Autonomous Go-Kart | *Project Management − Computer Vision, Python, ROS2, AMR*   Sept. 2023 − Present
- Took 3rd place in the National Autonomous Karting Series Competition and won the Danny White Design Award. Hosted by Purdue University, team Phoenix was up against other prestigious engineering universities.
- Gained hands-on experience with ROS2, computer vision, path planning, obstacle avoidance, robotic simulations, project planning, and scope & team management.

Sorting Arm Manipulator Collaborative Robot | *3D Printing, Arduino, C++, AutoCAD, LTspice*   Nov. − Dec. 2023
- Designed, built, and programmed a collaborative arm manipulator within a team for Robotic Manipulations course.
- Demonstrated for University of Michigan-Dearborn CECS Promotional Video

Autonomous RC Car | *LiDAR, C++, GitHub, Embedded Software Programming*   Jan. − April. 2024
- Worked on "Tiny Kart" utilizing an STM32 microcontoller and LiDAR, gaining hands-on experience with a basic autonomy stack, path planning, Akkerman kinematics.

American Sign Language Interpreter | *MATLAB, Computer Vision, CNN/AI, API*   March − April 2024
- Developed a MATLAB Convolutional Neural Network (CNN) using transfer learning to interpret the American Sign Language (ASL) Alphabet in real time and search the web for the spelled word using an API.

EDUCATION

The University of Michigan-Dearborn   Exp. Dec 2025
B.S.E., Robotics Engineering

Relevant Coursework: Robotic Manipulation, Mobile Robotics, Data Structures, Digital Systems, Intro to Machine Learning

EXPERIENCE

Summer Undergraduate Research Experience (SURE) | *Paid Student Researcher at UM-Dearborn*   June − Sept. 2024
- Conducted independent research on the "Construction of an Autonomous Blimp" with faculty mentorship.
- Received a research grant and was awarded People's Choice at the SURE Showcase.

Intelligence Systems Club (ISC) of UM-D | *Executive Board Member− Chief Engineer*   Sept. 2021 − Present
- Applied multi-disciplinary skills to earn 3rd in AKS competition & the Danny White Design Award (Phoenix 2024)

FIRST Robotics Competition | *Mentor and 2x Captain of Team 6089*   Sept. 2019 − April 2022
- Mentored my former High School robotics team in the programming and design of their robot.

The University of Michigan - Information and Technology Services | *Paid Drafting Intern*   June − July 2019
- Revised and cataloged sensitive technical drawings of the University's infrastructure as a drafting intern.