

Jacob Brehm

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EDUCATION

University of Rochester

MS in Data Science

Rochester, NY, USA

Jun 2022 – Present

Clarkson University

BS in Mechanical Engineering, Minor in Mathematics

GPA: 3.84/4.00, with great distinction [🔗](#)

Potsdam, NY, USA

Aug 2014 – May 2018

University of Leicester

Study Abroad Year

Leicester, England

Sep 2017 - May 2018

University of Technology Sydney

Study Abroad Semester

Sydney, NSW, Australia

Mar 2016 - Jun 2016



CERTIFICATES

2021 Google Data Analytics [🔗](#)

Coursera



HONORS AND AWARDS

2015 - 2017 Presidential Scholar (3 semesters) [🔗](#)
2014 Dean's List (1 semester) [🔗](#)

Clarkson University

Clarkson University



PUBLICATIONS

Young, D. C., **Brehm, J. M.**, & Scrimgeour, J. (2019). Driving complex flow waveforms with a linear voice coil actuator. *Biomicrofluidics*, 13(3), 034101. [🔗](#)



PRESENTATIONS

“Characterizing the Noise in a Super-resolution Microscope with Sub-nanometer Precision”, Clarkson University SURE, speaker and designer. Potsdam, NY, April 2015.



RESEARCH EXPERIENCE

Clarkson University

Dr. Jan Scrimgeour

Designed and optimized a device that aimed to simulate the pulsatile flow found in the human vascular system.

Potsdam, NY, USA

Aug 2015 - Dec 2015

Dr. Jan Scrimgeour

Studied the effect of mechanical and thermal noise on the performance of an optical microscope and explored ways to minimize its impact, such as image processing and active stabilization.

Jan 2015 - May 2015



TEACHING EXPERIENCE

Culture Lingua

Private English Tutor

Hasparren, France

Jul 2017 - Aug 2017

- Taught oral and written English competencies via projects and games to a Basque and French-speaking family.
- Gradually immersed the family in an English-speaking environment, but spoke limited French when required.
- Gained experience working with children, overcoming language barriers, and adjusting to a foreign culture.

Clarkson University

Undergraduate Teaching Assistant

Potsdam, NY, USA

Jan 2017 - May 2017

- Assisted in the creation and modification of assignments for a Climate Change course.
- Gathered temperature data from the NASA website and performed analysis using Excel to investigate trends.

Undergraduate Teaching Assistant

Aug 2015 - Dec 2015

- Taught differential equations material to 27 students, utilizing communication and public speaking skills.
- Provided one-on-one guidance to students with questions about material or who required extra exam preparation.
- Graded homework and quizzes in time to meet deadlines, as well as proctored exams.



INDUSTRY EXPERIENCE

Viewpoint Systems Inc.

Systems Engineer

Buffalo/Rochester, NY, USA

Apr 2020 - Jun 2022

- Underwent extensive LabVIEW training covering topics such as advanced software architecture techniques and programming for National Instruments FPGAs and Real-Time.
- Implemented, installed, and operated the automated testing software on each test stand, and helped the customer with the setup and verification of hardware if requested.
- Created, implemented, and continually supported a version of the automated test software that could be run without hardware and used to construct test sequences on users' desktop computers.
- Developed software that provides the ability to test and validate electrical functions of existing thrust vector control systems on the ground via various operations as well as record data to the file system.

Young & Franklin Inc./Tactair Fluid Controls Inc.

Development Engineer

Liverpool, NY, USA

Dec 2018 - Jan 2020

- Rapidly added both electrical and software knowledge to my primarily mechanical background.
- Underwent laboratory technician training which taught a variety of technical skills.
- Developed Python software that provided full manual control of a digital motor controller, including the ability to communicate bidirectionally via Modbus and manage digital I/O using a tailored user interface.
- Independently created data analysis software with Python, such as a program that used Pandas and Matplotlib to allow engineers to quickly view, manipulate, and analyze multiple sets of data simultaneously.
- Aided design efforts by using Python's NumPy library to analyze valve plug and seat designs in order to determine how much error was present in comparison to an idealized plug design.

Development Engineering Intern

Aug 2018 - Dec 2018

- Tested prototypical designs of a burst-duct detector using LabVIEW and performed data analysis in Excel.
- Developed computer vision software using Python that measures oil leakage with greater than 90% accuracy.
- Honed Visual Basic and SQL skills by supporting an application that logged time and organized documents.
- Created a program using Visual Basic that aimed to organize test reports within a Microsoft Access database.



LEADERSHIP

Clarkson University

Physics Club Vice President

Physics Club Secretary

Potsdam, NY, USA

Aug 2015 - May 2017

Sep 2014 - Aug 2015