

ALEX YAN

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EDUCATION

Purdue University

West Lafayette, IN

B.S. Computer Science

December 2027

- **Relevant Coursework:** Data Structures & Algorithms, Object-Oriented Programming, Systems Programming, Computer Architecture, Programming in C, Discrete Mathematics, Competitive Programming I, Linear Algebra, Introduction to Statistics

EXPERIENCE

Full Stack Developer

Sep 2025 – Present

Purdue Mathematics Department

West Lafayette, IN

- Developing an automated TA Assignment Optimization System for the **Purdue Mathematics Department**, streamlining scheduling for **150–200 TAs** per semester and reducing setup time by roughly **25%**.
- Built full-stack features using **React**, **Flask/Node.js**, and **PostgreSQL**, improving query speed by about **12%** through index tuning and simpler joins.
- Implemented authentication (**SSO**) and CSV export tools to simplify faculty workflows for large-scale course assignments.

Software Engineering Intern

Jun 2025 – Dec 2025

Rooh (Berkeley SkyDeck Pad-13 Incubator)

Berkeley, CA (Remote)

- Built a real-time conversational web app using **React**, **Next.js**, and **TypeScript**, integrating audio transcription (**Google Cloud Speech-to-Text**) and text-to-speech (**Google Cloud TTS**).
- Reduced average response latency by roughly **20%** via caching and parallelized API calls.
- Developed backend audio processing pipelines with **FFmpeg** for live transcription and playback features.
- Redesigned analytics dashboard and landing pages in **React** and **Tailwind CSS**, enhancing usability and feedback visualization.

L'SPACE Mission Concept Academy — Computer Engineer

Aug 2025 – Nov 2025

NASA

Tempe, AZ (Remote)

- Selected for NASA's 15-week competitive academy to design a mission concept supporting the **Lucy Trojan Asteroid Mission**.
- Contributed to the mission's **telecommunications and computing architecture**, collaborating across **5+ subsystem teams**.
- Performed **trade studies** and simulations using **Python** and **MATLAB** to assess subsystem performance and data.

Lead Front-End Software Engineer

Sep 2024 – May 2025

Purdue ACM SIGAPP

West Lafayette, IN

- Led a core team of **10+ developers** creating campus navigation tools in **React Native** and **TypeScript**.
- Built a facility search interface for **400+ locations**, achieving sub-**150ms** query response times in local performance testing.
- Facilitated weekly code reviews and maintained consistent UI design and version control standards.

PROJECTS

Iris | *JavaScript, Chrome MV3, AWS (Lambda, Gateway), OpenAI (GPT-4o mini, Whisper STT), Google OAuth*

Feb 2026

- Built a audio-driven productivity assistant for **Google Workspace** during Carnegie Mellon's 24-hour flagship hackathon, focused on accelerating routine email, calendar, and document workflows.
- Designed a **serverless AWS** backend and **Chrome MV3** extension featuring **wake-word** detection, real-time audio capture, **LLM-driven** intent planning, and conversational voice responses.
- Delivered a fully functional end-to-end demo supporting natural voice commands across Gmail, Calendar, and Docs.

Access Prep | *React, TypeScript, Tailwind CSS, Flask, LangChain, Gemini AI, OCR* | [GitHub](#)

Jan 2026

- Won **3rd Place** at **Capital One Tech Summit Hackathon** by architecting a full-stack bilingual platform serving 5 applicant pathways across 2 languages, reducing document preparation complexity for **Underrepresented Populations**.
- Built a **Flask REST API** with 6 endpoints handling session management, file uploads, and AI validation, integrating **LangChain** + **Google Gemini** for context-aware responses using dynamic prompt engineering.
- Developed intelligent **OCR document validation system** processing 5 document types with **PyMuPDF** and **Pytesseract**.
- Designed responsive **React** frontend with **TypeScript** interfaces, custom i18n system, real-time document tracking, and **Tailwind CSS** for a seamless user experience.

SKILLS

Languages: Python, Java, JavaScript, TypeScript, C, C++, SQL, HTML/CSS, Bash

Frameworks: React, React Native, Next.js, Flask, Django, Node.js, Express.js, Tailwind CSS, JUnit

Databases/Cloud: PostgreSQL, MongoDB, MySQL, SQLite, Firebase, AWS (Lambda, Gateway), Google Cloud, Docker

Developer Tools: Git/GitHub, VS Code, IntelliJ IDEA