

# Kenneth Liu

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## EDUCATION

### Stanford University

Bachelor of Science in Computer Science

Stanford, CA

Jun. 2028

## WORK EXPERIENCE

### Software Engineering Intern

Baker Engineering and Risk Consultants, Inc.

Houston, TX

Jun. 2024 – Aug. 2024

- Developed event tree analysis software in **C#/.NET WPF** with dynamic tree editing, reducing analysis time by **80%**

### Teaching Assistant

ScioVirtual Foundation

Online

Jul. 2023 – Jul. 2025

- Developed course content and coordinated with co-instructors to create contests, assignments, and homework
- Taught **80** students total **HTML/CSS**, **C++/USA Computing Olympiad**, and **Python** over 3 summer camps

## PROJECTS

### InternNest | *JavaScript, React, Express.js, Node.js, MongoDB*

- Collaborated with a team to build a housing marketplace serving **100+** interns with **React**, **Express.js**, and **RESTful APIs**
- Designed **MongoDB** schema for complex user relationships and preferences, built admin dashboard with property and user management features
- Secured **\$20,000** seed funding and placing in the **top 3%** ranking of **YCombinator's** startup program

### Decanter 🍷 | *JavaScript, React, Typescript, Next.js, Node.js, Supabase, PostgreSQL*

- Built volunteer management platform for Science Olympiad tournaments using **Next.js** and **Supabase**, implementing Google **OAuth** authentication, attracting **75+** users in the first month
- Implemented **responsive**, **type-safe** React forms using **React Hook Form** and **Zod**, improving client-side validation performance and reducing server-side validation calls
- Used **Vitest** to automate unit testing on server functions with **97%** code coverage, enhancing codebase resiliency

### Remix 🍷 | *JavaScript, TypeScript, React, Vite, GitHub Actions*

- Developed a **React** application that resequences Spotify playlists using Traveling Salesman Problem heuristics to create smooth transitions based on audio features, reducing average Euclidean distance between audio feature vectors by **58%**
- Integrated **Spotify OAuth** for secure access to playlists and deployed static site with **GitHub Actions**

### OttoGrade | *Python, Flask, SymPy*

- Built a full-stack web application to accelerate assignment grading for teachers
- Collaborated with a team of developers to integrate **OCR** and **LaTeX** conversion modules, ensuring accurate processing of handwritten math
- Developed **Flask API** for automated math grading with **SymPy** integration, including input sanitization and intelligent parsing rules to handle diverse notation formats
- Demoed automated math grading technology to the **US Air Force Academy Preparatory School**, receiving adoption interest for integration into high school classrooms

## TECHNICAL SKILLS

**Languages:** C#, C++, CSS, HTML, Java, JavaScript/TypeScript, Python

**Tools:** Azure DevOps, Git, Linux, VS Code, Visual Studio

**Frameworks:** Express.js, React, .NET, Next.js, Node.js

**Databases:** SQL, MongoDB, PostgreSQL

## HONORS

3x American Invitational Mathematics Examination (AIME) qualifier

American Computer Science League Bronze Medal