

Research Experience

- **Phases Research Lab, Pennsylvania State University**
NSF National Research Trainee (Advisor: Dr. Zi-Kui Liu)
 - Developed computational tools for high-throughput ab-initio materials calculations
 - Used VASP to make first principles predictions for metallic alloys
 - Created phase diagrams from ab-initio and experimental data using the CALPHAD method
 - **Solid State Ionics Laboratory, Michigan State University**
Undergraduate Research Assistant (Advisor: Dr. Jason D. Nicholas)
 - Fabricated and tested Solid Oxide Fuel Cells
 - Characterized fuel cells with EIS, XRD, and SEM
 - Developed a Python application for data analysis and visualization using Matplotlib and Tkinter
 - Participated in a 10 week professional development course
 - **Composite Materials & Structures Center, Michigan State University**
Undergraduate Research Assistant (Advisor: Dr. Lawrence T. Drzal)
 - Designed a graphene nanoplatelet-based capacitive deionization cell
 - Characterized graphene nanoplatelet papers using scanning electron microscopy
 - Used Solidworks to create a 3D printed model for the deionization cell apparatus
 - Participated in a 10 week professional development course

University Park, PA
2016 – Present

East Lansing, MI
2015 – 2016

East Lansing, MI
2014 – 2015
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Teaching Experience

- **College of Engineering, Michigan State University**
Undergraduate Lab Mentor
 - Mentored 3 classes, interacting with over 250 students
 - Responsible for grading assignments and quizzes, promoting learning, and proctoring exams
 - EGR 100 - Introduction to Engineering Design
 - EGR 102 - Introduction to Engineering Modeling
 - EGR 291 - Spatial Visualization

East Lansing, MI
2015 – 2016
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Education

- **Pennsylvania State University**
Ph.D. Materials Science and Engineering; Graduate Minor, Computational Materials
 - NSF National Research Trainee in the CoMET Program (<http://dftcomet.psu.edu>)
 - **Michigan State University**
B.S. Materials Science and Engineering
 - 3.56 GPA
 - Dean's List, 5 semesters
 - MSU College of Engineering Endowed Opportunity Fund scholarship recipient (2015 – 2016)
 - Webmaster for the Materials Science and Engineering Society (<http://egr.msu.edu/msesoc>) (2015 – 2016)

University Park, PA
2016 – Present

East Lansing, MI
2012 – 2016
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Technical Skills

Computational Tools: Python, MATLAB, C++, VASP, Thermo-Calc, Solidworks, VESTA, L^AT_EX

Materials Characterization Techniques: Differential Scanning Calorimetry (DSC), Electrical Impedance Spectroscopy (EIS), Hardness Analysis, Optical Microscopy, Thermal Gravimetric Analysis (TGA), Scanning Electron Microscopy (SEM), X-Ray Powder Diffraction Spectroscopy (XRD), Profilometry