Aman Wadhwa

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EDUCATION

University of Chicago Chicago, IL
B.S. in Computer Science & Mathematics March 2025
GPA: 3.75/4.0; Dean's List 2021-2022
Relevant Coursework: Networks, Databases, Operating Systems, Computer Security, Complexity Theory, Functional Programming, Theory of Algorithms, Algorithmic Game Theory, Abstract Linear Algebra, Real Analysis, Algebra, Statistical Theory, Discrete Math
Activities: Blockchain Chicago, Chicago Economics Forum, ILC: Entrepreneurship & Technology

WORK EXPERIENCE

Mind Company (Seed Startup) San Francisco, CA
Embedded & Machine Learning Engineer Aug 2024 – Jan 2025
- Developed firmware using Embassy Rust for a custom PCB with an STM32 chip and two ADS1299x devices, successfully retrieving EEG sensor data and transmitting it via Bluetooth, enhancing data collection efficiency
- Built a Rust-based streaming service with an endpoint for retrieving EEG data from AWS S3, and developed a Python package to interface with it, enabling efficient data loading during model training
- Designed machine learning architectures for 5-class classification of EEG data and pre-trained a vector quantized variational autoencoder to generate a codebook for EEG data, improving the accuracy of classification for downstream tasks

Capital One Plano, TX
Software Engineer Intern June 2024 – Aug 2024
- Redesigned the Auto Finance vendor payment system to an event-driven serverless architecture, which enhanced system reliability, cost-efficiency, and security
- Developed AWS Lambda functions with Node.js to post payments to DynamoDB and aggregate vendor files concurrently, implementing strict error-handling measures via the Omnius API to ensure complete payment accuracy and integrity

UChicago's Department of Computer Science Chicago, IL
Teaching Assistant & Grader, Theory of Algorithms Jan 2024 – May 2024
- Conducted weekly discussion sessions to teach and clarify algorithmic concepts and address students' questions
- Designed and implemented a comprehensive grading rubric for evaluating student submissions, including detailed assessments of algorithmic correctness, efficiency, and proof rigor

UChicago's Large-Scale Sustainable Systems Group Chicago, IL
Research Assistant Jan 2023 – Sept 2023
- Developed a real-time, automated data acquisition service using Django to integrate energy metrics from US and EU power grids for researching sustainable computing
- Generated comprehensive data center resource profiles utilizing data from different grids, enabling future rigorous and systematic studies on the impact of workload performance across three dimensions of variation

Sway AI (Series A Startup) Greater Boston Area
Software Engineer Intern June 2022 – Sept 2022
- Led the development of Sway's patent-pending workbench view in React JS, allowing users to build complete machine-learning pipelines without writing code
- Created a data-driven and dynamically generated method to streamline data preparation and processing steps before model training, improving efficiency and reducing preparation time

PROJECTS

Relational Database Management System March 2024 – May 2024
- Designed and developed a SQL database system in Rust, including detailed data storage architecture, a storage manager, and a transaction manager
- Implemented advanced features such as query optimization, aggregation, and recovery mechanisms

Fully Functional Operating System Sept 2023 – Dec 2023
- Designed and built a functional operating system in C over the Pintos operating system
- Implemented thread scheduling, process and file system calls, virtual memory, and the filesystem
- Utilized locks, semaphores, and monitors to handle synchronization, optimizing resource usage across multiple threads

Terminal Live March 2023 – June 2023
- Participated in Terminal Live, an elite AI programming competition, engaging with over 30,000 global engineers and data scientists, achieving 2nd place in Correlation One and Citadel's Midwest Terminal Competition

ADDITIONAL

Skills: Python, Java, JavaScript, C/C++, Haskell, TypeScript, Rust, AWS, Systems Programming, Algorithms
Hobbies: Crypto Markets, Options Trading, Poker, Table Tennis, Tennis, Fitness, Philosophy, Reading