Alexander Redding

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Education

University of California San Diego   2022 – Present
Ph.D. Computer Science (In progress)   *La Jolla, CA*
Advisors: Ryan Kastner, Pat Pannuto

Northwestern University   2018 – 2022
B.A. Computer Science   *Evanston, IL*

Research Experience

University of California San Diego   Jan. 2022 – Present
Research Assistant   *La Jolla, CA*
Advisors: Ryan Kastner, Pat Pannuto

University of California San Diego   Sept. 2022 – Dec. 2022
Research Assistant   *La Jolla, CA*
Advisor: Tajana Šimunić Rosing (rotation)

Northwestern University   May 2021 – Sept. 2022
Research Assistant   *Evanston, IL*
Advisor: Josiah Hester

Northwestern University   Nov. 2020 – May 2021
Laboratory Assistant   *Evanston, IL*
Advisor: Marcelo Worsley

Awards and Memberships

Department of Computer Science and Engineering First-Year Rotation Fellowship   2022 – 2023
University of California San Diego

Society of Hispanic Professional Engineers   2020 – Present

Publications

Open-CFR: To appear
Open-source Co-design Framework for Redundancy with DPR in COTS FPGA SoCs
Francesco Restuccia, Biruk Seyoum, <u>Alexander Redding</u>, Zhenghua Ma, Guy Eichler, Ryan Kastner.
In *Proceedings of the 2024 IEEE Space Mission Challenges for Information Technology (SMC-IT)*.
Mountain View, CA. July 2024

Environmental Benefits and Drawbacks of Repurposing Smartphones as Sensor Devices   In submission
Jennifer Switzer, <u>Alexander Redding</u>, Jaemok Lee, Julia Le, Lillian Ho, Edward Jin,
Ryan Kastner, Pat Pannuto.

Perceptions of Wearable Health Tools Post-COVID 19 in Low-income Latine Communities   To appear
Stefany Cruz, Claire Lu, Mara Ulloa, <u>Alexander Redding</u>, Josiah Hester, Maia Jacobs.
In *Proceedings of the 2025 Journal of Medical Internet Research mHealth and uHealth
(JMIR mHealth and uHealth)*.

Practical Obfuscation of BLE Physical-Layer   To appear
Hadi Givehchian, Nishant Bhaskar, <u>Alexander Redding</u>, Han Zhao, Aaron Schulman, Dinesh Bharadia.
In *Proceedings of the 2024 IEEE Symposium on Security and Privacy (S&P)*.
San Francisco, CA. May 2024

EmbHD: A Library for Hyperdimensional Computing Research on MCU-Class Devices   NET4us 2023
<u>Alexander Redding</u>, Xiaofan Yu, Shengfan Hu, Pat Pannuto, Tajana Rosing.
In *Proceedings of the 2nd Workshop on Networked Sensing Systems for a Sustainable Society (NET4us)*.
Madrid, Spain. October 2023

EquityWare: Co-Designing Wearables With and For Low Income Communities CHI 2023

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

In *Proceedings of the 2023 Conference on Human Factors in Computing Systems (CHI)*.

Hamburg, Germany. April 2023

Presentations

EmbHD: A Library for Hyperdimensional Computing Research on MCU-Class Devices Oct. 6, 2023

2nd Workshop on Networked Sensing Systems for a Sustainable Society. Madrid, Spain

Teaching

CSE 160: Introduction to Parallel Computing – *Teaching Assistant* Present

Rewrote course material from CUDA to OpenCL for future open-source heterogeneous computing education.

CS 343: Operating Systems – *Peer Mentor* Spring 2022

Topics include concurrency, scheduling, virtual memory, and file systems.

CS 211: Fundamentals of Computer Programming II – *Peer Mentor* Fall 2021, Winter 2022

Topics include C and C++ programming, memory management, and the Unix shell.