Craig Ropi

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Amazon Robotics [Kiva Systems] **N. Reading, MA** **June 2012- Present**
Electrical Engineer

- Designed several production PCBAs for autonomous robotic systems
  Examples: Several 1-8kW Brushless DC Motor Drivers | Battery Management System
  Wireless Proximity Detection Receivers | Infrared Light Transceivers for Robot & Charger
- Over 1 million of my PCBA designs are running inside robots in Amazon Facilities worldwide
- Technical leader of a 5-engineer multidisciplinary team that designed and validated a new automated charging system in partnership with a power supply manufacturer
- Architect and Lead engineer of 5-EE team that designed the electronics for a new production differential-drive robotic platform
- Wrote technical requirements for several BLDC motors and acted as POC for motor designers

Ferro Solutions, Inc. **Woburn, MA** **Nov. 2010 – June 2012**
Electrical Engineer

- Designed simulations, schematics, and layouts of PCBAs for magnetic near-field communication and wireless power transfer systems
- Wrote and reviewed technical investment proposals, presentations and patent applications

General Dynamics C4 Systems **Needham, MA** **June 2009 – Oct. 2010**
Systems Engineer

- Wrote and tested design requirements for a Windows/UNIX encryptor manager
- Designed and presented a demonstration at a user's conference in Las Vegas, NV

Measurement Computing Corp. **Norton, MA** **May 2008 – Aug. 2008**
Hardware Engineering Intern

- Designed a PCIe, digital I/O, data-acquisition product and oversaw its market release

Software: Schematic Design - Altium Designer | PADS Logic | DxDesigner | OrCAD Capture
Layout Design - Altium Designer | PADS Layout | Allegro Viewer
Simulation/Modeling/Analysis - MATLAB & Simulink | LTspice | Onshape 3D modeling

Equipment: Spectrum analyzer | Impedance analyzer | Lock-in amplifier | Current probe | Programmable load | Thermal camera | Digital I/O devices | Function generator | Oscilloscope

Programming: MATLAB | Python | Bash | C/C++ | HTML/CSS | Java | VHDL

Training/Certifications: Exida Introduction to IEC 61508 (Functional Safety Standard)
MIT Design of Motors, Generators, and Drive Systems (Professional Education Short Program)

Patents: ⇱ Google Patents

University of Pennsylvania via edX **Dec. 2018 – Sept. 2020**

Robotics MicroMasters Program

Coursework:

↖ Robotics: Kinematics and Mathematical Foundations

↖ Robotics: Vision Intelligence and Machine Learning

↖ Robotics: Dynamics and Control

↖ Robotics: Locomotion Engineering

Worcester Polytechnic Institute **Worcester, MA** **Aug. 2005 – May 2009**

Bachelor of Science in Electrical and Computer Engineering with Computer Science Minor

GPA: 3.53 Class of 2009

Projects:

English Needs Assessment of Hong Kong University of Science & Tech. (HKUST) Students:

- Traveled to Hong Kong to evaluate and improve a university English language program

Sudden Infant Death Syndrome (SIDS) Detector:

- Designed, built and tested a heart monitor fit for an infant in under seven weeks

Class D Audio Amplifier (NECAMSID Lab):

- Designed and built a class D audio amplifier prototype with over 95% power efficiency

Coursework:

Analog IC Design	RF Circuit Design	Microelectronic Circuits
Software Engineering	Semiconductor Devices	Advanced Digital System Design