Cynthia Marie Rivera Sánchez

📱 (787) 217 1257   •   ✉ cynthia.rivera15@upr.edu
🌐 cynthiarivera15.github.io

Education

University of Texas at Dallas   **August 2024 - Present**
Ph.D. in Software Engineering
GEM Fellow

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 Alofamoni Quiñonez, Dylan Alvarenga, Aalliyah 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 Presentions

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**

Rafael Carrión Jr. Award for Academic Excellence   **August 2019**

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