

Reiner N. Dizon-Paradis, Ph.D.

(formerly Reiner N. Dizon)

Postdoctoral Research Associate

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RESEARCH INTERESTS

- **Artificial Intelligence of Things (AIoT) Applications**, *including*: IoT sensing/feedback platform design, resource-constrained machine learning and computer vision
- **Hardware Security and Trust**, with hands-on education and IP protection/assurance
- **Drone Technology** for smart home defense, remote maintenance, and EV battery replacement
- **Bio-inspired Robotics**

EDUCATION

- 2019 – 2023 **Ph.D., Electrical and Computer Engineering**
University of Florida, Gainesville, FL, USA
Dissertation: Pasteables: Collaborative, Reconfigurable, and Modular Plug-and-Play IoT Sensing and Feedback Platform
Advisor: Swarup Bhunia
GPA: 3.95 *out of* 4.00
- 2019 – 2021 **M.S., Electrical and Computer Engineering**
University of Florida, Gainesville, FL, USA
GPA: 3.95 *out of* 4.00
- 2015 – 2018 **B.S.E. (Hons.), Computer Engineering**
University of Nevada, Las Vegas, Las Vegas, NV
Summa Cum Laude, **Minors:** Computer Science, Mathematical Science
Honors Thesis: [Efficient Image Coding and Transmission in Deep Space Communication](#)
GPA: 3.97 *out of* 4.00

PROFESSIONAL EXPERIENCE

- 2024 – *Present* Postdoctoral Research Associate, University of Florida
- 2019 – 2023 Graduate Research Assistant, University of Florida
- 2020 – 2023 Co-Instructor and Graduate Teaching Assistant, University of Florida
- 2017 – 2019 Undergraduate Student Researcher and Teaching Assistant, University of Nevada, Las Vegas

HONORS & AWARDS

- 2019 – 2023 Graduate School Preeminence Award (GSPA) Fellowship, University of Florida

2022 – 2023	Dora G. Partheniades Scholarship Award, ECE, University of Florida
2022	Invention of the Year (SAVIOR), UF Innovate Standing Innovation Awards, University of Florida
2020	Design Automation Conference Young Fellow, 57th Design Automation Conference
2018	Troy and Selma Bartlett Engineering Scholarship, HRH College of Engineering, University of Nevada, Las Vegas
2018	Office of Undergraduate Research (OUR) SURF Recipient, University of Nevada, Las Vegas
2017	Gilman & Bartlett Engineering Scholarship, HRH College of Engineering, University of Nevada, Las Vegas

PROFESSIONAL AND ACADEMIC MEMBERSHIPS

2017 – <i>Present</i>	Institute of Electrical and Electronics Engineer (IEEE)
2023 – <i>Present</i>	Association for Computing Machinery (ACM)
2017 – <i>Present</i>	Tau Beta Pi, The Engineering Honor Society (TBP)
2020 – <i>Present</i>	IEEE Eta Kappa Nu (HKN)
2018 – <i>Present</i>	Phi Kappa Phi Honor Society (PKP)
2016 – 2019	National Society of Professional Engineers (NSPE)
2018 – 2019	Society of Integrative and Comparative Biology (SICB)

PUBLICATIONS

Journal Publications

1. R. Dizon-Paradis, R. R. Kalavakonda, P. Chakraborty, and S. Bhunia, “Pasteables: A flexible and smart “stick-and-peel” wearable platform for fitness & athletics,” *IEEE Consumer Electronics Magazine*, pp. 1–1, Mar 2022
2. P. Chakraborty, R. N. Dizon-Paradis, and S. Bhunia, “Arts: A framework for ai-rooted iot system design automation,” *IEEE Embedded Systems Letters*, vol. 14, pp. 151–154, Sep. 2022
3. P. Chakraborty, R. N. Dizon-Paradis, and S. Bhunia, “Savior: A sustainable network of vehicles with near-perpetual mobility,” *IEEE Internet of Things Magazine*, vol. 6, pp. 108–114, June 2023
4. R. R. Kalavakonda, P. Anbu, N. V. R. Masna, R. Dizon, B. B. Y. Ravi, S. Mandal, and S. Bhunia, “Masi: A novel combination of mask and shield with near-n95 efficiency,” *IEEE Sensors Journal*, vol. 22, no. 23, pp. 23129–23136, 2022

