

# Jacob Brehm

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## Experience

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### Young & Franklin Inc./Tactair Fluid Controls Inc.

Liverpool, NY, USA

#### DEVELOPMENT ENGINEER

Dec 2018 – Jan 2020

- Worked in a small team of electrical engineers, rapidly adding both electrical and software knowledge to my primarily mechanical background.
- Saved 100s of hours of hands-on engineering time by creating a fully-automated research and development test platform from scratch using Python and LabVIEW.
- Developed software that provided full manual control of a digital motor controller, including the ability to communicate bidirectionally via Modbus and manage digital I/O.
- Independently created data analysis software with Python, such as a program that would allow engineers to quickly view, manipulate, and analyze multiple sets of data simultaneously.
- Aided design efforts by using Python to analyze valve plug and seat designs in order to determine how much error was present in comparison to an idealized plug design.
- Began reduction of a 30+ hour feature test to something that can be run hands-free overnight using Python.
- Expanded automation skill set by attending a week-long, 2-course LabVIEW training session.
- Underwent laboratory technician training which taught a variety of technical skills.

#### DEVELOPMENT ENGINEERING INTERN

Aug 2018 – Dec 2018

- Tested prototypical designs of a burst-duct detector using LabVIEW and performed data analysis in Excel.
- Wrote 1000s of lines of Python code and developed scripts and applications that are still in use today.
- Developed computer vision software using Python that measures oil leakage with greater than 90% accuracy.
- Began creating a Python program that is meant to perform data processing, analysis, and write test reports.
- Created a program using Visual Basic that aimed to organize test reports within a Microsoft Access database.
- Modified existing fixture designs in Inventor to be mounted on a new vibration table.

### Clarkson University

Potsdam, NY, USA

#### UNDERGRADUATE RESEARCH ASSISTANT

Jan 2015 – Dec 2015

- Worked with a team to stabilize the stage of an optical microscope to within one nanometer of precision.
- Presented research at Clarkson University's SURE Conference of Spring 2015.
- Modeled using Inventor and 3D-printed a device that mimicked the flow found in the human blood stream.
- Gained an understanding of problem solving and analysis techniques, as well as laboratory experience.

## Skills

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Python • LabVIEW • MATLAB • C • HTML • CSS • JavaScript • SQL • LaTeX • Git • SVN  
Automation • Data Analysis • SolidWorks • Inventor • Fusion 360 • Microsoft Office • Soldering • Oscilloscopes

## Education

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### Clarkson University

Potsdam, NY, USA

BS IN MECHANICAL ENGINEERING, MINOR IN MATHEMATICS  
GPA: 3.84/4.00

Aug 2014 – May 2018

### University of Leicester

Leicester, England

STUDY ABROAD YEAR

Sep 2017 – May 2018

### University of Technology Sydney

Sydney, NSW, Australia

STUDY ABROAD SEMESTER

Mar 2016 – Jun 2016