

### Electrical Engineering:

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**Tools:** Oscilloscope, Spectrum Analyzer, Hot Air Reflow Station, Solder Station, DMM

**Software:** Eagle, Matlab, ELECTRA, NI Multisim, LTSpice

**Microcontrollers:** Atmel (C), PIC (C, ASSEMBLY)

**Development Platforms:** Arduino, Raspberry Pi, BeagleBone Black

**Skills:** Switched Mode Power Supplies, Passive Magnetics, ESD Protection Practices, SMD Soldering, Circuit Simulation and Analysis, Prototyping, PCB Design, Embedded Linux, BOM Management, I2C

### Mechanical Engineering:

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**Tools:** 3D Thermoplastic Extrusion Printers, Calipers, Rotary Hand-Tools

**Software:** LibreCAD, QCAD, DesignSpark Mechanical, OpenSCAD, SketchUp, Blender

**Skills:** 2D and 3D CAD, COTS Integration, Measurements, Rapid Prototyping

### Information Systems:

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**Software:** Ophcrack, PuTTY, VMWare, Xen, VirtualBox, CentOS, Debian, Ubuntu, Apache, MySQL, MS SQL

**Languages:** Shell Scripting, Python, Batch, HTML, C, Assembly

**Skills:** Security Auditing, Automation Scripting, Network Design, Network Security, Virtual Machine Management, Linux Management, Windows Management, Asset Classification, Critical Intellectual Property Data Flow Mapping

### Soft Skills:

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**Software:** MS Office Suite (PowerPoint, Word, Excel), Google Drive Office Suite (Docs, Sheets, Slides, Forms)

**Skills:** Presentation, Leadership, Writing, Documentation

### Relevant Professional Experience

**Manager | Ernst & Young, LLP**

Jul 2017 to Present

- Team leader and engineering specialist for high-tech customers
- Manage a team focused on providing ground-up analysis of information governance
- Collaborating with team furthering the development of multi-million dollar tool I prototyped

**Chief Development Architect, Senior | Ernst & Young, LLP**

Nov 2014 to Jul 2017

- Product development and project management on key projects for a Fortune 500 customer.
- Lead three client-facing team members and directed an outsourced international software engineering consulting firm to deliver on product development for clients.
- Performed over \$3M in services in the past 18 months.

**Product Engineer | Streeper Industries**

May 2016 to Sept 2016

- Collaborated with Game Designer for Electrical and Mechanical escape room puzzles to create sensible design requirements for new attractions

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- Used requirements to develop sustainable, reliable, and extensible puzzles for new attractions.
  - Consulted with business owner to create an optimal product lifecycle strategy

**Field Application Engineer** | Inter-Technical Group, Inc

May 2014 - Nov 2014

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- Development of product datasheets for inductor product lines
  - Design of 3D and 2D drawings for new custom parts
  - R&D for microcontroller actuated inductors and component attributes for ferrite-based products
  - Client work included HP, Dell, TI and Linear

**IT Systems Engineer** | Casey Industrial, Inc

Aug 2013 - April 2014

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- Research and development of in-house solutions for rapid development of new technologies.
  - Developed and implemented mobile virtual server platforms.

**Electrical Engineering Intern** | Advanced Energy Industries

May 2011 - Aug 2011

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- Assisted in circuit troubleshooting.
  - Designed and implemented automated testing software
  - Assembled circuit boards with surface mounted components

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### **Certifications:**

- Certified Fraud Examiner, ACFE, 2017
- Introduction to Power Electronics, Coursera, 2017

### **Project History:**

#### **Qualcomm / EY: Contextual Data Classification Engine**

- Prototyped, tested, and deployed data metadata crawling engine
- Prototyped, tested, and deployed machine learning classification engine
  - Identified Critical Export Controlled data for Export Compliance team
  - Identified Redundant, Outdated, and Trivial data for IT Storage Team
- Lead development team to automate and streamline prototype tool
- Delivered and operated tool as part of a +\$1M project

#### **Streeper Industries: I/O Expander with I2C Communication**

- Designed a PCB with a 40 bit I/O Port Expander with I2C Communication (up to 1MHz)
- Solder-selected device ID configuration from 64 slave addresses
- Multiple boards set in chain could offer 2,560 I/O controlled by one microcontroller
- Optimized routing using industry standard tools to save on PCB manufacture
- Designed around achieving a low cost BOM with high performance and design flexibility

#### **Inter-Technical, LLC: Wireless Power Transmit and Receive Coils**

- Designed 3d housing and coil specifications for wireless power charging system
- Collaborated with client to meet thickness and footprint requirements for firearm application
- 3D printed prototypes of housing to help foresee manufacturing difficulties
- Collaborated with on-site and Shenzhen CH manufacturing team to develop assembly and tolerance guide

#### **Casey Industrial, INC: COTS Time-Lapse Camera System**

- Used COTS components to create hardened Time Lapse Camera system
- Achieved all feature goals at 1/10th of lowest competing market price
- Designed local, remote (SFTP) and cloud redundancy for image stores
- Implemented fail-correction features to ensure minimal maintenance

### **Education:**

**Bachelor of Science in Electrical Engineering Technology**, Metropolitan State University of Denver, 2013

**Senior Thesis:** Designed/constructed an electromyogram array biomedical device with time domain and frequency domain outputs.

**Relevant Coursework:** Microcontrollers and Interface Technology, Control Systems Design, Analog and Digital Communications, Circuit Theory and Electronics, PLCs