

# Craig Ropi

craigropi@gmail.com | [craigropi.com](https://craigropi.com)

Medford, MA 02155

## 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