TIMOTHY MARSHALL(Tim)

(937) 542-1634 timothy.marshall1546@gmail.com marshallt6.github.io/portfolio/

EDUCATION

Bachelor of Electrical Engineering |University of Dayton, Dayton, OH |May 2025

- Relevant Courses: Control Systems, Industrial & Electronic Controls, Electrical Communications, Analog/Digital Signals & Systems, Data analytics

Associate's in Automotive Technology| Sinclair Community College, Dayton, OH | December 2016

- Relevant courses: Hybrid/Electric & Alternate Fuel Systems (Automotive), Automotive Electrical and Electronics, Engine Systems, Automatic Transmission systems, Tooling & Machining

Associate's in Science | Sinclair Community College, Dayton, OH | May 2022

- Relevant courses: C++, Java, Python, MATLAB, SolidWorks, Simulink

CO-OP EXPERIENCE

Engineering Co-op | University of Dayton Research Institute, Dayton, OH March 2024 - February 2025

- Developed embedded software for autonomous quadcopter flight, interfacing onboard sensors, actuators, and control logic
- Implemented real-time behaviors and state-based logic for autonomous navigation and object scanning
- Conducted bench-level testing and on-vehicle validation of embedded software
- Maintained and documented version-controlled codebase using GitHub

PROJECTS

- **Search and Rescue Robot**
  Designed and implemented embedded control software integrating sensors, vision models, and motor drivers for autonomous and semi-autonomous operation
  • Developed state-based control logic to manage navigation, task execution, and fault handling
  • Performed bench-level testing and system validation on physical hardware
- **Personal Robot**
  Developed C/C++ firmware on microcontroller platforms to control motors, sensors, and peripheral devices
  • Applied control systems concepts to achieve stable, repeatable motion
  • Used GitHub for version control and iterative development

WORK HISTORY

Customer Service & Delivery | Multiple Employers | 2009 - Present

- Demonstrated reliability, time management, and safe vehicle operation

Automotive Technician | Various Shops |2012 - 2016

- Diagnosed and repaired electrical and mechanical vehicle systems across multiple makes
- Interpreted schematics and documented repairs in compliance with service standards

TECHNICAL SKILLS

Programming: C/C++ (embedded systems), Python (scripting & analysis), MATLAB, Java
Software & Tools: FPGA, Linux, ROS2, GitHub, Arduino, PX4, Docker, SolidWorks, 3D Printing.

PUBLISHED RESEARCH

Ensemble Methodology for Automated Machine Predictive Maintenance Classification
IEEE NAECON July 2024 https://ieeexplore.ieee.org/document/10670632