Nathan Gong

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EDUCATION

Columbia University | New York City, NY   2024 - Present
Master of Science in Computer Science. GPA: 3.84/4.0
Coursework: Machine Learning, Artificial Intelligence, Computer Vision, NLP, Databases, Networks, Ethical AI
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++, Java, JavaScript, SQL, C, Bash
Technologies: Git, Docker, Jira, Bamboo, MySQL, MongoDB, Neo4j, Jupyter, Vim
Libraries/Frameworks: Flask, FastAPI, SpringBoot, NumPy, Pandas, Scikit-learn, Matplotlib, GoogleTest, Pytest
Development: TDD, OOP, Agile, CI/CD, SDLC

EXPERIENCE

Software Engineer II | *Medtronic* | Boston, MA   Jan 2022 - Present
- Develop production software in an embedded mixed-OS environment for a surgical robotics platform, the company's highest-funded product
- Spearheaded failsafe system integration to reduce error recovery time by 70% and enhance reliability during clinical procedures, impacting hundreds of cross-functional stakeholders and accelerating U.S. regulatory clearance
- Refactored core GUI framework to support new failsafe architecture, enabling robust communication across distributed computing nodes and improving automated testability and system resilience
- Built a full-stack Python application to aggregate web data and generate risk reports for 30+ off-the-shelf software products, streamlining the user experience and improving efficiency of analyses by 80%
- Implemented comprehensive unit and integration test suites, increasing code quality and coverage across multiple subsystems in adherence to test-driven development best practices
- Achieved Lean Six Sigma DRM certification in process improvement and project management, and presented contributions at international demonstrations

Teaching Assistant | *Northeastern University* | Boston, MA   Sep 2020 - Aug 2022
- Conducted weekly office hours to assist students with assignments, coding practices, and exam preparation for advanced computer science and bioengineering courses

Software Engineer Co-op | *iRhythm Technologies* | San Francisco, CA   Jan 2021 - Jun 2021
- Automated firmware testing infrastructure for an ambulatory cardiac monitoring device to reduce test time by 50%
- Designed APIs to interface with manufacturing software tools and configure embedded systems for production

PROJECTS

Movie Data Engineering Tool   Nov 2024 - Dec 2024
- Developed a Python web application to scrape and clean data from multiple online databases, store data in MySQL, MongoDB, and Neo4j databases, and transform and visualize data to display insights on movie and actor popularity

Puzzle Solver   Sep 2024 - Oct 2024
- Implemented optimized constraint satisfaction and adversarial search algorithms to solve Futoshiki and 2048 games

Image Processor   May 2021 - Jun 2021
- Designed a Java desktop application to support image filtering, transformation, layering, and generation, improving the user experience with intuitive graphical and scripting interfaces