Conference Publications

1. R. N. Dizon-Paradis, O. Ferrigno, I. Reid, and S. Bhunia, “Light pollution monitoring using a modular iot sensor platform,” in *2022 IEEE International Conference on Smart Internet of Things (SmartIoT)*, pp. 28–35, Aug 2022
2. N. V. R. Masna, R. R. Kalavakonda, R. N. Dizon-Paradis, and S. Bhunia, “Smart and connected mask for protection beyond the pandemic : (invited paper),” in *2021 IEEE International Midwest Symposium on Circuits and Systems (MWSCAS)*, pp. 676–679, 2021

3. R. Dizon, A. Solis, A. Essaqui, M. Isaacs, A. McKenna, A. Gibbs, D. Lee, and S. L. Harris, “Fly roller: Development of an instrument to exercise fruit flies,” in *17th International Conference on Information Technology–New Generations (ITNG 2020)*, pp. 445–451, Springer International Publishing, 2020

Non Peer-Reviewed Papers

1. R. Almawzan, R. Dizon-Paradis, A. Dasgupta, D. Halder, M. M. Rahman, M. Merugu, K. Amberiadis, S. Ray, and S. Bhunia, “Oasis: A layered ip protection framework for structured asic,” 2023
2. N. V. R. Masha, R. R. Kalavakonda, R. Dizon, A. Bhuniaroy, S. Mandal, and S. Bhunia, “The smart mask: Active closed-loop protection against airborne pathogens,” 2020

Presentations

1. R. Dizon, R. R. Kalavakonda, C. Dupuis, P. Anbu, P. Chakraborty, and S. Bhunia, “Pasteables: Reconfigurable stick-and-peel iot wearable platform,” 2022
2. R. Dizon, P. SLPSK, and S. Bhunia, “Iot test platform for simulating emergency scenarios,” 2020
3. R. Dizon, C. Vega, P. Chakraborty, and S. Bhunia, “Saint: Self-aware infrastructure with intelligent technologies,” 2019 (2nd Place, Student Hardware Demo)

Thesis and Dissertation

1. R. Dizon-Paradis, “Pasteables: Collaborative, reconfigurable, and modular plug-and-play iot sensing and feedback platform,” Dec. 2023. (PhD Dissertation)
2. R. Dizon, “Efficient image coding and transmission in deep space communication,” Apr. 2018. (Undergraduate Honors Thesis)

Patents

1. S. Bhunia, P. Chakraborty, R. Dizon, J. B. Harley, S. Ray, P. SLPSK, and C. Vega, “Smart infrastructures and first-responder network for security and safety hazards,” 2024. U.S. Patent No. TBD
2. S. Bhunia, P. Chakraborty, P. Difuntorum, R. Dizon, P. SLPSK, and C. Vega, “Drone-based administration of remotely located instruments and gadgets,” 2024. U.S. Patent No. 11,978,023
3. S. Bhunia, R. Dizon-Paradis, and R. J. Toussaint, “Smart adjustable feet activity tracking and recommendation (safer) system,” 2024. UF Patent App. No. 18/621,216
4. S. Bhunia, S. D. Paul, P. Difuntorum, R. Dizon, P. SLPSK, and C. Vega, “Defense of jtag i/o network,” 2023. U.S. Patent No. 11,856,096
5. R. Almawzan, A. Bhattacharyay, S. Bhunia, A. Dasgupta, and R. Dizon-Paradis, “Multi-layered framework for security of integrated circuits,” 2023. UF Patent App. No. 18/327,342
6. S. Bhunia, P. Chakraborty, and R. Dizon-Paradis, “Framework for sustainable recharging of battery electric vehicles with near-perpetual mobility,” 2023. U.S. Patent App. No. 18/297,436
7. S. Bhunia, P. Chakraborty, P. Difuntorum, R. Dizon, and R. R. Kalavakonda, “Learning-rooted iot platform,” 2023. U.S. Patent App. No. 17/863,172
8. S. Bhunia, R. Dizon, R. R. Kalavakonda, P. SLPSK, and C. Vega, “Reconfigurable jtag architecture for implementation of programmable hardware security features in digital designs,” 2022. U.S. Patent App. No. 17/661,232

