Eric Yang

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Education

Massachusetts Institute of Technology Expected 2027
Computer Science and Engineering (6-3) GPA: 5.0/5.0

- **Relevant coursework:** Algorithms (G), Linear Algebra, Machine Learning, Computer Architecture
- **Activities:** MIT Informatics Tournament Software Director, Chamber Music Society, OrigaMIT

Experience

Engineering Intern, Tandem Technology, Inc. Jan 2025; June 2025 – Aug 2025
New York, NY

- Designed and implemented a new pipeline using OCR techniques and LLMs for automated insurance card processing, reducing error rate by 30% and cost by >90%
- Automated triage of medical insurance denials with a human-in-the-loop, reducing triage time by 35%
- Developed an evaluation framework to track performance of deployed ML models in production with user-defined judges providing insights to 60+ previously unmonitored models

Infrastructure Lead, Lexington Informatics Tournament (LIT) May 2021 – July 2024

- Built infrastructure from scratch using GCP and Docker to host cybersecurity competition with 1400+ teams
- Created a tool to securely isolate challenges and create on-demand instances with Python, Docker, and Flask, reducing active containers by 20x

Summer Researcher, University of West Georgia June 2021 – Sept 2021

- Investigated spanning trees and constructed cyclic base orderings in different classes of graphs, with applications in network connectivity
- Extended previous results to prove the existence of cyclic base orderings in certain 2-degenerate graphs
- Published in journal *Discrete Applied Mathematics* (https://doi.org/10.1016/j.dam.2024.11.022)

Awards

- **USA Computing Olympiad (USACO) 2023 Finalist:** Ranked among top 26 high school competitive programmers out of 20000+ competitors and attended USA team selection camp
- **PicoCTF 2023 Winner:** 2nd among ~7000 teams in Carnegie Mellon's premier international offensive cybersecurity competition on web, reverse engineering, cryptography, forensics, and binary exploitation
- **USA Physics Olympiad (USAPhO) 2023 Bronze Medalist:** Top 150 in USA's premier physics contest

Projects

Hallucinate eyangch.me/hallucinate

- Trained a lightweight model to simulate and render the simplistic physics-based running game QWOP
- Leveraged autoencoders and LSTMs in model architecture to achieve efficient inference with <20 ms per frame

Optimized BF Interpreter

- Built interpreter for the BF language in C++, achieving ~1000x speedups over naive implementation
- Utilized intermediate representations, jump tables, linear optimizations, and bitwise compression
- Won 1st in HackMIT 2024 optimized interpreter challenge, winning $1000

Discord Graph eyangch.me/discord-graph

- Developed a tool to visualize friend connections on the social media app Discord using d3.js and Discord API

Skills

Languages: C, C++, Python, JavaScript, TypeScript, Assembly, Java, HTML, CSS, SQL
Frameworks/Tools: Git, GCP, AWS, Docker, Flask, FastAPI, React, PyTorch, Numpy, Node.js