

QUINN LIU

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EDUCATION

University of Pennsylvania - School of Engineering and Applied Science

Philadelphia, PA

Bachelor of Science in Computer Science, Minors in Design and Math

GPA: 3.41

Expected: May 2025

- **Relevant Coursework:** Data Structures and Algorithms, Operating Systems, Machine Learning, Distributed Web Systems, UI/UX, Embedded Systems and Microcontrollers, Big Data Analytics, Artificial Intelligence, Computer System Organization and Design, Programming Languages and Techniques I & II.

WORK EXPERIENCE

Software Engineering Intern – Symbotic

Summer 2024

A leader in warehouse automation, Symbotic develops robotic systems for large distributors like Walmart and Target.

- Created pallet sequencing algorithm team's observability platform for both historical data (logs) and live metrics. Implemented metrics intake and storage from within the team's C#.NET service.
- Configured Prometheus time series database for metrics data storage and Grafana dashboards for visualization. Deployed and managed said services in Docker using Docker-Compose. Automated service processes as cron jobs.
- Created 3 data visualization dashboards to for system health, algorithm performance, and release comparisons.
- Improved existing logs processing PowerShell script speed and memory efficiency by 75% and 89%, respectively.

Freelance Application Developer - Red Door Inventory Manager

Summer 2024

- Developing an iOS & iPadOS inventory management application using Swift/SwiftUI and Firebase for 9+ active users.
- Implements standard CRUD operations along with QR code generation, PDF generation, and image storage.

Software Engineering Intern – Symbotic

Summer 2023

- Created and analyzed Python tests for all UI functionality in Symbotic stack on the Test Automation team.
- Developed PowerShell script for seamless integration with Symbotic's Automated Test Framework, automating UI test execution and logging, improving test execution efficiency by ~75%.
- Created 20% of initial Breakpack functionality testing methods.

Software Engineering Intern - Voice Dream LLC

Summer 2022

- Created prototype of sailor-oriented WatchOS weather app using Swift/SwiftUI.
- Implemented tide & current prediction formulas using data from National Oceanic and Atmospheric Administration REST APIs and WeatherKit Swift API.

PROJECT EXPERIENCE

Automated Cocktail Maker

Spring 2023

- Automated cocktail maker embedded system controlled via ATmega328PB microcontroller, programmed using C.
- Fluid dispensing accurate within 0.2 oz using DC pumps. User interface displayed using custom LCD graphics library.

Penn OS

Fall 2023

- Implemented a User-level, UNIX-like operating system comprising of a shell, scheduler, and file system in C.
- Simulated multiprocessing and file system with round-robin scheduler and file allocation table, respectively.

PROGRAMMING LANGUAGES AND TECHNICAL TOOLS

- **Proficient:** Java, Python, C, C#, JavaScript/Typescript, React.js, Firebase, SQL, Pandas, Git, Figma, Next.js, HTML, CSS, SystemVerilog, PowerShell, Prometheus, Swift, C#, I2C, Agile Development.
- **Basic Experience:** PyTorch, PySpark, Tensorflow, Swift, Docker/Docker-Compose, Express, MongoDB, .NET
- **Design Tools** – Adobe Illustrator and Photoshop, Blender

LEADERSHIP EXPERIENCE

President - Theta Tau Professional Engineering Fraternity

Winter 2023 – Present

- President of co-ed, preprofessional engineering fraternity with 80+ members. Lead executive board with 15+ members.
- Launched new "Career Paths" recruiting guides for 5+ different industries.

Head Counselor - New England Youth Chinese Summer Camp

2018-2023

- Recruited, trained, and mentored all 34 camp staff members throughout the year.
- Coordinated organizational and logistical planning for camp-wide activities for hundreds of campers.
- Ensured camper and staff safety through development, maintenance, and enforcement of camp protocols.