

Alexander Yuan

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EDUCATION

Yale University

Master of Science in Computer Science

Jan 2024 - May 2025

GPA: 4.0/4.0

- Simultaneous BS/MS degree in 4 years

Yale University

Bachelor of Science in Computer Science and Certificate in Data Science

Aug 2021 - May 2025

GPA: 3.95/4.00

- Graduated Magna Cum Laude with Distinction in the Major

EXPERIENCE

Google

Software Engineer

Aug 2025 - Present

Mountain View, CA

- Incoming software engineer on the Platforms and Devices: Health and Wellness team

Yale Department of Computer Science

Research Assistant under Prof. Robert Soulé

Aug 2024 - May 2025

New Haven, CT

- Worked on the feature rollout of OSDB, a tool that uses the relational model for managing operating system states
- Used Wireshark and C to enhance OSDB with capabilities for debugging network file system (NFS) slowdowns in the FreeBSD kernel, publishing the work at the Conference on Innovative Data Systems Research (CIDR) 2025
- Implemented code generation for the automatic extraction of kernel data structures and creation of SQLite tables within OSDB using C++, increasing table count by 6500% from 5 to 328 and publishing the work at DBPL 2025

SpaceX

Software Engineering Intern for Starlink

May 2024 - Aug 2024

Hawthorne, CA

- Supported Starlink flight operations with the TT&C team to ensure continuous Wi-Fi for over 3 million users
- Deployed to production a satellite gateway contact prioritization algorithm with C++ and Kubernetes, leveraging telemetry inputs for fully automated ground communication during load shed, launch, and software update events
- Designed a UI for operator-driven manual priority adjustments using Python, Angular, TypeScript, and PostgreSQL

NASA

Software Engineering Intern - Safety-Critical Avionics Systems

Jun 2023 - Aug 2023

Hampton, VA

- Developed an app end-to-end using C++, Bazel, JSON, Linux, and Core Flight System (cFS) that predicts the Remaining Useful Life of an autonomous drone's onboard battery and generates a real-time adaptive flight plan
- Deployed code on FAA-NASA certified drone, achieving project goals within 1yr timeline for forest fire mitigation
- Adhered to formal software development protocol for NASA's Class C: Mission Support Software flight approval

PROJECTS

OpenCoder | Python, PyTorch, Pandas, LLM, RAG, Chain-of-thought Reasoning

Mar 2025 - May 2025

- Built a lightweight RAG framework over the PHI-2 LLM that combines semantic or keyword-based retrieval from the public Stack Overflow dataset, a self-refinement feedback loop, chain-of-thought prompting, and output reranking
- Achieved a 12% improvement over baseline at repository-level question answering that span files, issues, and histories

Fireworks From Days Past | C++, SDL, OpenGL, Particle System

Apr 2025 - May 2025

- Designed a real-time 3D particle system simulating fireworks, rendering 100,000+ particles while maintaining 60 FPS
- Implemented first-person camera, Perlin-noise terrain, skybox, and shader-based water for full scene integration

Yost and Yound | Python, Flask, HTML, CSS, JavaScript, React, MySQL, REST API

Feb 2023 - May 2023

- Built full-stack web app to streamline lost/found item returns with secure login, dynamic search, real-time messaging
- Facilitated 50+ item returns and enhanced user engagement through intuitive UI and efficient database management

TECHNICAL SKILLS

Programming Languages: Python, C, C++, Java, SQL, HTML, XML, CSS, JavaScript, R, Racket, x86-64 assembly

Frameworks: Flask, React, Node.js, Jinja2, jQuery, JUnit, WordPress, core Flight System (cFS), FastAPI, Kubernetes

Developer Tools: Git, Github, PostgreSQL, Bazel, Protobuf, OpenGL, Amazon Web Services (AWS), Jupyter Notebook, L^AT_EX(Overleaf/R Markdown), Figma, Jira, Confluence, VS Code, Robot Operating System, Linux, Windows, Bash, Excel