

Ethan Wang

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EDUCATION

University of California - Berkeley

August 2023 - Present

Bachelor's Degree in Computer Science, Statistics

Berkeley, California

- Relevant coursework: Probability & Random Processes; Data Structures & Algorithms; Linear Algebra; Structure of Computer Programs; Artificial Intelligence; Advanced Programming in R; Econometrics
- GPA: 3.87

EXPERIENCE

Biography Industries

May 2025 - Present

Founding Engineer

- Engineered self-hosted **Neo4j** clusters in **AWS** and trained graph embedding models used in MVP that led to a **\$5 million seed round** (\$30 million valuation); scaled backend to 30+ million nodes, 10+ million edges
- Designed agentic pipeline for conversational chatbots with **LangGraph**, utilizing specialized agents and tool calls to orchestrate reasoning, increase interpretability, and increase effective context window
- Launched production-ready **Google Cloud** hosted search pipeline that integrates lexicographical matching, semantic search, graph embeddings, and user interactor scores to retrieve personalized search results
- Created low-latency WebRTC infrastructure for the gpt-realtime API, using supervisor agents and custom tool calls for long-term memory management, context restoration, and browsing capabilities

Naval Surface War Center

August 2024 - December 2024

Machine Learning Intern

- Used CAD software and data science libraries (**pandas**, **matplotlib**) to assess power efficiency of various proposed inductive wireless power transfer methods under a variety of underwater environments
- Achieved ~15% higher circuit power efficiency versus traditional methods in simulated underwater settings using **ARIMA**, **polynomial regression**, and **LSTM** models to predict resonant frequency
- Generated sample environmental data using random-walk models, employing **Kolmogorov-Smirnov tests** to validate data similarity with real-world data collected by the Ocean Observatories Initiative

PROJECTS

Civilization Simulator

- Built **TypeScript**-based civilization simulator with procedural Perlin-noise terrain generation, custom turn logic, multi-faction combat system; implemented **Pixi.js** renderer with dynamic minimap for responsive UI
- Developed custom AI strategies involving **A* pathfinding** and tree-search algorithms; using python's SB3 library to train RL agents on a python port of the game to find optimal strategies

Apple Music Controller

- Created macOS application with MusicKit, **AppleScript**, and **Swift** to resolve Apple Music bugs; enables users to set custom song rules to control start/end times, fade in/out, volume, and playlist settings
- Analyze user data to generate user song analysis and an "Apple Music Wrapped" of their listening habits over time; use **Go** backend hosted on Amazon EC2 to fetch song metadata and conduct data analysis

AWARDS

- **Berkeley Trading Competition:** Placed 5th/110 in series of machine learning and statistical modeling games
- **USA Physics Olympiad Honorable Mention:** Placed in top ~300 in national physics olympiad
- **2-Time AIME Qualifier:** Placed top ~5% in national math olympiad

SKILLS

Infrastructure: Docker, AWS, Terraform, Firebase, Google Cloud, MongoDB, ElasticSearch

Languages/Libraries: Java, R, Python, Go, SQL, NLTK, Javascript, HTML/CSS, NumPy, pandas, scikit-learn

Frameworks: React, Django, Express, Next.js, PyTorch