

# Yiran Hu

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## Education

### University of California, Berkeley

*B.A. in Mathematics, Computer Science*

GPA 3.95

Berkeley, CA

(Expected) 2029

### Southborough, MA

*Saint Mark's School, The John Suydam Mathematics Prize*

Cum Laude Society

2025

## Research

### Berkeley

*Undergraduate Research Apprentice Program*

CA

2025 – Present

- Working with Prof. Eos Trinidad on LLM overuse impacts for first-generation college students.

- Co-authoring synthesis of AI-education policies across 14 large school districts.

### Stanford

*Stanford Mathematics Camp: Abstract Algebra & Number Theory*

CA

2024

- Formal decomposition of CFOP into subgroup chain; explains why certain sequences reduce solution length.

- Wrote 15-page paper; presented to 30+ faculty/peers; received top evaluation.

## Experience

### AmBees(ambees.io)

Berkeley, CA

2025 – Present

*Co-founder & CTO*

- Built an interactive mind map that generates personalized, multi-layer career roadmaps using RAG over school-specific courses, organizations, and opportunities.
- Implemented D3.js radial-tree visualization with real-time progress tracking (completion status, notes, completion dates) and contextual AI guidance for each step.
- Unified career exploration + skill-learning recommendations + personalized path generation in one platform, including AI chat for guidance and course lookup with descriptions tailored to each user's university, major, and experience level.

## Projects

**MindJournal**(mindjournal.org): AI-powered reflective companion ("conversational mirror") for self-discovery: Socratic conversation, cognitive-graph visualization of recurring themes, and insight/weekly summaries for growth tracking. Built with Next.js 15, React 19, TypeScript, Tailwind, Framer Motion; D3 for graphing; OpenAI + PostgreSQL/Prisma integration planned.

**TalkStorm**: Real-time agentic-AI mind map generator for classes/meetings. Uses data structures (e.g., heap-based prioritization) with the Groq API for low-latency tree-diagram generation; renders interactive mind maps via MindElixir.

## Extracurriculars

### UC Berkeley

Senior Mentor for CS 88

2025 – Present

*Computer Science Mentor*

- Lead 2 weekly review sessions for 12 students.

- Create video walkthroughs for past exam problems for current and future cohorts.

### UC Berkeley

Team Member

2025 – Present

*Berkeley Club Tennis*

- Competitive member (UTR 8); weekly team training sessions.

- Compete in internal ladders and intercollegiate matches.

## Skills

**Languages:** Mandarin (Native), English (Fluent), Spanish (Beginner)

**Programming:** Python, C++, Java, L<sup>A</sup>T<sub>E</sub>X, PyTorch, NumPy, ML, LLMs

**Coursework:** Artificial Intelligence, Honors Multivariable Calculus, Linear Algebra & Differential Equations, Data Structures, Discrete Mathematics and Probability