Daisy Lin

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Education

Carnegie Mellon University — Pittsburgh, PA
B.S. Computer Science, Fifth-Year Masters in Computer Science — *August 2022 - May 2027*

Stuyvesant High School — New York, NY
Math Team (AIME Qualifier) — *September 2018 - June 2022*

Research and Experience

New York Blood Center — June 2024 – December 2024
Software Engineer Intern

- Developed Python-backend to automate data collection and ensure integrity across 4 clinical databases, integrating data from 2 external labs while adhering to security protocols and HIPAA compliance.
- Collaborated with development teams to create a secure interface for managing large-scale clinical data, supporting 5 trials with 100k+ patient records and implementing authentication protocols to block 99% of unauthorized access.
- Implemented centralized logging to monitor clinical data pipelines, leveraging anomaly detection models to enable real-time error alerts, incident response automation, and regulatory compliance tracking.

Carnegie Mellon University — September 2023 – August 2024
AI (Learning Sciences), HCI (Social Computing) Research Assistant

- Engineered AI-driven learning tools, including text-to-speech and data visualization software, by optimizing neural network architectures and improving computational efficiency, resulting in a 35% increase in user satisfaction.
- Enhanced database performance by implementing indexing and caching, reducing query times by 40%. Integrated machine learning and streamlined data preprocessing pipelines to generate personalized learning recommendations.
- Evaluated social media moderation strategies using analytics on large datasets and used modularity optimization and graph clustering to identify intervention points that improved user engagement and community coherence.
- Developed LLM taxonomy integration and contextual tagging frameworks, leveraging Python multiprocessing to streamline data processing, enabling deeper research insights and accelerating content analysis.

Prepasaurus, Inc. — August 2020 – Present
Co-Founder

- Founded an EdTech platform by designing engaging, personalized learning experiences and implementing segmented outreach campaigns, thus improving student performance by 23% and revenue growth by 40%.
- Built and maintained the platform's website (prepasaurus.org) using Next.js, ensuring responsive design, intuitive navigation, and seamless integration with backend services to enhance user experience and scalability.

Projects

Distributed Bitcoin Miner | *C* — September 2025 – October 2025

- Implemented the Live Sequence Protocol (LSP) in Go for reliable UDP communication and built a distributed Bitcoin mining system that coordinated client, server, and miner nodes using goroutines and channels to ensure fault tolerance, load balancing, and asynchronous message delivery.

Web Proxy | *C* — November 2023 – December 2023

- Built a multithreaded web proxy with a memory cache in C capable of efficiently handling client requests and forwarding them to external servers using socket programming for high-performance networking.

Dynamic Memory Allocator | *C* — October 2023 – November 2023

- Developed a 64-bit memory allocator in C, replicating malloc, calloc, and free with optimized memory management using free list strategies, coalescing, next-fit search, and red-black trees.

Personal Website | *Next.js, Tailwind CSS* — 2025

- Built a personal website hosted on AWS Amplify using Route 53 for DNS and S3 for object store.

Technical Skills

Languages: Python, SML, C/C++, Java, HTML/CSS/JS, Typescript, SQL, MATLAB

Developer Tools & Domains: Torch, scikit-learn, Git/GitHub, LaTeX, NumPy, Pandas, React, NextJS, MongoDB, Linux, AWS (Amplify, EC2, S3, DynamoDB, Lambda, Cloudwatch), Vercel, Functional Programming, Cloud Computing, Machine Learning, Distributed Systems, Computer Systems, Parallel and Sequential Data Structures and Algorithms