Alexander L. Li

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Education

Massachusetts Institute of Technology (MIT) Exp. May 2027
Candidate for B.S. in Artificial Intelligence (6-4) & Mathematics (18), GPA: 4.8/5.0 *Cambridge, MA*

- Relevant Coursework: Machine Learning, Computer Vision, Data Structures & Algorithms, Web Design Lab, C & Assembly, Discrete Math, Linear Algebra, Differential Equations, Probability & Random Variables, Statistics

Experience

Fetch.ai (Agentic AI) Jun 2025 – Present
Software Engineer Intern (Part-time / Remote) *Cambridge, UK*

- Shipped 5+ AI agents to production with ∼10k user interactions, facilitating dynamic service queries from an LLM
- Integrated multi-modal agent architecture by protocol-driven understanding & distributed agent orchestration
- Containerized agents with Docker, enabling edge-to-cloud communication by mailbox systems across agent nodes

Air Force Research Laboratory May 2025 - Aug 2025
AI/ML Research Intern (Full-time / On-site) *Wright-Patterson AFB, OH*

- Trained a conditional diffusion model in PyTorch to reverse-engineer image generation parameters from Blender
- Designed multi-head attention U-Net conditioned on ResNet-encoded images to infer input parameter distributions
- Scaled training efficiency by 400% via multi-node distributed data parallel (DDP) & SLURM for batch scheduling
- Containerized for High Performance Computing clusters & Linux-based systems with Apptainer/Singularity

Foundation for Resilient Societies Jan 2025 – Feb 2025
Data Analyst (Full-time / On-Site) *Cambridge, MA*

- Analyzed power grid stability under future energy scenarios using SERVM models, scikit-learn, & SQL
- Researched effects of retiring power plants on U.S. Electric Grid capacity with a focus on ISO New England
- Contributed to a 50-page internal guidebook for onboarding analysts; interfaced with consultants at Astrapé

Projects

Campus Marketplace Platform Jul 2025
React.js, HTML, Tailwind CSS, Node.js, Express, FastAPI, PostgreSQL, Supabase, Docker, CLIP

- Built a scalable, mobile-first campus marketplace app with secure user auth & real-time item listings
- Implemented AI-powered category recommendations using OpenAI CLIP & FastAPI microservices
- Deployed in Dockerized containers with PostgreSQL & Supabase; architected for future cloud scaling

ChillDeck DJ (MIT Hackathon) - 2nd Place, Best UI Design Jan 2025
React.js, HTML/CSS, TypeScript, RESTful APIs, Node.js, MongoDB, Figma

- Developed (as a team of 3) an interactive DJ platform allowing users to remix songs by isolating audio stems
- Engineered backend stem processing with Audioshake API & real-time audio waveforms via Wavesurfer.js
- Designed full user flow integrated with MongoDB: login, theming, uploads, & custom track playback

ManusMIDI Digital Instrument Sep 2024
Python, Flask, HTML, Tailwind CSS, OpenCV

- Developed a browser-based virtual instrument activated by real-time hand tracking movements
- Leveraged OpenCV to map finger positions & gestures to MIDI-compatible musical notes
- Engineered custom algorithm for accurate sharps/flats detection & implemented responsive UI/UX

Technical Skills

Languages: Python, JavaScript, TypeScript, SQL, C++, Java, Bash, HTML/CSS

Frameworks/Technologies: React, Node.js, FastAPI, Flask, MongoDB, PostgreSQL, Docker, Git, Linux, PyTorch, TensorFlow, LangChain, SLURM, Apptainer/Singularity

Awards: USA Computing Olympiad Gold Division, 5th in Cryptography @ Science Olympiad Nationals