

Peter Sauer

BS Mechanical Engineering & Computer Science | Master of Science in Robotics

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WORK EXPERIENCE

Senior Software Engineer Applied Intuition (Remote)

Aug 2024 - Present

Designing and implementing inter-agent communication infrastructure and perception pipelines for defense robotics platforms. Architected a dockerized multi-protocol communication system with translation layers supporting gRPC, ZeroMQ, MQTT, UDP, and ROS2, enabling seamless integration with custom OTA proto-based UDP for optimized field performance. Developed perception pipelines leveraging ONNX Runtime and Triton Inference Server for real-time sensor data processing. Built robust vehicle and sensor interfaces using ROS2, enabling reliable communication between autonomous systems in complex operational environments. Focused on creating scalable, containerized solutions for distributed robotic systems.

Senior Mechatronics Engineer Ocean Power Technologies

Aug 2023 - Aug 2024

Promoted to senior role leading technical development initiatives for autonomous marine vehicles. Led architecture and implementation of critical systems for the WAM-V platform, driving decisions on software, firmware, and hardware integration. Mentored junior engineers and established best practices for field deployments. Continued to travel globally supporting deployment teams and ensuring successful mission execution across diverse operational environments including surveillance and maritime mapping applications.

Mechatronics Engineer Ocean Power Technologies

Aug 2020 - Aug 2023

Started as the 5th employee in the company, and worked through an acquisition to help grow the team to over 20 employees. Developed software, firmware, and hardware for autonomous vehicles (the WAM-V). Traveled internationally to aid teams in development projects in the Middle East and offshore Alaska. Worked closely with teams in the field to develop solutions for surveillance, seafloor mapping and other maritime applications.

Mechanical Engineer Presco Inc.

Mar 2020 - Aug 2020

Designed and built a prototype for a UV-C mask cleaner that incorporated an arduino-based timer to protect users from harmful UV-C LEDs. Also designed and built a prototype of a UV-C mail cleaner that used two stepper motors to feed mail through a UV-C cleaner.

SKILLS

Programming

Python (ROS/ROS2)
C, C++ (Microcontrollers, ROS/ROS2)
Javascript, CSS, HTML
Debian, Ubuntu, Windows, MacOS
Computer Vision (ONNX, Triton)

Robotics & Infrastructure

ROS/ROS2
Docker & Containerization
gRPC, ZeroMQ, MQTT, UDP
Protocol Buffers
Distributed Systems

ML & Perception

ONNX Runtime
Triton Inference Server
Computer Vision Pipelines
Sensor Fusion

CAD & Design

SolidWorks, Autodesk Inventor,
Onshape
Adobe Illustrator, Photoshop
Rapid Prototyping, 3D Printing

REFERENCES

Josh Mehlman

Senior Director of Engineering for
Autonomous Vehicles, Ocean Power
Technologies Inc.
510-367-0995
eel.josh@gmail.com

Mark Gundersen

VP of Autonomous Vehicles, Ocean
Power Technologies Inc.
510-334-5525
mgundersen@oceanpowertech.com

Creative Lead
Project Cyclone

2020 - 2021

Worked on the UI for a startup company I co-founded that takes sensor data from machines (diesel engines for our test case) and uses Machine Learning to produce a maintenance schedule that reduces machine downtime considerably.

Software Dev Intern
Pike Technologies

Summer 2019

Primarily worked on automating a coating process using the 861 Deposition Controller by Telemark. Also added wireless connectivity to a temperature control module and programmed a web application to display temperatures plotted over time.

Student Worker
Grainger Design Innovation Lab

Spring 2019

Aided professors and grad/undergrad students in rapid prototyping processes like 3D printing, lasercutting and CNC routing.

EDUCATION

Master of Science in Robotics
Northwestern University

2020 - 2021

BS Mechanical Engineering, Minor in CS
University of Wisconsin

2016 - 2020

Staples High School

National Honor Society | National Merit Scholar | Design Innovation Award

EXTRACURRICULARS

Wisconsin Sailing Team Captain

2019 - 2020

Managed a team of 40-50 college sailors competing at the national level. Coordinated travel across the US, managed a \$100,000+ budget, created rosters, hired coaches and staff.

FIRST Tech Challenge Team Captain and Founder

2012 - 2016

Founded FTC team (6081) that won awards at the World Championship three years in a row, and won second place in its final year.