

Charles Gao

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EDUCATION

Presidential Scholar at the University of Southern California

Los Angeles, CA

B.S. in Cognitive Science and AI

Aug. 2024 – May 2027

- USC merit-based half-tuition scholarship
- *Cumulative GPA: 3.7/4.0 | Honors: Dean's List*

Phillips Exeter Academy

Exeter, NH

High School Diploma

Sep. 2021 – June 2024

- *SAT Score: 1580 | National Merit Scholar | Highest Academic Honors*
- Captain of Varsity Water Polo Team, 3-Time All-American

TECHNICAL SKILLS

Languages: Python, C/C++, Java, JavaScript, TypeScript, SQL, R

Frameworks: React, Next.js, FastAPI, Tailwind CSS, LangChain, Express.js, Node.js

Developer Tools: Git, Cursor, VS Code, Visual Studio, Docker, GitHub Actions

Systems & Cloud: Linux/Unix, Bash, HTTP/REST, AWS, Lambda, GCP

Data & ML: PostgreSQL, MongoDB, matplotlib, PyTorch, NumPy, pandas, scikit-learn, TensorFlow, scipy, Tableau

ENGINEERING EXPERIENCE

Co-Founder of Trifect

Jan. 2025 – May 2025

LavaLab (USC's Premier student-run Incubator)

Los Angeles, CA

- Built a transformer + contrastive learning retrieval/ranking model to recommend 3PL partners to businesses
- Deployed **PyTorch**-based ML system via Railway with a **TypeScript/React/Next.js** full-stack web app
- Trained on **15,000** company and 3PL profiles; achieved **0.89 ROC-AUC** on held-out evaluation

Engineering

June 2025 – Jul. 2025

Lightweight Labs (Seed, Quiet Capital)

New York, NY

- Refactored and shipped **frontend** improvements, improving core user flow and **maintainability**
- Conducted **25+** user/research interviews with accountants to translate workflows into engineering priorities
- Collaborated with the founders Aaron Iba (former GP at YC) and David Yang (YC acq. founder) to ship **power-user** capabilities and refine **edge-case handling** across product flows

RESEARCH EXPERIENCE

Researcher

June 2023 – Nov. 2023

NYU Langone Health (See ClinicalTrials Project)

New York, NY

- Conducted applied research on interpretable ML methods for clinical risk modeling in collaboration with scientists

Researcher

June 2022 – Oct. 2022

University of Cambridge

Cambridge, England

- Led a **12-week** study on bias in word embeddings; detailing mitigation recommendations for algorithmic fairness
- Implemented and evaluated bias measurement techniques (e.g., embedding association tests) across models

FOUNDING PROJECTS & COMPANIES

Gleame

Oct. 2025 - Present

Shopify, Figma, React, TypeScript, JavaScript, Node.js, Git, Supabase

Los Angeles, CA

- Built a **Shopify**-native embedded app integrated via **App Bridge** and deployed storefront widgets through **Liquid theme extensions**, enabling configurable product-page image transformations
- Scaled to **\$11K ARR** across **7** paying merchants by iterating on onboarding, core workflows, and production
- Raised **50K** angel investment to accelerate roadmap and customer acq.; packaged traction with defined KPIs

ClinicalTrials

June. 2023 - Nov. 2023

BERT, Pytorch, NLP, data analysis, data curation, clinicaltrials.gov

New York, NY

- Built a **multimodal** deep-learning model combining **Transformer-based NLP** to assess clinical trial risk
- Built preprocessing pipelines for **400,000+** clinical trial records, including tokenization and categorical encoding
- Fused semantic representations with tabular features via late fusion + MLP head to identify drivers of trial error
- Achieved **0.79 ROC-AUC / 0.70 F1** on held-out evaluation using a grouped split to prevent leakage