

Nathan Gong

(609) 454-1896 | nathangong9@gmail.com | linkedin.com/in/nathangong9 | github.com/nathan-gong

EDUCATION

Columbia University | New York City, NY 2024 - Present
Master of Science in Computer Science.

Northeastern University | Boston, MA 2019 - 2023
Bachelor of Science in Bioengineering. Minor in Computer Science. GPA: 3.96/4.0
Honors: University Honors Program, President's Award, Tau Beta Pi, Honors Research Award, PEAK Research Award

SKILLS

Languages: Python, C++, C, Bash, Java, SQL, PowerShell
Technologies: Git, Jira, WSL2, Vim, CMake, MySQL, Jupyter
Libraries/Frameworks: GoogleTest, Pandas, NumPy, Matplotlib, BeautifulSoup, Selenium, Pytest, Tkinter, Flask

EXPERIENCE

Software Engineer | *Medtronic* | Boston, MA Jun 2023 - Present

- Develop and productionalize security features in an embedded multiprocessor mixed operating system environment
- Improve system reliability by reducing error recovery time to mitigate fatal disruptions during clinical procedures
- Spearhead cross-functional code generation project to centralize hundreds of network messages in a database
- Integrate digital certificate installation into robot field service tool to enhance secure communication protocols
- Create test suites and mocks and fix intermittent failures to increase quality and coverage for multiple subsystems
- Improve automated CI/CD pipelines to support board support package releases and optimize build scalability
- Present at international demonstrations to showcase timely impact towards unlocking the surgical robotics market

Software Engineer Co-op | *Medtronic* | Boston, MA Jan 2022 - Jun 2022

- Built a full-stack Python application to aggregate web data and generate risk reports for over 30 off-the-shelf software products on a surgical robotics platform, improving efficiency from existing analysis methods by 80%
- Defined product requirements, architected UML diagrams, scoped feature requests, and followed test-driven development and Agile workflows on a cross-functional team

Teaching Assistant | *Northeastern University* | Boston, MA Sep 2020 - Aug 2022

- Held weekly office hours to assist students with assignments, coding practices, and exam preparation across upper-level computer science and bioengineering courses

Software Engineer Co-op | *iRhythm Technologies* | San Francisco, CA Jan 2021 - Jun 2021

- Developed automated firmware V&V testing infrastructure to support regulatory clearance of a cardiac monitoring device by accelerating release cycles and reducing manual testing burden
- Designed APIs to communicate with firmware and manufacturing software tools and configure embedded systems

PROJECTS

Predicting Biodiversity and Dynamics Sep 2022 - Dec 2022

- Simulated predator-prey systems to predict how environmental factors influence emergent community behaviors
- Generated differential equation models and data visualizations to identify key patterns in population stability

Agroindustrial Carbon Capture System Jul 2022 - Dec 2022

- Performed techno-economic analyses on crop efficacy to offset carbon emissions and optimize farmland use

Image Processor May 2021 - Jun 2021

- Designed a Java desktop application supporting multi-image filtering, transformation, and generation algorithms

NULabs Feb 2021 - Apr 2021

- Built a Flask web application to navigate and apply to research labs using real-world data stored in a MySQL schema