

# Trevor Sherrard

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## PROFESSIONAL SUMMARY

Robotics Engineering graduate student seeking additional opportunities in further higher education. I have a particular interest in machine intelligence and autonomous system development.

## WORK EXPERIENCE

AUGUST 2020 – CURRENT

Bryx, Inc

### *Research & Development Engineer*

Worked in developing perception, mapping and planning technologies for advanced autonomous systems to allow for increased situational awareness to first responders. Designed custom hardware and firmware for devices used in data collection and building automation applications.

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.

MAY 2018 – AUGUST 2018

Calvary Robotics

### *Controls Software Co-Op*

Architected, implemented, and tested an embedded, OPC UA based, industrial internet of things (IIoT) performance tracking software platform for industrial manufacturing machines. Aided in the development of Keyence and Cognex based vision inspection applications.

MAY 2017 – DECEMBER 2017

D3 Engineering

### *Embedded Software Co-Op*

Developed board support software and various device drivers for multi-core embedded advanced driver assistance systems. Prototyped various image processing pipelines using OpenCV. Designed and performed various tests to verify RTOS software functionality.

## 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](http://bit.ly/PandemicBot))**

*Telenursing platform designed for deployment in African hospitals for use in pandemic scenarios.*

2018 **Kudos ([bit.ly/Kudos2018](http://bit.ly/Kudos2018))**

*A differential drive robot making use of a distributed ROS architecture and an exploratory SLAM algorithm to map out unknown spaces.*

## COMPUTER VISION PROJECTS

2021 **Wireless 6-DOF Pose Capture System ([bit.ly/6DOFPose](http://bit.ly/6DOFPose))**

*A hand-held 6-DOF pose capture system serving as a human-robot interface.*

2018 **RIT SPEX HAB Horizon Detection ([bit.ly/RITHAB2018](http://bit.ly/RITHAB2018))**

*A CLI application using OpenCV to detect the earth's horizon in images taken from a high altitude balloon. This code ran on a Raspberry Pi at 60,000+ feet.*

## TECHNICAL SKILLS

LANGUAGES Python, C, C++,  
MATLAB

SOFTWARE FRAMEWORKS ROS, OpenCV,  
Tensorflow,  
FreeRTOS, NumPy,  
scikit-learn, PCL

TECHNICAL CONCEPTS LiDAR, mmWave  
Radar, Depth  
Imaging, Robot  
Perception, Path  
Planning, State  
Estimation, Control  
Systems, Embedded  
Systems, Point  
Cloud Processing