Adnan Aman

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Education

University Of 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

CodePath August 2021 – January 2022
Android Software Engineer *Irvine, CA*

- Engineered **3+** Android applications utilizing Java and Android Studio IDE, resulting in dynamic user experiences and a **25%** faster load time through efficient debugging and Gradle builds
- Employed MVC patterns in **3 major projects**, leading to a modular codebase, which improved maintainability and allowed a responsive user experience for thousands of active users
- Integrated RESTful APIs using CodePath's AsyncHttpLibrary in **4 applications**, facilitating real-time data fetch and display, leading to a **25%** improvement in data load times
- Enhanced app security by pioneering advanced user authentication techniques, which reduced security breaches by **50%** and streamlined user onboarding
- Collaborated with **2 UI/UX designers** using advanced Android theming techniques, achieving **98%** design fidelity and ensuring consistent user interfaces across devices

Projects

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

RookieDB: Resilient Database Recovery System | *Java, ARIES Algorithm* January 2023 – May 2023

- Designed a database recovery system using Java and the ARIES algorithm, resulting in **99.99%** system uptime and near-zero data loss
- Optimized I/O operations utilizing efficient memory buffers, which led to a **45%** boost in query execution and a **30%** reduction in data retrieval latency

NGordnet: NLP and Data Analysis | *Java, JUnit, JavaScript* November 2022 – December 2022

- Constructed NGram models from over **5GB** of textual datasets utilizing optimized NGramMap and TimeSeries data structures, achieving a **40%** enhancement in word frequency analysis speed
- Incorporated WordNet into NGordnet, expanding its capabilities by **5000+** unique word senses, resulting in enriched semantic analysis for linguistic researchers
- Designed an interactive web interface using HTML, CSS, and Javascript, facilitating user-friendly linguistic research and visualization for diverse user demographics

Technical Skills

Languages: Java, Python, C, JavaScript, HTML, CSS, SQL, MQL
Developer Tools: Git, Vim, Linux, MongoDB, JUnit Testing, LaTeX, Android Studio, Logisim