

Brandon Bocklund

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Experience

- **Dr. Jason D. Nicholas Research Group, Michigan State University** **East Lansing, MI**
Undergraduate Research Assistant *2015 – Present*
 - Second year in the Michigan State University Engineering Summer Undergraduate Research Experience (EnSURE) program
 - Fabricated and tested Solid Oxide Fuel Cells using Electrochemical Impedance Spectroscopy
 - Examined infiltrated nanoparticle size using Scanning Electron Microscopy
 - Characterized nanoparticle powders using X-Ray Powder Diffraction
 - Developed a Python application for data analysis and visualization using Matplotlib and Tkinter
 - Presented research at MidSURE 2015
 - Participated in a weekly professional development seminar for the duration of the program
 - Continued research for credit during the school year
 - **Dr. Lawrence T. Drzal Research Group, Michigan State University** **East Lansing, MI**
Undergraduate Research Assistant *2014 – 2015*
 - First year in the Michigan State University EnSURE program
 - Investigated and designed a graphene nanoplatelet capacitive deionization cell
 - Characterized graphene nanoplatelet papers using Scanning Electron Microscopy
 - Used Solidworks to create a 3D printed model for the deionization cell apparatus
 - Presented research at MidSURE 2014
 - Participated in a weekly professional development seminar for the duration of the program
 - Continued research during the school year
 - **Residence Education and Housing Services, Michigan State University** **East Lansing, MI**
Resident Assistant *2013 – 2014*
 - Coordinated logistics and performed administrative duties for my floor community
 - Responded to and reported incidents in the residence hall while on duty, about two nights per week
 - Planned and executed programs that promote resident support, academic success, intercultural engagement, and health and wellness
 - Assisted and supported residents in their learning, multicultural development, character building, community development, and well-being
 - **Jetech, Inc.** **Battle Creek, MI**
Fabrication Assistant *Summer 2013*
 - **Lakeview Youth Association** **Battle Creek, MI**
Little League Baseball Umpire *Summer 2013, 2014*
 - **Irish Pub** **Battle Creek, MI**
Dishwasher *2011 – 2012*
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Education

- **Michigan State University** **East Lansing, MI**
B.S. Materials Science and Engineering *2012 – 2016*
 - 3.51 GPA
 - Dean's List, 4 semesters
 - Michigan State University College of Engineering Endowed Opportunity Fund scholarship recipient (2015 – 2016)
 - Webmaster for the Materials Science and Engineering Society (MSES) (2015 – 2016)
 - Redesigned the MSES website (<http://egr.msu.edu/msesoc>) using HTML and CSS, conformed with MSU Brand Standards (2015)
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Publications

- "Performance of A-site deficient ($\text{La}_{0.6-x}\text{Sr}_{0.4}\text{Co}_{0.8}\text{Fe}_{0.2}\text{O}_{3-\delta}$, $x = 0.02, 0.1, 0.25$) infiltrated nanoparticles as MIEC materials for SOFC cathodes" (2015)
 - "Graphene Membranes for Desalination of Seawater by Capacitive Deionization" (2014)
 - "Determining Iron Content of Water: How iOS Devices Can Indicate Water Quality" (2012)
 - "Comparison of Protein Powders Using the Kjeldahl Method" (2011)
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Technical Skills

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)

Programming Languages Cocoa, C++, CSS, HTML, Java, JavaScript, \LaTeX , MATLAB, Objective-C, Python, Solidworks