

# Joshua A. Rivera Morales

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## EDUCATION

**Universidad de Puerto Rico, Recinto de Mayagüez (UPRM), Mayagüez, PR.**

May 2029

*Bachelor of Science in Software Engineering*

**Relevant Coursework:** Introduction to Programming, Advanced Programming, Calculus I & II, Data Structures, Multivariable Calculus

**Relevant Certifications:** Responsible Conduct of Research for Engineers

## TECHNICAL SKILLS

Languages: *Python, C++ (Proficient), Java (Familiar)*

Tools / Concepts: in *Git / Github, Object-Oriented Programming, Data Structures & Algorithms*

## PROJECTS & RESEARCH

**PandaHat Adversarial Research Group, University of Puerto Rico | Mayagüez, PR | Dr. Nayda Santiago**

- **Undergraduate Research Member** January 2026 - Present
  - Contributed to AI / ML research by training and evaluating neural networks on NDVI datasets.
  - Documented workflows, analyzed model performance, and implemented reproducible evaluation pipelines in Python.

**Loxodon-1 MCP Server | Mayagüez, PR**

March 2026 – April 2026

- Built a Model Context Protocol server for the Loxodon-1 codebase to enable structured access to project resources and agent-assisted development workflows..
- Improved efficiency by streamlining code navigation, debugging, and system integration tasks.
- Supported embedded systems, telemetry processing, and avionics software infrastructure.

**Game Development in Python and C++**

August 2024 – December 2025

- Built retro-style games (Hangman, Pong, Minesweeper, Tetris) using OOP and event-driven programming.
- Implemented collision detection, game loops, UI logic, and input handling across multiple games.
- Improved debugging, problem-solving, and algorithmic thinking through iterative development and optimization.

**Target Prioritizer – C++**

December 2025 - Present

- Built an OOP-based system using classes, constructors, and vectors to generate and manage targets with random coordinates, distance calculations, and prioritization logic.
- Implemented sorting algorithms and custom comparator logic to rank targets by distance and priority for efficient target selection.

## EXPERIENCE

**Laboratory Mentor for Advanced Programming, Mayagüez, PR**

January 2026 - Present

- Mentored 30 students in Object-Oriented Programming and recursive algorithms through hands-on labs.
- Improved students' ability to apply theoretical concepts to practical coding problems.

**Loxodon-1, Avionics Team Member, Mayagüez, PR**

March 2026 – Present

- Supported development of flight computer software for a bipropellant liquid state rocket.
- Assisted in telemetry data processing, and avionics software architecture.

**Home Delivery Group LLC, Office Assistant, San Juan, PR**

Summer 2024

- Performed data entry and maintained Excel spreadsheets to track business data.
- Improved daily workflow efficiency by organizing and validating incoming data.

**Water Keikis Summer Camp, Camp Counselor, San Juan, PR**

Summer 2022 & 2023

- Supervised outdoor and water-based activities for groups of 5-16 children, ensuring safety at all times.
- Mentored young paddlers on technique and balance, promoting confidence and discipline.

## LEADERSHIP AND COMMUNITY ENGAGEMENT

**SER de Puerto Rico, Volunteer, San Juan, PR**

Fall 2023 – Spring 2024

- Supported recreational and educational activities for individuals with disabilities.
- Improved teamwork and communication through direct community support.

**ISA 2023 World SUP & Paddleboard Championship, France**

September 2023 – October 2023

- Represented Puerto Rico among more than 200 athletes from around 30 countries.
- Achieved top 15 world ranking in the technical discipline.

## ADDITIONAL SKILLS AND INTERESTS

**Languages:** Fluent in *English* and *Spanish*.

**Interests:** Cybersecurity, Machine Learning, Embedded Systems