

Nicholas J. Wohlfeil

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Education

B.S.E Computer Science Engineering

Aug 2020 — May 2024

University of Michigan • Ann Arbor, MI

Skills

Languages: Python, C++, C#, Julia, Matlab, Javascript, SQL, PHP

Frameworks: ROS2, OpenCV, Next.js, Vue.js, Node.js, Astro

Other Software: Git, Docker, Unity

Experience

Applications Developer

Dec 2024 — Dec 2025

University of Michigan Robotics Department • Ann Arbor, MI

- Developed and maintained full-stack applications with Vue.js, PHP, and SQL, being deployed with secure database integration
- Managed and transformed datasets containing over 100,000 records, automating workflows for data extraction and integration
- Automated tasks related to application processing and records management
- Designed and developed a centralized inventory management system from scratch, implementing a real-time checkout feature to accurately track departmental assets

Controls Research Assistant

May 2023 — May 2024

Vehicle Optimization, Dynamics, Control and Autonomy Lab • Ann Arbor, MI

- Conducted algorithm simulations for advanced autonomous space vehicles utilizing mobile omni-directional platforms
- Modeled constraints and control systems to ensure precise regulation of rendezvous operations in orbital environments
- Created demonstrations of 3D mobilization utilizing motion capture and state estimation techniques on hardware representations

Algorithms Research Assistant

Sep 2022 — May 2024

Verified Aerospace Systems Lab • Ann Arbor, MI

- Worked on the development of lightweight communication processes and computer vision algorithms to achieve safe and autonomous robot navigation
- Handled data modeling, processing, and formalization for both autonomous and controller vehicles
- Implemented filters and additional measures to monitor and ensure the validity of state estimation in a local plane or context
- Engineered a spatially-aware computer vision algorithm that calculated real-time distance measurements of approaching vehicles while in-motion