Jeffrey Li

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Education

Massachusetts Institute of Technology Cambridge, MA
Bachelor of Science, Computer Science & Engineering *Exp. May 2027*
Relevant Coursework: Fundamentals of Programming, Linear Algebra, Discrete Math, Programming in C and Assembly, Machine Learning, Algorithms, Software Construction, Computation Structures, Deep Learning (G), Natural Language Processing

Experience

MIT Computer Science & Artificial Intelligence Lab + Department of Brain & Cognitive Sciences Cambridge, MA
Machine Learning Researcher *Sept 2025 – Present*

- Conducting hyperparameter optimization by analyzing how learning rates affect neural network convergence, validating recent theory from Keller Jordan through PyTorch experiments and extending findings to language model training architectures.

Amazon Web Services Seattle, WA
Software Development Engineer Intern - AWS Fargate *Jun 2025 – Aug 2025*

- Built an internal CLI for Fargate teams used by 50+ engineers, integrating 8 service APIs for ECS Managed Instances to automate test setup; processed 200+ ops/day and cut setup time by 32% by replacing manual steps with scripted workflows.
- Automated region build system for Fargate mechanic tool using infrastructure-as-code and CI/CD, replacing a 14-step manual process with one-touch expansion into new AWS regions and reducing deployment time from 1 week to 3 hours.

Amazon Web Services Seattle, WA
Software Development Engineer Intern - AWS Fargate *Jun 2024 – Aug 2024*

- Designed and implemented an asynchronous lifecycle management workflow using Java + DynamoDB to automate the draining processes for ECS Managed Instances, reducing manual intervention by 23% and improving lifecycle management efficiency.
- Built test automation stack achieving 90+% code coverage through JUnit + Mockito, structured logging, and metrics handling.

Vibrantec Remote
Team Lead & Full Stack Mobile App Developer *Jan 2024 – Present*

- Led architecture & UI/UX development for health tech startup across 5 product launches, implementing Flutter/Java with server-driven UI backend architecture and AWS Lambda endpoints based on sales team and customer feedback
- Managed engineering team of 3 developers, increasing sprint velocity by 30% through streamlined workflows with code reviews

The Silicon Project (501(c)(3) nonprofit) New York, NY
Founding Team Member, Director of Technology *Sept 2022 – Sept 2023*

- Scaled website operations to 5k+ monthly page views, leading team of developers through comprehensive UI/UX redesign and SEO optimization that achieved top 3 Google and LLM search rankings for key electronics donation keywords
- Built e-commerce platform processing $10k+ in sales from premium donor partnerships (Simons Foundation, Supreme, Nicole Miller, Ralph Lauren Family), achieving financial sustainability through discounted electronics resale without external funding.

Projects & Activities

MIT Sandbox Innovation Fund *Sept 2024 – Sept 2025*

- Co-founded Casava, comprehensive sublet search platform aggregating listings scraped from multiple platforms (Facebook, Craigslist, RedNote), securing $1,500 in pre-seed funding and building a 100+ person waitlist prior to launch.
- Developed a full-stack web app that scrapes and normalizes housing listings from multiple sources using automated CRON jobs and LLM-powered extraction, serving structured data through a RESTful API backed by PostgreSQL.

Improved RAG System for Financial Document Question Answering *Oct 2025 – Dec 2025*

- Researched and developed a RAG system for financial document QA by implementing structure-aware PDF parsing, hybrid retrieval, fine-tuned cross-encoder reranking, and optimized vector search pipelines to enhance retrieval accuracy on FinQA.

Adapting Token Pruning Methods from BERT to GPT-2 *Oct 2025 – Dec 2025*

- Investigated token pruning methods for GPT-2 to reduce computational costs while maintaining performance. Adapted encoder-based techniques (Learned Token Pruning and Dynamic Token Reduction) to autoregressive models, achieving 20-40% FLOP reduction. Found that reinforcement learning-based pruning maintained perplexity better than attention-based methods.

Harvard MIT Math Tournament, *Community Staff* *Sept 2024 – May 2025*

- Coordinated operations and social events planning for one of the world's most prestigious high school math competitions, serving 1,000+ participants from around the globe across dual November and February tournaments at MIT and Harvard.

Skills & Interests

Organizations: HackMIT organizing committee, MIT Entrepreneurship club, Chinese Students Club, FLI@MIT, MISTI
Technologies: Python, Java, C, React, Node, Express, FastAPI, Tailwind, Typescript, Flutter, Firebase, SQL, AWS, PyTorch, Swift, Xcode
Interests: Startups, side projects, hikes, weightlifting, basketball, The Knicks, Suits, 12 Angry Men
Languages: English, Chinese – *All professional proficiency or above.*