

**OBJECTIVE**

To obtain a challenging position at a reputable company where I can use my engineering, mathematics, and computer programming skills to benefit the company and contribute to its success.

**EDUCATION****The University of Pittsburgh**

Swanson School of Engineering  
B.S. Chemical Engineering / Mathematics Minor  
Summa Cum Laude Graduate  
August 2013 – December 2017  
Final GPA: 3.793

**Johns Hopkins University (Part Time, Online)**

Whiting School of Engineering  
M.S. Applied and Computational Mathematics  
January 2018 – Present

**GRE Scores**

Quantitative Reasoning: 170/170  
Verbal Reasoning: 155/170

**COMPUTER SKILLS****Engineering Computing**

- Experience using, debugging, and programming iterative models, specifically models involving polymer kinetics, polymer thermodynamics, and adsorption systems
- Experience with cluster computing using both the Torque and Slurm high-performance computing environments
- Significant exposure to engineering computation with MATLAB and Simulink through Chemical Engineering and Mathematics coursework
- Statistical programming experience, including coursework in R through graduate classes

**Object Oriented Programming**

- Significant experience with object oriented languages such as Java, C/C++, and Python through a combination of coursework, professional work, and independent study
- Experience with Quality Assurance practices, including Unit Testing and Test Driven Development (TDD), through undergraduate coursework

**Scripting, Object Based Programming, and Web Design**

- Strong experience with Python scripting, mostly in a UNIX environment, including significant use of libraries such as numpy, subprocess, sys, os, etc.
- Experience with batch (Windows) and bash (UNIX) command line scripting
- Strong experience using Visual Basic for Applications in Excel
- Highly proficient with front-end web development including JavaScript and other front-end technologies such as bootstrap.js, AJAX, jQuery, and graphing libraries like highcharts.js
- Some back-end web development experience, including node.js using Express and a variety of REST APIs developed by web-based companies and organizations

**General Skills**

- Experience with version control using Github and git
- SQL experience and experience with databases like Google Firebase
- Experience integrating front-end, back-end, and database technologies to create fully realized projects

## WORK EXPERIENCE

### ***Research Assistant at the University of Pittsburgh, (January 2017 – January 2018)***

- Used RASPA, a computational chemistry software package, to model adsorption in Metal Organic Frameworks and compare computational results to experimentally determined values
- Developed and assisted in development of Python files that enabled quick manipulation of a large number of simulation files
- Investigated trends in data as well as patterns in the results of several simulations of interest. Worked to identify possible errors in simulation results
- Determined the degree to which several input variables affected simulation operation and results

### ***Co-operative Education Intern – Covestro LLC (formerly Bayer MaterialScience LLC), Pittsburgh, Pennsylvania (August 2015 - December 2015; May 2016 – August 2016)***

- Created multiple web applications using AJAX and JavaScript. Employed various data analysis techniques to include features such as sorting, filtering, and grouping data based on user preference.
- Updated Reactor Model and Benchmarking/Best Demonstrated Step Time Calculator applications by debugging errors and rewriting code to improve program efficiency. Updated corresponding user documentation.
- Studied work-up vessel data trends and performed a detailed cost analysis comparison on different systems for polyether creation

### ***Co-operative Education Intern – Bayer MaterialScience LLC, Pittsburgh, Pennsylvania (January 2015 - May 2015)***

- Developed a Visual Basic application to query plant data and perform a chemical product recipe efficiency analysis
- Created process and instrumentation diagrams in PI ProcessBook, replicating Aspen diagrams that were unavailable outside working hours
- Studied plant reactor data trends and recommended Distributed Control System (DCS) programming corrections to improve process efficiency
- Analyzed global vacuum distillation systems, compiling data and conducting efficiency comparisons between Bayer's chemical plants

### ***Intern - Wastewater Collection System, South Fayette Township Municipal Authority, Bridgeville, Pennsylvania (May 2014 - August 2014)***

- Maintained sewage pipeline information on township-wide Geoplan server
- Repaired sewage lines and replaced piping
- Managed monthly distribution of township sewage bills
- General sewage plant maintenance and inspection of facilities

## HONORS AND ACTIVITIES

### **Honors**

- Summa Cum Laude Graduate, University of Pittsburgh
- Bayer USA Foundation Special Scholarship recipient
- National Society of Collegiate Scholars
- Delta Epsilon Iota Academic Honor Society
- Phi Eta Sigma National Honor Society

### **Activities**

- National Society of Leadership and Success
- University of Pittsburgh Intramural Volleyball League
- Independent web development and involvement in Codepen Pittsburgh
- Traveling, attending concerts, scuba diving and playing guitar