

Reiner N. Dizon-Paradis, Ph.D.

(formerly Reiner N. Dizon)

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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 <i>out of</i> 4.00
2019 – 2021	M.S., Electrical and Computer Engineering University of Florida, Gainesville, FL, USA GPA: 3.95 <i>out of</i> 4.00
2015 – 2018	B.S.E. (<i>Hons.</i>), Computer Engineering University of Nevada, Las Vegas, Las Vegas, NV <i>Summa Cum Laude</i> , Minors: Computer Science, Mathematical Science Honors Thesis: Efficient Image Coding and Transmission in Deep Space Communication GPA: 3.97 <i>out of</i> 4.00

PROFESSIONAL EXPERIENCE

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 – Present	Institute of Electrical and Electronics Engineer (IEEE)
2023 – Present	Association for Computing Machinery (ACM)
2017 – Present	Tau Beta Pi, The Engineering Honor Society (TBP)
2020 – Present	IEEE Eta Kappa Nu (HKN)
2018 – Present	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*, 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*, 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*, 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)*, IEEE, 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, Aug 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. Almazan, **R. Dizon-Paradis**, A. Dasgupta, D. Halder, M. M. Rahman, M. Merugu, K. Ameriadis, S. Ray, and S. Bhunia, “Oasis: A layered ip protection framework for structured asic,” 2023
2. N. V. R. Masna, 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,” in *Warren B. Nelms Fifth Anniversary Poster Session*, 2022
2. **R. Dizon**, P. SLPSK, and S. Bhunia, “Iot test platform for simulating emergency scenarios,” in *DAC Young Fellows Program, 57th Design Automation Conference*, 2020
3. **R. Dizon**, C. Vega, P. Chakraborty, and S. Bhunia, “Saint: Self-aware infrastructure with intelligent technologies,” in *1st Warren B. Nelms Annual IoT Conference*, 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
2. **R. Dizon**, “Efficient image coding and transmission in deep space communication,” Apr. 2018. (Undergraduate Honors Thesis)

Patents and Disclosures

1. S. Bhunia, **R. Dizon-Paradis**, and R. J. Toussaint, “Smart adjustable feet activity tracking and recommendation (safer) system.” UF Disclosure UF#-T18976
2. S. Bhunia, P. Chakraborty, and **R. Dizon-Paradis**, “Savior: A sustainable network of vehicles with near-perpetual mobility.” U.S. Patent App. No. 18/297,436
3. R. Almazan, A. Bhattacharyay, S. Bhunia, A. Dasgupta, and **R. Dizon-Paradis**, “Oasis: Obfuscation, algebraic transformation, structural artifact removal, interconnect structure transformation for security of ip.” U.S. Patent App. No. 18/327,342
4. S. Bhunia, **R. Dizon**, P. Chakraborty, R. R. Kalavakonda, and P. Difuntorum, “Learning-rooted iot platform.” U.S. Patent App. No. 17/863,172
5. S. Bhunia, C. Vega, **R. Dizon**, R. R. Kalavakonda, and P. SLPSK, “Reconfigurable jtag architecture for implementation of programmable hardware security features in digital designs.” U.S. Patent App. No. 17/661,232
6. S. Bhunia, P. Chakraborty, **R. Dizon**, P. Difuntorum, C. Vega, and P. SLPSK, “Drone-based administration of remotely located instruments and gadgets.” U.S. Patent App. No. 17/467,823
7. P. Chakraborty, **R. Dizon**, C. Vega, J. B. Harley, S. Ray, S. Bhunia, and P. SLPSK, “Smart infrastructures and first-responder network for security and safety hazards.” U.S. Patent App. No. 17/392,376
8. S. Bhunia, C. Vega, S. D. Paul, P. Difuntorum, **R. Dizon**, and P. SLPSK, “Defense of jtag i/o network.” U.S. Patent App. No. 17/303,648

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

Review 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 (Ubuntu, 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 December 20, 2023 for the website <https://reinerdizonparadis.com/>]

Gainesville, FL - United States, December 20, 2023