Work Experience

**K&J Magnetics** 01/02/17-present

Mechanical engineer

* Wrote script in VBScript to dynamically draft web-friendly engineering drawings for thousands of magnets
* Wrote scripts in Python and VBScript to model permanent magnets and generate data for web calculator
* Performed finite element analysis (FEA) using both FEMM software and custom written Python code
* Designed and developed website features using VBScript, JavaScript, and HTML/CSS
* Provided technical support for customers in dozens of different industries
* Designed projects showcasing use of magnets, including permanent magnet generators and motors, magnetic levitators, and Halbach arrays
* Drafted SolidWorks models and drawings for new products

**SouthCo Counterbalance** 06/08**/**2016–08/24/2016

Shop laborer

* Checked machined parts against engineering drawings using standard quality control tools, including a vision system, electronic height gages, pin gages, and digital and dial calipers
* Operated Haas vertical computer numerical control (CNC) mill to machine 10-20 parts per hour
* Assembled and packaged mechanical counterbalance products
* Entered completed products into company enterprise resource planning (ERP) system

**Robert Bosch, GmbH** 01/07/2015-05/08/2015

Quality engineering co-op

* Wrote MS Excel macros to automate tracking of quality standard violations
* Collected and analyzed data following Shainin methodology
* Participated in failure mode and effects analyses (FMEA) of various production lines
* Updated documents to comply with new Bosch quality standards

**Penn State Dept of Mechanical Engineering** 09/08/2013-05/06/2016

Instrument room attendant

* Identified and performed minor repairs on broken equipment
* Assisted hundreds of engineering students and faculty with research and academic projects
* Supervised students using wood shop
* Trained and scheduled new employees during management changeover

Education

**The Pennsylvania State University** Graduated 05/07/2016

*B.S Mechanical engineering* GPA 3.68/4.00

**Middle Bucks Institute of Technology** 2017

*Certificate: CNC Machining*

Volunteer/Academic Positions

**Abington Art Center** 03/2018-present

* Volunteer open studio monitor for makerspace

**Penn State Lunar Lion Team** 09/2013-12/2014

* Wrote and debugged MATLAB program for analyzing data
* Wrote and debugged software for use in drone flight control system

**Penn State Advanced Vehicle Team** 01/2013-05/2013

* Designed and fabricated battery pack safety mechanism

**Course: Microcomputer interfacing** 08/2015-12/2015

* Designed, built, and tested Arduino controlled treadmill that adjusts speed based on heart rate

**Course: Design Methodology** 08/2014-12/2014

* Designed, built, and tested handheld vacuum cleaner from parts of a drill