

# ADNAN AMAN

949-247-9312 | [adnan.aman@berkeley.edu](mailto:adnan.aman@berkeley.edu) | [linkedin.com/in/adnan-aman](https://www.linkedin.com/in/adnan-aman) | [github.com/plsBoost](https://github.com/plsBoost)

## EDUCATION

**University of California, Berkeley**

**Class of 2025**

*Bachelor of Arts in Computer Science*

GPA: 3.6/4.0

### Relevant Coursework:

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

## EXPERIENCE

**University of California, Berkeley**

June 2023 – August 2023

*Academic Intern*

*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*

December 2023 – Present

- 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 potential revenue generation

**Secure File Sharing System** | *Go, Cryptography*

January 2024 – March 2024

- Developed a secure file sharing system in Go, allowing users to create, edit, and share files
- Used cryptographic libraries for encryption, decryption, and secure invitation links, to ensure data confidentiality and integrity even in the presence of attackers
- Focused on resilience and security through atomic operations, asymmetric encryption (RSA), symmetric encryption (AES-CTR), hash-based MACs, signatures, and certificates
- Used remote databases for persistent, secure data storage, UUIDs for data management, and PKI for authentication.

**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, JavaScript, HTML, CSS, SQL, MQL

**Frameworks:** React, Node.js, Express.js, Bootstrap, Android (MVC), JUnit

**Developer Tools:** Git, Vim, Linux, MongoDB, LaTeX, Android Studio, Logisim