Austin Yao

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EDUCATION

University of Pennsylvania Aug 2021 - May 2025

- B.S.E/M.S.E in Computer Science | Minor in Mathematics | GPA: 3.93 / 4.00 *Philadelphia, PA*
- **Relevant Coursework:** Advanced Algorithms, Operating Systems, Distributed Systems, Randomized Algorithms, Stochastic Processes, Probability, Algorithmic Game Theory, Discrete Mathematics, Corporate Finance

SKILLS

Languages	C++, Python, Java, Javascript, Solidity
Development	NumPy, Pandas, Node.js, Express, Angular, Selenium, HMTL & CSS

EXPERIENCE

Morgan Stanley Jun 2024 - Aug 2024

Technology Intern *New York, NY*

- Developed a no-code interface for users to generate custom data visualizations using Python, Angular, and Typescript.
- Integrated a new tool into a user interface and Jupyter Notebook plug-in application for fixed income trading desk.

Morgan Stanley Jun 2023 - Aug 2023

Sophomore Technology Intern *New York, NY*

- Implemented a service availability dashboard that centralized logging from cloud and virtual machine instances.
- Used Java and Swagger for development of tool that was used by the Operations Technology division of 50 members.

University of Pennsylvania CS Department Jan 2022 - Present

Head Teaching Assistant *Philadelphia, PA*

- Managed a staff of 40 TAs, created exams and problem sets, and handled course logistics for 220 students.
- Instructed 15+ students in weekly recitation and office hours on recursive algorithms, graph theory, and data structures.
- Lead office hours for distributed systems course and help students with multithreading, sockets, and system design.

PROJECTS

Ed Discussion GPT Jul 2024 - Aug 2024

Python, LLMs, Selenium

- Developed tool to generate answers to student questions on Ed Discussion that can be approved and set visible by a TA.
- Scraped 5000 past questions using Selenium to pass into LLM as training data that was then stored in a vector database.

Distributed Storage System Apr 2024 - May 2024

C++, Socket Communication

- Programmed a multithreaded, distributed key-value store modeled on Google's BigTable, allowing users to upload, modify, and download data across multiple servers using a Google Drive UI.
- Implemented distributed commit, a load balancer, periodic snapshotting for recovery, and primary node fault tolerance.

Operating System Kernel Nov 2023 - Dec 2023

C, Threads, Scheduling

- Built an operating system kernel to manage user threads and be integrated with custom file system.
- Implemented a round-robin with priority level scheduler that executed, blocked, and cleaned up user created threads.
- Developed shell interface for the user that allowed sleep, SIGINT, and modifiable priority levels of threads.

Ethereum Space Efficiency Feb 2023 - May 2023

Golang, Python, File I/O, Matplotlib

- Conducted research and data analysis on the accumulated size of dirty nodes in Ethereum's Merkle Tries.
- Programmed with Ethereum's open-source codebase in Go and collected data by simulated transactions with Python.
- Authored paper for Scroll, a Sequoia Capital backed start-up developing a zero-knowledge Ethereum virtual machine.

FaceBook Nov 2022 - Dec 2022

JavaScript, Express, HTML, Bootstrap, Spark, AWS DynamoDB, AWS EC2

- Developed an early version of FaceBook that allowed users to create accounts and interact with others by making posts, adding connections, and comments and likes.
- Built JavaScript visualizer for users to see their network of mutual friends based on professional affiliation.