Trevor Sherrard

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Professional Summary

Computer vision and robotics thought leader seeking new opportunities in the development of advanced perception systems, autonomous systems, and advanced IoT platforms.

Work experience

July 2022 - Present

SpaceCog Labs

Owner and Operator

Autonomous system consultant and software developer. Specializing in autonomous system software architecture and development, robot perception pipeline development, robot motion planning and state estimation system development.

March 2022 - July 2022

TurbineOne

Robotics Software Engineer

Developed an autonomous, GPS+RTK based foreign object debris (FOD) detection robotic system for military air bases. Developed an advanced GPS based coverage path planning algorithm based on Boustrophedon decomposition and RRT. Prototyped and deployed several classical and machine learning based image processing algorithms for FOD detection.

August 2020 – March 2022

Bryx, Inc

Director of R&D

Worked on developing perception and mapping technologies for advanced autonomous aerial systems to provide increased situational awareness to first responders. Designed custom hardware and firmware for devices used in data collection and building automation applications. Managing engineers working to move R&D to production systems.

May 2019 – March 2020

Calvary Robotics

Controls Software Co-Op

Developed OpenCV based vision inspection applications for collaborative robotics material handling systems. Fortified existing vision applications for use in various lighting conditions. Implemented Ignition Designer SCADA applications.

January 2018 – February 2019

R.I.T

ROS Software Architect

Responsible for creating a distributed software architecture using Robot Operating System for a multi-agent intelligent material handling system. Participated in gated reviews of implemented software.

Education

2020 – 2022 **Worcester Polytechnic Institute**
M.S Robotics Engineering
GPA: 4.00

2015 – 2020 **Rochester Institute of Technology**
B.S Electrical Engineering
GPA: 3.25

Robotics Projects

2021 **Pandemic Telenursing Robot Platform (bit.ly/PandemicBot)**
A telenursing platform designed for deployment in African hospitals for use in pandemic scenarios.

Computer Vision Projects

2021 **Modular Wireless Haptic Robot Controller (bit.ly/modPose)**
A wireless, hand-held, audio-haptic 6-DOF pose capture system serving as a modular human-robot interface.

Technical Skills

Languages	Python, C, C++, MATLAB
Software Frameworks	ROS, OpenCV, Tensorflow, FreeRTOS, NumPy, scikit-learn, PCL, moveIt!
Hardware Platforms	AVR, STM32, Raspberry Pi, NVIDIA Jetson
Technical Concepts	LiDAR, mmWave Radar, Depth Imaging, Robot Perception, Path Planning, State Estimation, Control Systems, Embedded Systems, Point Cloud Processing