

Aman Dwivedi

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EDUCATION

University of California, Davis

2024 - 2026

Master of Science in Computer Science

GPA: 3.94

- Advanced Coursework: Computer Security, Operating Systems, Computer Architecture, Program Verification

University of Arizona

2020 - 2024

Bachelor of Science in Computer Science, Minor in Mathematics

GPA: 4.0

- Advanced Coursework: Algorithms & Data Structures, Database Design, System Programming & Unix, Linear Algebra
- Achievements: Summa Cum Laude, 2x Highest Academic Distinction, \$140,000 Merit Scholarship

EXPERIENCE

Software Engineering Intern

Jun. 2025 - Present

The Daniels Company

- Developed and deployed company website using Nest.js frontend and Node.js backend infrastructure, hosting solution on **AWS Amplify** for scalable cloud deployment.
- Collaborated with staff to identify productivity enhancements while ensuring data integrity and implementing cybersecurity best practices across web development projects.

Graduate Research Assistant

Apr. 2025 - Present

University of California, Davis

- Working with Dr. Amanda Raybuck on implementing pattern-based prefetching to reduce migration latency between **DRAM** and **NVM** storage tiers.
- Creating custom allocator to enable logical grouping of linked data structures and pointer-chasing pattern optimization in **heterogeneous memory systems**.

Software Developer

Mar. 2023 - Jan 2024

Lunar and Planetary Laboratory

- Developed a **data architecture** and management system for **NASA's** OSIRIS-REx mission using Python, Django, and PostgreSQL.
- Created a multiplatform app using Flutter for seamless upload and management of data collected by over **250** scientists worldwide.

Undergraduate Research Assistant

Oct 2023 - May 2024

University of Arizona

- Refactored a large legacy codebase containing novel mathematical models from FORTRAN and MATLAB to Python, reducing runtime by 50 % with AWS EC2 instance.
- Created **visualizations** of rainwater data in Southern Arizona using Matplotlib for analysis by the principal investigator.

Teaching Assistant

Aug. 2021 - Mar. 2025

University of California, Davis & University of Arizona

- Led discussion sections and office hours for mathematics and computer science courses facilitating learning for **350+** students across Calculus, Discrete Structures, Software Development, and Programming fundamentals.
- Developed and administered assessments while maintaining academic integrity standards for **350+** students across multiple university programs.

PROJECT

Charitap

- * A micro-donation platform that lets users round up their everyday purchases and automatically donate the spare change to a charity of their choice. Implemented a Chrome Extension leveraging Stripe API and E-Commerce principles.

Formally Verified Round-Robin OS Scheduler

- * Implemented and formally verified a round-robin CPU scheduling algorithm in Dafny with mathematical proof verification to ensure correctness and safety properties.

TECHNICAL SKILLS

Languages: Python, Java, C/C++, HTML, CSS, JavaScript, SQL, Dafny, NextJS, TypeScript, Matlab, Dart

Frameworks: Django, Flask, Flutter, React, Streamlit

Developer Tools: Linux, Jira, Git, MongoDB, Node.js, Bitbucket, AWS

Libraries: Pandas, NumPy, Matplotlib, Selenium, Swing, D3.js