

# Justin Huber

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## EDUCATION

### University of Michigan

B.S.E. in Data Science Engineering

Ann Arbor, MI

Sep 2018 – May 2019

B.S.E. in Chemical Engineering

Sep 2015 – May 2018

GPA: 3.50/4.00

### RWTH Aachen University

Study & Research Abroad

Aachen, Germany

May - Aug 2016

## PROJECT EXPERIENCE

### Open Source Contributor — SciKit Learn

Apr 2020 – Present

- Contribute backend production code (Python, Cython) to SciKit Learn which has a monthly userbase over 600,000
- Write statistical testing to ensure stability of a random number generator across differing systems

### Data Scientist Project Lead — Computer Vision Senior Thesis

Jan – May 2019

- Led a team of 4 in creating a parallelized Structure from Motion pipeline taking a set of images of a scene and creating a 3D representation using Machine Learning and Computer Vision techniques (Feature Extraction, Reduction and Matching, Geometric Verification) and Python (OpenCV, SciKit Learn, Numpy)
- Trained team on the use of the previously named packages
- Improved upon an existing Python implementation of a similar Structure from Motion pipeline resulting in a 30% decrease in pipeline runtime

### Software Engineer Project Lead — OS Course Projects

Sep – Dec 2018

- Led a team of 3 in completing 3 projects over the span of 4 months
- Projects included implementing a thread library, a pager, and a network file server, all in C++
- Trained team on the use of Makefiles, Git, and the C++ STL
- Created automated test suites for all 3 projects using C++ and Makefiles

### Computational Research Assistant — Prof. Mayes Lab

May – Aug 2018

- Developed a program for reducing high dimensionality proteins into their most important features to optimize the computation needed in the comparison process for researchers
- Used likelihood maximization for parameter estimation to define the model and compared between models using BIC
- Implemented a theoretical research paper's method first in C and finally in Python using Numpy, Scipy, and SciKit Learn
- Designed the program to be parallelizable for efficient running on computational clusters using multithreading within Python

May – Aug 2017

- Explored the viability of a set of quantum mechanic (QM) computational methods for simulating sugars to help researchers narrow down selection of tools when solving QM problems
- Used Python (Numpy, Scipy, Matplotlib, and Pandas) to develop a modified k-means clustering algorithm to selectively group QM simulated sugars based on structure
- Used Python, VBA, and Bash to generate a pipeline for systematically clustering, visualizing, and analyzing simulation data of sugars

### Computational Research Assistant — Prof. Mitsos Lab

May – Aug 2016

- Using C++, Aspen, the NRTL thermodynamic model, and the GAMS programming language, modelled chemical engineering equipment for use in prescreening solvents to determine viability for use in fuels by comparing calculation time, accuracy, and efficiency

## LEADERSHIP EXPERIENCE

### Arbor Esports — Competitive Gaming Director

Organized tournaments, viewing events, and socials for e-sport events attended by hundreds

### BLUElab Biogas International — Team Lead

Led design of a gas detection system using Arduino to detect levels of hydrogen sulfide, methane, and water in biogas production for rural farmers in Mexico

### International Buddy Program — Mentor

Helped international students overcome culture shock by assisting their move-in and helping them socialize

### Boy Scouts of America — Eagle Scout

Made the rank of Eagle Scout after 10 years in the organization and leading the construction of a 40 ft pedestrian bridge

## SKILLS

**Computer Languages:** Python, C++, C, Java, Make, HTML, SQL, JavaScript

**Human Languages:** German (B2), Spanish (B2), Japanese (N5)

**Computer Skills:** Git, Bash, LaTeX, Vim, Visual Studio, PyCharm, IntelliJ, Microsoft Office, Google Drive Suite

**Platforms:** Linux (Ubuntu), Windows

## RELEVANT COURSES

Machine Learning  
Operating Systems  
Web Systems  
Computer Vision  
Artificial Intelligence

## HOBBIES

Gaming/DnD  
Traveling  
Learning Languages  
Drawing  
Backpacking