Karmann Saini

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EDUCATION

University of California, Santa Cruz — Expected June 2027
Bachelors of Science in Computer Science — *4.0 GPA*

EXPERIENCE

X-Ray Microscopy Engineer Intern — May 2025 – Sep. 2025
Carl Zeiss X-ray Microscopy, Inc. — *Dublin, CA*

- Designed Python automation to analyze semiconductor wafer defect data, increasing early defect detection accuracy by 23% and reducing test-phase errors during validation.
- Built a data-processing pipeline to consolidate weekly CSV reports, cutting manual aggregation time by 80% and ensuring consistent performance tracking across engineering teams.
- Redesigned Device History Record documentation using structured reporting templates, decreasing data retrieval time for engineers by 40% and improving compliance accuracy.

Project Manager Intern — Sep. 2023 – Jan. 2024
NASA — *Tempe, AZ*

- Led a multidisciplinary team of 12 interns to model potential mission risks using Python simulations, reducing projected schedule variance by 15% and improving risk prioritization accuracy.
- Applied systems engineering and data analysis principles to align project constraints with scientific deliverables, enabling on-time completion of critical path milestones.
- Produced 180+ pages of Preliminary Design Review content, independently authoring schedule and outreach sections that established baselines adopted in subsequent engineering reviews.
- Presented findings to NASA engineers during Preliminary Design Review, earning a "Professional" rating and contributing to project approval for next-phase testing.

PROJECTS

Investment Portfolio Tracker | *React, Python, Flask, SQL, Firebase* — *Oct. 2025*

- Created a personal finance tracker to monitor real-time investment performance and asset allocation.
- Used SQL queries and Flask endpoints for data aggregation and analytics visualization through React dashboards.
- Integrated Firebase authentication and persistent storage to enable secure multi-user data synchronization.

Plait | *JavaScript, Node.js, Express.js, Git* — *Aug. 2025*

- Engineered a full-stack recipe finder application that uses a user's inputted ingredients to generate recipes.
- Developed a Node.js backend with the Express framework that serves an HTML front end and handles API requests for recipe data.
- Implemented dynamic client-side JavaScript to fetch data from the backend API, enabling real-time display of recipe results based on user input.

TECHNICAL SKILLS

Languages/Frameworks: C/C++, Python, Java, JavaScript, Node.js, x86 Assembly

Developer Tools: Git, GitHub, Express.js, Linux CLI, WSL, SSH, Visual Studio, MASM

Relevant Coursework: Data Structures, Algorithms, Machine Learning, Computer Architecture/System Design, Object-Oriented Programming (OOP), Probability and Statistics, Client-Server Architecture, REST API