Anthony Wang

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Education

2022-2025, B.S. in Computer Science and Mathematics, MIT.

2025-2026, M.E. in Computer Science, MIT.

Undergraduate-level coursework: Operating Systems, Computation Structures, Machine Learning, Computer Vision, Natural Language Processing, Game Theory, Algebraic Combinatorics, Probability and Random Variables, Abstract Algebra.

Graduate-level coursework: Advanced Algorithms, Algorithmic Lower Bounds, Distributed Systems, Numerical Methods, Deep Learning, Theory of Computation, Advanced Complexity Theory.

Experience

May-August 2024, **Intern**, Advanced Micro Devices.
- Worked with the AI Models team to optimize state-of-the-art models.
- Designed and implemented benchmarks for improving the performance of PyTorch on AMD graphics cards.

May-July 2023, **Research Intern**, Washington University REU program, Mentor: Dr. Ulugbek Kamilov.
- Proposed and implemented ideas to improve the accuracy of a PyTorch diffusion model neural network for MRI image translation to reduce the cost and length of MRI scans.

Feb-May 2023, **Research Assistant**, MIT Undergraduate Research Opportunities Program, Mentor: Dr. David Karger.
- Helped design and implement the open, decentralized Graffiti protocol for web applications.

Feb 2023-Feb 2024, **Treasurer**, MIT Student Information Processing Board.
- Helped host hackathons and other computing-related events for the MIT community.

Mar 2022-Jan 2024, **Lead Developer**, Forge Federation.
- Designed and improved ForgeFed, an extension to the ActivityPub decentralized network protocol, and implemented a ForgeFed backend in the open-source Forgejo code hosting software using Go.
- Collaborated with ecosystem developers worldwide and presented my progress at the 2023 LibrePlanet conference.

Nov 2021-Feb 2022, **Research Assistant**, Missouri University of Science and Technology, Mentor: Dr. Xiong Zhang.
- Designed a geometric algorithm using FFTs to find the best-fit grid over images for 3D reconstructions of soil samples and implemented it in Julia.

July-Aug 2021, **Research Assistant**, Boston University Research in Science & Engineering program, Mentor: Dr. Alan Liu.
- Created a novel multi-step mitigation algorithm using the Bloom filter data structure.
- Implemented the algorithm using the P4 programming language and evaluated it on Intel Tofino switches with simulated DDoS attacks.

June-July 2021, June-July 2022, **Computer Science Instructor**, AlphaStar Academy.
- Prepared course materials, gave lectures, and ran problem solving sessions for USACO Bronze and Gold classes.

Achievements

2020, 2021, **USACO Finalist** (USA Computing Olympiad). Top 26 in the US, selected to attend the national training camp.

2021, **Google Code Jam Round 3 Qualifier**. Ranked 55th in the US, 756th worldwide.

2018, 2019, **USAJMO qualifier** (USA Junior Mathematical Olympiad).

Skills

Languages: C/C++, Python, Julia, Go, Rust, Java, HTML, CSS, JavaScript, RISC-V Assembly, Bash, SQL, P4, HIP

Tools: Linux, Git, Docker, Nginx, PyTorch, ActivityPub