

# Charles S. Baptista

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## SKILLS

Programming - C, C++, Git, Linux, FreeRTOS

Industrial - Siemens PLC, SCL, LAD, TIA Openness, S7 Safety

Tools - Power and Hand Tools, Oscilloscope, Multimeter, 3D Printing

Electrical - NFPA 70E Certified, Read Schematics, Cable Construction, Soldering

CAD Software - SolidWorks, PTC Creo

## WORK EXPERIENCE

### Berkshire Grey | Bedford, MA

Nov 2020 - Current

Principal Electrical Engineer

- Led PLC controls for RSPS warehouse picking product; from lab prototype to 100+ production systems.
- Designed Concept-Of-Operations for RSPS warehouse picking station.
- Wrote configuration control tools, administrated version control and release cycle for PLC codebase.
- Led 8 man install team on-site during construction of large zero-pressure-accumulation conveyor system.
- Implemented controls for large zero-pressure-accumulation conveyor system, capable of 52 CPM throughput with a 40 minute MTBF.

### Berkshire Grey | Perth Amboy, NJ

Nov 2018 - Nov 2020

Field Service Engineer

- Diagnosed and repaired 500+ mobile robots.
- Investigated root cause for a wide variety of issues on a large robotic warehouse automation system.
- Developed FreeRTOS firmware features in C for mobile robots, improving error reporting and sensor feedback.
- Performed commissioning, diagnosis, repair and reworks of industrial electrical cabinets.

### Cytonome | Bedford, MA

Sept 2017 - Dec 2017

Manufacturing Engineering Co-Op

- Designed and assembled fixtures to improve manufacturing processes.
- Wrote and revised assembly/test procedures and trained technicians.
- Created Excel VBA programs to automatically process raw trial data into test records.

### SharkNinja | Newton, MA

Jan 2017 - May 2017

Test Engineering Co-Op

- Designed testbed for robotic vacuum cleaner accelerated-life and reliability testing.
- Created software tools and UI for testing and data processing in MatLab and Excel.
- Assessed testing data and procedures to increase repeatability, identify sources of error, and otherwise improve testing standards

### YDreams Robotics | Lisbon, Portugal

Jul 2013 - Aug 2013

Design Internship

- Designed prototype for two-wheeled self-balancing smartphone robot
- Designed attachable electric multi-tool systems for smartphone robot including, scissors, pen and screwdriver

## EDUCATION

Wentworth Institute of Technology

Graduated 2018

Bachelor of Science - Mechanical Engineering

## PROJECTS

Smart Lamp | Capstone Project

Jan 2018 - Aug 2018

- Designed, programmed and manufactured robotic desk lamp
- Programmed Denavit-Hartenberg forward kinematics and inverse kinematics systems

Tapestry Game Engine | Independent Project

Aug 2015 - May 2018

- Developed 2D side-scroller game engine in C++ using the SDL2 library
- Programmed systems including animation, actors, sound, JSON based level loading, events, terrain, and physics among others