

Alexander Redding

La Jolla, CA

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Education

University of California San Diego, La Jolla, CA

2022 - Present

Ph.D. Computer Science

Advisors: Ryan Kastner, Pat Pannuto

Northwestern University, Evanston, IL

2018 - 2022

B.A. Computer Science

Awards and Memberships

Society of Hispanic Professional Engineers

2020 - Present

Hispanic Scholarship Fund Scholar

2018 - Present

Publications

EmbHD:

NET4us '23. Madrid, Spain

A Library for Hyperdimensional Computing Research on MCU-Class Devices

Alexander Redding, Xiaofan Yu, Shengfan Hu, Pat Pannuto, Tajana Rosing

Practical Obfuscation of BLE Physical-Layer

SP '24, San Francisco

Fingerprints on Mobile Devices

Hadi Givvehchian, Nishant Bhaskar, Alexander Redding, Han Zhao, Aaron Schulman, Dinesh Bharadia

EquityWare:

CHI '23. Hamburg, Germany

Co-Designing Wearables With and For Low Income Communities

Stefany Cruz, Alexander Redding, Connie W. Chau, Claire Lu, Julia Persche, Josiah Hester, Maia Jacobs

Experience

Graduate Student Researcher

Sept. 2022 - Present

University of California San Diego

Advisor: Tajana Rosing (rotation, Sept. 2022 - Dec. 2022)

- Developed tools to enable state-of-the-art Hyperdimensional Computing inferences and on-device learning for resource-constrained microcontrollers.

Advisors: Ryan Kastner, Pat Pannuto (rotation, Jan. 2023 - Present)

- Evaluating datacenter-scale machine learning tasks on repurposed edge ML accelerators.
- Conducting sustainability analysis of embedded ML accelerators.

Undergraduate Student Researcher

May 2021 - Sept. 2022

Northwestern University, Ka Moamoa Lab

Advisor: Josiah Hester

- Aided in embedded FPGA and microcontroller development for human activity recognition.
- Supported qualitative research investigating the perception and role of wearable technology and the needs of low-income communities.