

Cynthia Marie Rivera Sánchez

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Education

University of Texas at Dallas

August 2024 - Present

Ph.D. in Software Engineering

University of Puerto Rico - Río Piedras Campus

August 2019 - June 2024

Bachelor of Science in Computational Mathematics and Statistics

Second major in Computer Science, minor in Cybersecurity, minor in Human Rights

Summa Cum Laude

General GPA: 3.98 | Major GPA: 3.93

Mentors: Dr. Ivelisse Rubio & Dr. Carlos Corrada

Research Experience

REU - Emerging Issues in Cybersecurity

May 2023 - July 2023

- Mentor: Dr. Sihua Shao (sihua.shao@nmt.edu)
- Research in Ensuring Secure Key Exchange Over Bandwidth-Limited Visible Light Communication (VLC) Channels

NYC Discrete Math REU

June 2022 - August 2022

- Mentor: Dr. Matthew Junge (jungem13@gmail.com)
- Research in Clustered Ballistic Annihilation

Undergraduate Research

January 2021 - December 2021

- Mentor: Dr. Ivelisse Rubio (iverubio@gmail.com)
- Research in Involutions of Finite Fields Obtained from Dickson Polynomials.

Mathematical Science Research Institute - REU

June 2021 - July 2021

- Mentor: Dr. Pamela E. Harris (peh2@williams.edu)
- MSRI-UP Parking Functions: Choose Your Own Adventure
- Research on Defective Parking Functions

Teaching Experience

Discrete Mathematics Tutor

August 2021 - December 2021

- Supervisor: José R. Ortiz Ubarri (jose.ortiz23@upr.edu)
- Tutor in the Stipend Program project: Design and Development: Scholar COMPASS: Scholarships, Community, and Peer Academic Support for Success

Tutoring Assistant at EMT Solution

January 2020 - February 2020

- Supervisor: María Rodríguez (emtsolution@outlook.com)
- Review for the Math section of the College Board Exam

Work Experience

John Hopkins University - Applied Physics Laboratory Internship

May 2024 - August 2024

- Supervisor: Nadia Hussain (nadia.hussain@jhuapl.edu)
- Worked on two projects that involved the use of Matlab, C++, NS-3 and NetAnim

Data Base Programmer

August 2023 - May 2024

- Supervisor: Sandra Román (sandra.roman2@upr.edu)
- Work at programming a data base for the Division of Continuing Education and Professional Studies, Río Piedras

Software Engineer Trainee

February 2023 - June 2023

- Supervisor: Carlos Corrada (carlos.corrada2@upr.edu)
- Worked on a software engineering problem in the Computer Development and Consulting Center

Webpage Developer

January 2022 - December 2022

- Supervisor: Ivelisse Rubio (iverubio@gmail.com)
- Updated the *Laboratorio Emmy Noether* webpage

Office Work: Biology Department UPR-RP

August 2019 - May 2020

- Supervisor: Angela Pelet (angela.pelet1@upr.edu)
- Assisted students during the enrollment process
- Organized and delivered important documents

Publications

Non-universality in clustered ballistic annihilation

- Published in *Electronic Communication in Probability*, June 2023
- Faculty author: Matthew Junge
- Graduate student author: Lily Reeves
- Undergraduate student authors: Arturo Ortiz San Miguel and **Cynthia Rivera Sánchez**

People Over Math: A Co-created Principle for Successful Research Communities

- Published in *MAA Focus*, June/July 2022
- Faculty authors: Rebecca Garcia, Pamela E. Harris, and Dwight Anderson Williams II
- Graduate student authors: J. Carlos Martínez Mori and Casandra Monroe
- Undergraduate student authors: Tomás Aguilar-Fraga, Yasmin Aguillon, Daniel Alofameni Quiñonez, Dylan Alvarenga, Aaliyah Celestine, Parneet Gill, Imhotep Hogan, Jakeyl Johnson, Kobe Lawson-Chavanu, Lina Liu, Aaron Ortiz, Lauren Quesada, **Cynthia Marie Rivera Sánchez**, Christopher Soto, Camelle Tieu, Dirk Tolson III, Jacob van der Leeuw, and Pamela Vargas

