Lina Fu

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EDUCATION

Northeastern University, Boston, MA **September 2023-December 2026**
Candidate for Bachelor of Science in Computer Science, concentration: AI
Relevant Courses: Artificial Intelligence, Neural Networks, Object-Oriented Design, Algorithms & Data Structures, Machine Learning & Data Mining 1, Theory of Computation, Introduction to Digital Design and Computer Architecture, Computer Systems, Fundamentals of Software Engineering, Cybersecurity, AI Security and Privacy, Discrete Structures, Fundamentals of CS 1 & 2, Foundations of Data Science, Mathematics of Data Models
Organizations: NU Mars Rover, NU Women in Technology, FirstByte, AINU
Honors: Dean's List

SKILLS

Operating Systems: Windows, MacOS, Linux
Programming Languages: Python, C++, C, Java, C#, JavaScript/TypeScript, SQL, x86 Assembly, HTML/CSS
Frameworks and Tools: React, Next.js, FastAPI, Node.js, PyTorch, Claude API, MongoDB, Git/GitHub, Cursor, AWS
Personal Interests: AI/humanoid robot ethics, civic technology, urban planning, pottery, arts and culture

WORK EXPERIENCE

Northeastern Center for Digital Scholarship/AHALab **January-June 2025**
Digital Assets Manager and Researcher Boston, MA

- Created 5 interactive data mapping dashboard visualizations analyzing thousands of US Census data points across demographic and socioeconomic variables to narrate historical policy impacts in Cambridge (ArcGIS Online/Pro)
- Developed virtual exhibit website with the mayor's office, designed interface with archival materials and ArcGIS maps
- Managed donor database management software (Bloomerang, Zapier), increased digital user base by 35%

Sine Trading International **June-August 2023**
Full-Stack Software Developer Intern Pittsburgh, PA

- Enhanced SaaS web applications for international logistics by identifying and resolving backend system issues and refining frontend, improving platform stability for ~10 key clients (C#, .NET, SQL Server, JavaScript, HTML/CSS)
- Optimized routing algorithms and API integrations connecting USPS sorting hubs and freight forwarders, reducing e-commerce small parcel shipping costs and improving operational efficiency

PROJECTS

Algorithm Mirror: AI Recommendation Transparency Platform | Github **August-September 2026**

- Developed a full-stack application that analyzes how recommendation systems shape short-form content feeds in real time through structured feed audits and recommendation traces to improve feeds (Python, FastAPI, Next.js, TypeScript)
- Integrated Claude API to interpret content diversity and relevance metrics into natural language explanations
- Built REST API endpoints and automated evaluation logic; validated audit metrics and error handling with pytest tests

MBTA Reinforcement Learning Transit Optimization | Github **February-April 2026**

- Built a custom reinforcement learning environment to optimize simulated MBTA connectivity by modifying transit network edges to minimize average commuter travel time (Python, Gymnasium, NetworkX)
- Trained DQN agent with replay buffers, target networks, epsilon-greedy exploration, and reward shaping
- Designed graph-based state representations, budget-constrained action spaces, and matplotlib evaluation visualizations

Acoustic Pedalboard: Audio Effects Processor | Github **February-March 2026**

- Developed a modular DSP pipeline to process real-time guitar input to stereo output, enabling scalable audio feature development and thread-safe parameter updates using atomic variables (C++, PortAudio)
- Implemented delay, distortion, and algorithmic reverb effects with adjustable parameters and preset configurations
- Designed a terminal-based UI with live parameter visualization and implemented wav file export of processed audio

LEADERSHIP EXPERIENCE

Steel City Codes **February 2021-January 2023**
Regional Director Pittsburgh, PA

- Taught Python and Java to ~200 students in marginalized areas over 3 years, hosted GirlsHack to promote CS diversity
- Directed summer camp by organizing outreach to secure ~70 participants, 7 volunteers, and 2 new sponsors, developing curriculum, managing students, and overseeing teachers to facilitate individualized learning

Pittsburgh Chinese Association (PCA) Youth Center **September 2021-June 2023**
Web Team Director Pittsburgh, PA

- Developed and maintained PCA website and published weekly blogs and event photos for community engagement
- Led a team of 5 by coordinating weekly meetings and directing website updates and blog content