

Alexander Lai

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Education

University of Illinois Urbana-Champaign
B.S. in Computer Science + Economics

Urbana-Champaign, IL
Expected May 2029

Experience

Assistant Researcher

May 2024 – June 2026

University of Southern California, Division of Biostatistics

Los Angeles, CA

- Synthesized deep-learning research and translated technical findings into student-facing material for a new undergraduate machine-learning curriculum serving STEM majors.
- Analyzed Meta's Llama 3 architecture, produced process flowcharts and interactive Colab demos, and presented weekly updates that informed curriculum development.

Psychology Research Intern

Summer 2025

UCSC Science Internship Program (SIP), Storm Lab

Santa Cruz, CA

- Investigated how social-media exposure influences false-memory formation using the Deese–Roediger–McDermott paradigm; synthesized research on memory distortion and suggestibility.
- Organized and led a physical pilot recall study with university students and presented findings and analysis at post-program symposium.

Research and Development Intern

Aug. 2024 – Dec. 2024

Building-U

Ontario, CA

- Conducted qualitative research across databases to build a centralized, open-access platform for high-school-to-college opportunities.
- Used Google Ads analytics to identify high-demand resources and collaborated across research and marketing teams to launch a sponsor-funded student competition.

Leadership

District Representative

Aug. 2023 – Jun. 2026

Interact District 5170 / Rotary International

San Jose, CA

- Coordinated cross-regional fundraising for water sanitation in Thailand and Bay Area reforestation, contributing to \$45,000 raised, 1,000 trees planted, and 40,000 community-service hours.
- Secured partnerships with local businesses and Goodwill, raising \$500 and collecting more than 250 pounds of donations across Bay Area schools.

Projects

GundHere | *Python, SQLite FTS5, BeautifulSoup, BM25, Levenshtein*

Aug. 2026 – Present

- Built a vertical e-commerce search engine that helps Gunpla shoppers discover products and compare retailer-specific prices, availability, images, and purchase links across a normalized catalog of 1,146 kits.
- Engineered robots-aware ingestion bots and a modular product-search pipeline spanning parsing, entity resolution, filtering, and indexing; combined weighted BM25/FTS5 retrieval with an in-house fuzzy reranker for typo-tolerant queries.

FYNQ | *Next.js, React, TypeScript, Leaflet, Supabase/PostGIS*

Aug. 2026

- Built a privacy-conscious city-discovery product with synchronized search, interactive maps, geolocation, and 68 curated locations across five cities; designed a validated data layer with caching and resilient fallbacks.

Metanoiema | *JavaScript, Chrome Manifest V3, Shadow DOM*

Aug. 2026

- Developed a local-first extension for ChatGPT, Claude, and Gemini that converts vague requests into structured prompts through adaptive coaching across six intent families; verified behavior with 11 unit tests.

Lumidria | *JavaScript, HTML/CSS, Web Animations API*

Aug. 2026

- Designed and engineered a responsive strategy game with 221 card forms, adaptive rivals, persistent progression, keyboard-accessible interactions, and reduced-motion support.

Skills & Honors

Technical: Python, JavaScript, TypeScript, Java, SQL, React, Next.js, PyTorch, Supabase, PostgreSQL/PostGIS, Git

Analytics & Communication: Google Ads Analytics, Jupyter, Google Colab, technical research, data synthesis, presentations

Honors: USACO Silver Division (top 1,000 of approximately 8,000 internationally); UCLA SCIP+ Certificate with Distinction