

YIRAN HU

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SUMMARY

Berkeley **Math & CS** sophomore (3.97 GPA). Co-Founder & CTO of Ambees; ships production **web** and **iOS** apps; **LLM evaluation** research.

EDUCATION

University of California, Berkeley

Expected May 2029

B.A. in Mathematics & Computer Science, GPA: 3.97

Berkeley, CA

Awards: USAMO 2026 Grader; Cum Laude Society, John Suydam Mathematics Prize (high school)

Coursework: AI, Data Structures, Lin Alg & Diff Eqs, Discrete Math & Prob, Real Analysis, Data Science, Honors Multivariable Calculus

EXPERIENCE

Co-Founder & CTO

Aug 2025 – Present

Ambees | *early-career recruiting marketplace*

Berkeley, CA

- Built the full-stack platform end to end with **Next.js**, **React**, **TypeScript**, **Neon PostgreSQL**, and **Vercel**
- Shipped **AI voice onboarding** on **OpenAI Realtime** that feeds a multi-stage **job matching** pipeline
- Built resumable application automation for **Greenhouse**, **Lever**, **Ashby**, **Workday** with **Playwright**, **Browserbase**
- Completed Georgetown **Summer Launch Incubator**; pivoted to a recruiter marketplace after customer discovery

Senior CS 88 Mentor | CSM

Sep 2025 – Present

UC Berkeley

Berkeley, CA

- Lead weekly review sections for CS 88 students on **Python**, **recursion**, and **data abstraction**
- Record video walkthroughs of past exam problems used by current and future cohorts

ACADEMIC RESEARCH

Data Discovery Program | LLM Tutors for All, UC Berkeley Data Science Undergraduate Studies

Sep 2026 – Present

Project Lead: Edwin Vargas Navarro

Berkeley, CA

- Designing **LLM-as-a-judge** scoring for Berkeley course tutors (**Data 8**, **Data 100**, **E127**), focusing on **self-judge** bias
- Measuring judge-human agreement with **Cohen's kappa** on **OpenRouter** and **NRP** models (**Qwen3**, **gpt-oss**)
- Writing **Python** automated checks that flag answer leakage and missed student mistakes in tutor responses
- Read **10+** LLM tutor benchmarking papers (**MRBench**, **MathTutorBench**); presented findings to the team

Data Discovery Program | UC Berkeley Data Science Undergraduate Studies

Jan 2026 – May 2026

Advisor: Eric Van Dusen

Berkeley, CA

- Benchmarked small models (**Qwen2.5**, **TinyLlama**) on accuracy, bias, and compute with **Transformers**, **llama.cpp**
- Built **Jupyter** evaluation pipelines and designed a **RAG** curriculum module for a future Berkeley data science course

Research Assistant | UC Berkeley Department of Mathematics

Jan 2026 – May 2026

Advisor: Prof. Alan Hammond

Berkeley, CA

- Investigated **Nash equilibria** in **Brownian Boost** tug-of-war games with **resource allocation** dynamics
- Built a web version of the finite game (**tlp-game.vercel.app**); compared human play traces to **ABMN** equilibria

Undergraduate Research Apprentice | UC Berkeley School of Education

Sep 2025 – Present

Mentor: Prof. Jose Eos Trinidad | *Donor-funded \$3,500 summer research stipend*

Berkeley, CA

- Co-authoring 2 papers (*Sociology Compass*, *Organization Theory*); synthesized **30+** empirical studies
- Coauthored **27-page policy paper** on how **12** large U.S. school districts govern **generative AI**

PERSONAL PROJECTS & HACKATHONS

bloop | *Swift, SwiftUI, HealthKit, Google Gemini API, WidgetKit* | **HoyaHacks 3rd Place + Best Domain (bloopy.tech)**

- Built a privacy-first **iOS** app on **HealthKit** that tracks headphone sound exposure to protect children's hearing health
- Integrated a **Gemini** agent for listening-pattern analysis; added dose visualization, alerts, Live Activities, and **widgets**

MindJournal | *Next.js, React, TypeScript, D3.js, OpenAI API, PostgreSQL* | mindjournal.org

- Built **AI journaling platform** with Socratic dialogue and a **D3.js** cognitive-graph **visualization** of recurring themes
- Designed insight summaries and weekly progress tracking on the **OpenAI API** with **PostgreSQL** persistence

TalkStorm | *JavaScript, Groq API, MindElixir, Real-time Processing*

- Built **real-time** lecture mind-map generator on **Groq** with heap-based topic prioritization and **sub-second** latency

SKILLS

Languages: Python, TypeScript, JavaScript, Swift, Java, SQL, $\text{\LaTeX}$

Frameworks: Next.js, React, SwiftUI, Playwright, D3.js, REST APIs

ML / AI: PyTorch, NumPy, HuggingFace Transformers, llama.cpp, RAG, LLM evaluation, OpenAI / Gemini / Groq APIs

Tools: Git, Jupyter, PostgreSQL, Vercel, Browserbase, Claude Code (agentic coding)