Eric Tiancheng Gu

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EXPERIENCE

Amazon Lab126, Austin, TX

Software Development Engineer, *Software Engineering* 2022 – Present
- Collaborate with cross-functional teams to independently design, develop, test, and deliver software features and improvements for camera-related products, driving impactful changes to software quality, customer experience, and product maintainability, while contributing to the enhancement of team processes
- Document and train others in software construction, testing, and operations, including best design practices and proficiency in Python, C++, Java, Git, and Bash/Shell, using the build environments of OE/Yocto and Make
- Apply strong prioritization skills to balance customer requirements and operational work, liaising with customers, stakeholders, and peers to comprehend business and customer value
- Proactively engage in the code review process, providing constructive feedback to team members, while mentoring and coaching junior engineers and actively engaging in recruitment and interviews for the team

Gigasheet, Boston, MA

Software Engineer Intern, *Software Engineering* Summer 2021
- Created 30 end-to-end automated feature tests that reduced development site crashes by 95%
- Developed integrations leveraging third-party data provider APIs, created parsers and assisted with user acceptance testing using JavaScript/React/HTML/CSS on the Front-End and Go/SQL on the Back-End for application development
- Frameworks include Cypress to test the front end, Docker to manage and deploy apps, ClickHouse for database management, and Atlassian Bitbucket/Jira for task management

Emory Computer Science Department, Atlanta, GA

Research Software Engineer, *Software Engineering* 2020 – 2021
- Led a long-term data analytics software development project focusing on increasing underrepresented student success in Computer Science, working with the head director of Computer Science at Emory University, using Python, R, and SQL for data analysis
- Applied a suite of integrated systems for Emory admissions and class data on students, including natural language processing, data processing, machine learning algorithms, and database management (Google Cloud Platform, PostgreSQL)

Wolfe Research, New York, NY

Quantitative Software Engineer Intern, *Quantitative, Economics, & Portfolio Strategy Team* Summer 2020
- Worked closely with the lead research analyst, other analysts, and technology teams to develop stock selection as well as global macro models that predict the returns/risks of major asset classes, sectors, and investment styles using Python, R, Linux, and Bash/Shell based in AWS
- Assisted in the development of stock selection models, asset pricing models, and factor risk models, using machine learning algorithms, Natural Language Processing (NLP), and statistical data analysis with R, Python, and SQL
- Refactored and mapped an R library on Custom Factor Attribution to Pure Python, presented it to the Vice Chairman
- Created a new method of non-linear quantitative equity analysis, based on Booleans of events
- Developed a securities universe using R Query to produce data, Python (Jupyter Notebook) to process data, utilizing SQL 'join' concepts to filter data in Pure Python, through Wolfe Research API's

SELECTED PROJECTS

FireOS Camera Vision Watchdog **Java (Android)**
- Contributed to a strategic memory reduction initiative for 4 Echo Show devices by designing and implementing a watchdog system that released expiring Camera Vision Frame buffers to free 80 MB+ memory space affecting millions of customers
- Teamed up with senior engineers to ensure the success of the memory reduction effort, utilizing best design practices while following the Java Android Framework and Java concurrent library
- Led the design of the Watchdog architecture, which was reviewed and approved by senior engineers, and developed and executed feature tests to verify its functionality, providing thorough documentation to senior and principal engineers

Multiple Mock Camera Previews **C++**
- Designed and developed a mock camera environment to support up to 8 camera views simultaneously for an unreleased product, using C++ multithreading, and implemented support for mocking multiple cameras to facilitate a smoother testing environment, reducing the need for physical cameras and saving the company an estimated $50,000 in hardware costs
- Partnered closely with camera teams and project managers to ensure that the mock camera environment met their needs and requirements, and provided regular progress updates and technical documentation

Drunk Driver Detection **Python**
- Designed and trained a deep learning model that detects drunk drivers using open-cv, tqdm, keras, pytorch and openSMILE

EDUCATION

Emory University, *Bachelor of Arts in Computer Science,* GPA**:** 3.7/4.0 *May 2018 – December 2021*
Languages: Python, C++, Rust, Java, R, SQL (MySQL, PostgreSQL, JDBC), JavaScript & HTML/CSS, C, Bash/Shell, Git, Go, ARM Assembly