

KAYLA ROSE HOM

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EDUCATION

University of California, San Diego

M.S. Computer Science and Engineering, Human-Centered Design Specialization

June 2026

GPA: 4.0

University of California, Davis

B.S. Computer Science and Engineering, Technology Management Minor

June 2024

GPA: 3.77

Women in Computer Science Co-President, Davis Undergraduate Engineering Network Officer

Coursework: Machine Learning, Computer Vision, Software Engineering, HCI, Data Structures, OOP, OS, Computer Networks, Web Development, Programming Languages, Algorithm Design & Analysis, Computer Architecture, Embedded Systems

SKILLS & INTERESTS

- **Languages:** Python, C, C++, Java, JavaScript, HTML/CSS, SQL
- **Frameworks:** PyTorch, TensorFlow, ReactJS, NodeJS
- **Cloud & Databases:** AWS, Google Cloud, MongoDB, MySQL
- **DevOps & OS:** Git, GitLab, Docker, Linux, Windows

PROFESSIONAL EXPERIENCE

UC Davis Health

Full-Stack Developer

Remote

January 2024 – Present

- Modernized 13,000 lines of legacy code to deploy a self-administered cognitive screening test developed with ReactJS
- Deployed AWS cloud infrastructure with AWS Amplify, AWS AppSync, IAM, and DynamoDB and configured website API integrations

Mr. Cooper Group

Systems Analyst Intern

Remote

June 2024 – August 2024

- Analyzed and programmed 800+ customer call transcripts to enhance Agent-Assist AI real-time call categorization
- Managed a team of 6 to research marketing data, increasing annual revenue by \$180,000 and reducing marketing costs by 15%

UC Davis Computer Architecture Research

Undergraduate Researcher

Davis, CA

June 2023 – June 2024

- Collaborated with a team of 10+ researchers to conduct research on Gem5's accuracy through performance testing and development
- Worked with Gem5's large code base to configure custom architecture and test the simulated hardware's reliability with microbenchmarks
- Developed Bash scripts and custom configurations of Berkeley's SOC, Chipyard to create a baseline comparison for Gem5's accuracy

UCSF Pain Neuromodulation Lab

Software Developer Lead

San Francisco, CA

June 2023 – March 2024

- Refactored over 4000 lines of code to create a patient and researcher portal to contain surveys and patient data in ReactJS and ReactNative
- Facilitated the deployment of the patient website through Docker and AWS Amplify and coordinating data storage on MongoDB
- Implemented a user-login interface with AWS Cognito to keep track of users with access tokens to manage API operations in JavaScript

UC Davis C-STEM Center

C-STEM Math and Robotics Intern

Davis, CA

June 2022 – May 2023

- Created 50+ math and computer science lesson activities for the program's curriculum, contributing to a 75% increase in SBAC test scores
- Aligned C and C++ based curriculum across 10 different common core standards for grades K-6 on the C-STEM platform website

Juni Learning

Computer Science Instructor

Remote

May 2022 – June 2023

- Taught 200+ curated one-on-one computer science lesson plans to students ranging from elementary to high school
- Instructed 15 students on arrays, object-oriented programming, data structures in Python, JavaScript, and Java

Apple

iOS Tier 1 Advisor

Elk Grove, CA

July 2019 – March 2020

- Advised 2000+ customers with quick and personalized customer support for a range of Apple devices, including iPhone, iPad, and Mac
- Resolved customer's technical issues efficiently by solving problems with step-by-step guidance, diagnostics tests, and screen sharing

PROJECTS

Cornell SoNIC Computer Vision Research | Python, PyTorch, LLM, Machine Learning (ML)

June 2024 - August 2024

- Conducted ML research to enhance food detection accuracy in the LLaVA LLM, focusing on reducing hallucinations
- Manipulated a dataset of 1,500+ images, developing an image manipulation method that improved object detection accuracy by 2%

PNL Survey App & Website | AWS, JavaScript, ReactJS, ReactNative, Node.js, Express

June 2023 - March 2024

- Building up backend using an AWS pipeline including Amazon Cognito, EC2, S3, and RDS for data storage and admin use
- Constructing an app and website design with ReactJS and ReactNative that includes login, menu, survey, and pain mapping page