TEACHING

Co-Instructor/Graduate Teaching Assistant, ECE Department, University of Florida

Fall 2022 **Hands-on Hardware Security** (EEE6744)
Fall 2021 **Hands-on Hardware Security** (EEE6744)
Fall 2020 **Hands-on Hardware Security** (EEE6744)

Undergraduate Teaching Assistant, ECE Department, University of Nevada, Las Vegas

Fall 2017 **Embedded Digital Signal Processing** (CpE 409)

Other Experience

07/2022 **GenCyber Summer Camp**, University of Florida
Lead Instructor
06/2022–07/2022 **"How Do Computers Add?"**, CPET Pre-College Scholars Program, University of Florida
Co-Instructor

PROFESSIONAL LEADERSHIP AND SERVICE ACTIVITIES

Conference, Workshop, Session, and Other Organization

2021 – 2023 **Lead Webmaster**, CAD For Assurance, Gainesville, FL
2022 – 2023 **IoT Design Competition Committee Member**, 2022 IoT Design Competition, Gainesville, FL
2022 **Webmaster**, HeLLO: CTF '22 Competition, Gainesville, FL
2021 – 2022 **Lead Student Organizer**, 2021 IoT Design Competition, Gainesville, FL
2021 **Webmaster**, HeLLO: CTF '21 Competition, Gainesville, FL
2019 **Poster Competition Student Co-Chair and Webmaster**, Warren B. Nelms Annual 2019 IoT Conference, Gainesville, FL

Invited Speaker

Oct. 2020 "Migrating through My Engineering Journey," TBP Nevada Beta Guest Speaker Series

Reviewer Activities

Reviewer for IEEE Internet of Things Journal (IoT-J), IEEE Consumer Electronics Magazine (CEM), ACM/IEEE Design Automation Conference (DAC)

Student Organization

Dec. 2020 – May 2023 **President and Founding Member**, IoT Students Club, University of Florida
Oct. 2020 – May 2021 **Social Chair**, Eta Kappa Nu Epsilon Sigma Chapter, University of Florida
Aug. 2020 – May 2021 **Industry Outreach Co-Chair**, ECE Graduate Student Organization, University of Florida

Jun. 2018 – May 2019 **President**, Tau Beta Pi Nevada Beta Chapter, University of Nevada, Las Vegas

WORKSHOPS AND TRAININGS ATTENDED

Fall 2022 Preparing Future Faculty, University of Florida.
2018–2019 Rebel Research and Mentorship Program (as an undergraduate mentee), Graduate College, University of Nevada, Las Vegas.

MENTEES

Undergraduate Research, University of Florida

Su 2022 – Sp 2023 Alexa Cole
Fa 2021 – Fa 2022 Luna Nguyen
Sp 2022 – Sp 2022 Jaxson Jerger

Senior Projects, University of Florida

Sp 2022 – Su 2022 Oliver Ferrigno
Sp 2022 – Su 2022 Ishamor Reid

SKILLS

Technical Skills

- Programming Languages: **Python**, **C/C++**, Java, MATLAB
- AI Libraries: **numpy**, **pandas**, **matplotlib**, **scipy**, **sklearn**, **keras**, tensorflow, torch, cv2
- App Development: Android Studio, PyQTGraph
- Operating Systems: **Linux (Arch Linux, Debian, Red Hat)**, Windows 7/8/10/11, Mac OS X
- EDA Tools: **Intel Quartus**, **Microchip Studio**, **Altium Designer**, **EasyEDA**, Synopsys Design Compiler, GOWIN FPGA Designer, Cadence Virtuoso, LTSpice
- Hardware Languages: **Verilog/SystemVerilog**, VHDL, TCL
- Project Management: **Git**, **GitHub**, **GitLab**, **Notion**, ClickUp, Trello
- Communication: **LaTeX**, **DaVinci Resolve**, **OBS Studio**, Sony Vegas Pro

Spoken and Written Language

- English, Tagalog (native fluency)
- Spanish (limited working knowledge)

[CV compiled on May 14, 2024 for the website <https://reinerdizonparadis.com/>]

May 14, 2024