

Alex Gushulak

350 Allston St. #2
Cambridge, MA 02139

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

WORK EXPERIENCE

Vizgen, *Sustaining Software Engineer*

05/2023 — 10/2023, Cambridge, MA

- Migrated Vizgen's Postprocessing Cloud Service to latest version. Upgraded Nextflow bioinformatics pipeline, created new AWS infrastructure (Batch, Docker, ECR, EC2), and documented a new test and release process.
- Led the design of Vizgen's Instrument Diagnostics Software to improve the debugging capability of customer instruments. Built a UI with tkinter, integrated with a REST API, and automated testing and deployment.
- Tested and debugged Apache Camel (Java) data transfer tool. Ensured smooth installation process and reliability for typical 1TB data transfers to cloud storage (AWS S3) and on-premises storage using FTP.
- Used TeamViewer and SSH to upgrade instrument software on customer instruments (Windows and Linux).

Volta Labs, *R&D Engineer*

06/2021 — 05/2023, Cambridge, MA

- Forked open-source C++ firmware for an embedded controller and added functionality by increasing the precision of thermal controller code, modifying the system reboot process, and adding error handling code.
- Developed a thermal imaging test stand: automated hardware triggering for experiments and data acquisition with custom measurement hardware; wrote data visualization scripts with matplotlib/pandas using Jupyter.
- Designed a UI in Python to analyze instrument thermal/power data and generate reports for routine testing.
- Led the company-wide upgrade of entire 10 instrument fleet with new hardware, software, and firmware.

SharkNinja, *R&D Mechanical Engineer*

01/2020 — 05/2021, Needham, MA

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

ORGANIZATIONS AND PROJECTS

clickgen.io (AI Generated YouTube Thumbnails)

2023

- Built a SaaS with over 600 users that generates YouTube thumbnails using Stable Diffusion & ChatGPT
- Integrated with Google's OAuth 2.0 API to create a secure user authentication and authorization service.
- Created a credit system that updates account data after a successful web payment using a Stripe webhook.
- Designed a responsive UI with React & Material UI that integrated with a RESTful Node.JS/Express API.
- Implemented an image caching service on the API server to reduce S3 data requests.

Northeastern Aerospace Club, *Vice President*

01/2017 — 12/2019, Boston, MA

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

EDUCATION

Northeastern University

Boston, MA

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

Sept. 2016 – Dec. 2019

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

SKILLS

- **Languages:** Python, Typescript, Java, C++, HTML, CSS
- **DB/Infra:** MongoDB, PostgreSQL, S3, EC2, ECR, Batch, Cognito, Docker
- **CI/CD:** Github Actions, CircleCI, Git, Artifactory
- **Skills:** Pytest, Jest, React, Express, JWT, Shell Scripting, Linux, Windows, Postman, vim