

# ADNAN AMAN

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## EDUCATION

### University of California, Berkeley

Bachelor of Arts in Computer Science

Class of 2025

GPA: 3.6/4.0

#### Relevant Coursework:

Operating Systems, Networks, Computer Vision, Data Structures, Efficient Algorithms and Intractable Problems, Computer Architecture, Database Systems, Computer Security, Discrete Math and Probability, Optimization Models in Engineering, Machine Learning, and Probability for Data Science

## EXPERIENCE

### Microsoft

Software Engineer Intern

May 2024 – August 2024

Redmond, WA

- Implemented distributed tracing under Azure OpenAI, enhancing observability for over **2.5 trillion** monthly scoring requests using Go, Python, and Docker
- Integrated tracing capabilities into HTTP listeners using Envoy configurations, enhancing service observability
- Instrumented spans for tracing within Go applications using OpenTelemetry SDK, enabling traceability
- Developed a custom dashboard for visualizing traces and monitoring connected services using React.js, TypeScript, and Fluent UI, improving debugging efficiency for **3M RPS**
- Configured and deployed Datadog tracing agent, facilitating the exporting of traces across distributed systems
- Developed and maintained CI/CD pipelines for testing and deploying services, creating reusable templates to streamline releases and ensure consistency across deployments

### University of California, Berkeley

Academic Intern

June 2023 – August 2023

Berkeley, CA

- Worked as a lab assistant for UC Berkeley's Data Structures course with roughly ~1600 students
- Assisted students with projects and labs in Java, helping to increase their coding and debugging skills
- Worked in office hours to support students with homework and conceptual misunderstandings
- Guided students to implement and experiment with fundamental algorithms and data structures through various projects and labs

## PROJECTS

### YelpCamp | Node.js, Express.js, MongoDB, Bootstrap

March 2024 – May 2024

- Developed a web application for campsite reviews, using Node.js, Express.js, and MongoDB, focusing on user-generated content, security, and data integrity
- Implemented user authentication, admin roles, and a review system in YelpCamp, to enhance application security and user interaction
- Integrated Google Maps API for interactive campsite location features and deployed Google Ads for revenue generation

### RookieDB: Resilient Database Recovery System | Java, ARIES Algorithm

January 2023 – May 2023

- Designed a database recovery system using Java and the ARIES algorithm
- Used logging and checkpoints for system recovery in case of system failures
- Optimized I/O operations utilizing concurrency and query optimization, which led to a 30% reduction in data retrieval latency

### CS61KaChow: Optimized 2D Convolutions | C, SIMD, OpenMP, Open MPI

April 2023 – May 2023

- Optimized 2D convolutions utilizing SIMD vector instructions, achieving a **8.05x** speedup and significantly improving image processing times
- Enhanced task parallelism using OpenMP, resulting in efficient multi-threaded operations and reduced processing overhead
- Coordinated parallel processing tasks utilizing Open MPI's manager-worker architecture, leading to a **5.30x** speedup in convolution operations across large datasets

## TECHNICAL SKILLS

**Languages:** Java, Python, C, Golang, JavaScript, TypeScript, HTML, CSS, SQL, MQL

**Frameworks and Libraries:** React.js, Express.js, Bootstrap, Node.js, JUnit, OpenTelemetry

**Developer Tools:** Git, Vim, Linux, MongoDB, LaTeX, Docker, Bash, Azure