

Alex Gushulak

350 Allston St. #2
Cambridge, MA 02139

alex.gushulak@gmail.com
(847) 401-4732

WORK EXPERIENCE

Vizgen (200 Employee - Biotech Startup)

Software Engineer

Cambridge, MA

June 2023 — October 2023

- Built a GUI (Python) for our 30+ FSEs to run qualification protocols on commercial instruments in the field.
- Upgraded an out-of-date bioinformatics pipeline on AWS (Batch) by integrating a new internal analysis tool.
- Conducted software testing and ensured quality of data-intensive Apache Camel data transfer tool.
- Managed the software team's escalation board and independently root caused and fixed bugs in the software.

Volta Labs (20 Employee - Biotech Startup)

Thermal Engineer

Cambridge, MA

June 2021 — May 2023

- Integrated open source thermal HW (C++) with backend system (Python) for deployment at customer site.
- Improved open source firmware by writing thermal controller logic and modifying system reboot process.
- Implemented changes to backend logic that logged & handled safety-critical errors from the thermal controller.
- Led upgrade of entire 12 instrument fleet (Opentrons + custom module) with new sw/firmware/hardware.

SharkNinja

R&D Engineer

Cambridge, MA

Jan. 2020 — May 2021

- Led R&D of heated appliance (Ninja ST101) from initial concept to UL/IEC certification and manufacturing.
- Modified commercial software (C++) to validate new control system concepts and enable testing and product validation for other functions (life cycle testing, safety certification testing, culinary exploration).
- Eliminated extra thermal safety features in product resulting in \$250,000+ saved across 100,000+ units sold.

Bosch - Electric Vehicle Thermal Systems

Mechanical Engineer [Co-op]

Waltham, MA

Jan. — Oct. 2019

- Wrote LabVIEW and MATLAB programs to monitor and analyze components (pumps, valves, HXs, heaters).
- Implemented LIN communication protocol and designed control scheme to enable system testing of valves.

American Institute of Aeronautics & Astronautics (AIAA) at NU

Organization Vice President

Boston, MA

Sept. 2017 — June 2019

- Lead NU's 20 person space shot rocket team: responsible for electrical, mechanical, and propulsion sub-teams.
- Managed 120+ member chapter with \$46,000 annual budget and eight aerospace projects.

Northeastern University

Engineering Department Tutor

Boston, MA

May 2017 — Dec. 2019

- Tutored upper level Thermodynamics, Fluid Mechanics, and Heat Transfer courses.

Adaptive Control of a Baseball Pitching Machine (Senior Capstone Project)

July — Dec. 2019

- Designed user control and motion system. Placed 1st @ Senior Capstone Competition.

EDUCATION

Northeastern University

Mechanical Engineering, B.S., Mathematics Minor (GPA: 3.77)

Boston, MA

Sept. 2016 – Dec. 2019

- **Awards:** Capstone Innovation Award, Magna Cum Laude — **Courses:** Statistics and Stochastic Processes

OTHER

- **Languages:** Python, Typescript, C++, HTML, CSS
- **Technologies:** S3, Cognito, Git, Pytest, Jest, React, Express, MongoDB, PostgreSQL, Docker, CircleCI
- **Skills:** REST APIs, Postman, Linux, Windows OS, Data Visualization, vim