Presentations and Talks

Ensuring Secure Key Exchange Over Bandwidth-Limited Visible Light Communication (VLC) Channels

July 2023

- Emerging Issues in Cybersecurity REU Presentations

Clustered Ballistic Annihilation

August 2022

- NYC Discrete Math REU Presentations

The Defective Parking Space

April 2022

- Joint Mathematics Meeting 2022 (virtual talk)

Orbits of Defective Parking Functions and the Infinity Norm

October 2021

- SACNAS Poster Presentation

The Defective Parking Space

July 2021

- MSRI-UP REU Presentations (virtual talk)

Computer Skills

Proficient in the programming languages:

- Python
- C++
- R
- PHP
- C
- MatLab

Experienced in WordPress and HTML

Languages

Spanish

- Native language
- Advances skills on writing, reading and speaking

English

- Advances skills on writing, reading and speaking

Awards and Honors

Distinction Ceremony of the College of Natural Sciences

June 2024

- Francisco Garriga Award
- College of Natural Sciences Award

Dean's Honor List

January 2020 - June 2024

Scholar COMPASS: Francis Castro Scholarship

August 2023 - May 2024

S-STEM Scholar Meeting

September 2023

NSF IRES Uzbekistan Program

August 2023

- Advanced Studies Institute in Analysis on Fractal Spaces & Dynamical Systems

Hispanic Scholarship Fund Scholar Designation

2023

Scholar COMPASS: Francis Castro Scholarship

August 2022 - May 2023

AEELA Scholarship

August 2020 - May 2023

- Scholarship for the children and grandchildren of the members of AEELA

Science, Technology, Engineering, Art and Mathematics Excellence Award

March 2023

- Each department nominated a graduate and an undergraduate woman student to received the award
- Undergraduate student nominated by the Math Department

Graduate Research Opportunities for Women (GROW) Conference

October 2022

- One of the 82 participants selected to form part of this conference

Tapia 2022 Conference Scholarship

September 2022

- Highspot Scholarship Recipient

Hispanic Scholarship Fund Scholar Designation

2022

Scholar COMPASS: Francis Castro Scholarship

August 2021 - May 2022

Grace Hopper Celebration Scholarship

September 2021

Hispanic Scholarship Fund Scholar Designation

2021

Scholar COMPASS: Francis Castro Scholarship

August 2020 - May 2021

Extracurricular Activities

Academic Senate

September 2023 - June 2024

- President of the Student Affairs Committee
- Spokesperson for the Student Senatorial Caucus
- Member of
 - Academic and Honorary Distinctions Committee
 - Agenda Committee
 - Committee for Physical Development and Environmental Conservation

General Student Council

September 2022 - June 2024

- Ex officio member (September 2023 - June 2024)
- President (March 2023 - September 2023)
- Vice president (November 2022 - March 2023)
- Alternate representative to the University Board (September 2022 - November 2022)

Student Council of the College of Natural Sciences

September 2022 - June 2024

- Academic Senator (September 2023 - June 2024)
- Representative to the General Student Council (September 2022 - September 2023)

Interuniversity Programming Competition

May 2024

- Held at University of Puerto Rico - Bayamón Campus
- Obtained second place in the expert category

Computer Science Student Association (AECC)

August 2022 - May 2024

- Secretary (August 2022 - May 2023)
- Member of the association

Math Student Association (AEMat)

August 2022 - May 2024

- Vice president (August 2022 - May 2023)
- Member of the association

CTF Competition

June 2023

- One of the activities held at the Emerging Issues in Cybersecurity REU
- Obtained fourth place

Interuniversity Programming Competition

May 2023

- Held at University of Puerto Rico - Bayamón Campus
- Obtained second place in the expert category

Student Council of the College of Natural Sciences

August 2019 - August 2020

- Mathematics Representative