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 throughput reliability.

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**, now used by Purdue students.
- 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

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.

BoilerFit | *React, Flask, Python, SQLite, Tailwind CSS* | GitHub   April 2025
- Built a full-stack fitness app generating adaptive workout plans, tested by over **100 Purdue students**.
- Implemented a **Python**-based recommender that adjusts plan difficulty using **regression-based performance tracking**, improving accuracy by roughly **10%** after tuning.

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, Google Cloud, Docker
Developer Tools: Git/GitHub, VS Code, IntelliJ IDEA