

Sergio Mercado Nuñez

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CANDIDATE SUMMARY

Ambitious Computer Engineering student with experience in embedded systems, FPGA design, and low-level programming. Proficient in C, ASM, VHDL, and microcontroller development. Seeking a **May–August 2025** co-op.

EDUCATION

Rochester Institute of Technology
Computer Engineering BS
GPA: 3.34 | Dean's List

Rochester, NY
Expected May 2027

SKILLS

Software: Python, Java, Javascript, C, C++, HTML, CSS, VHDL, Matlab, ARM Assembly, Lua, Nix, MIPS Assembly, LaTeX, Bash, ModelSim, Vim, Visual Studio, Keil uVision, PyCharm, IntelliJ, Altera Quartus II, Xilinx Design Suite, Linux, Git, STM32 IDE

Hardware: RISC-V, Arduino Circuits, Oscilloscope, Signal Generator, Multimeter, Surface Mount Soldering

Generic Technical: Microsoft Suite, Presentation Skills, Fluent in Spanish/English.

EXPERIENCE

Golisano Institute of Sustainability, Research Assistant June 2024 -December 2024

- Developed tools to convert PLEXOS energy simulation result data into interactive visualizations, enhancing analysis and decision-making for research projects.
- Implemented machine learning models to assist in using the PLEXOS program and to create code for the PLEXOS API leveraging Prompt Engineering and Retrieval Augmented Generation (RAG).

PROJECTS

Plexos2BokehPivot|Python June 2024 -December 2024

- Automates conversion of **PLEXOS** XML solution files into CSV format.
- Visualizes resulting data using Bokeh Pivot.
- Simplifies analysis of complex energy models.
- Provides a clear workflow for converting and mapping PLEXOS data to interactive, customizable visualization

VHDLboy|VHDL June 2024- Present

- Implemented the CPU architecture, completing all ALU instructions in **VHDL**.
- Tested and debugged on the PYNQ-Z2 **FPGA** board.
- Conducted simulation and hardware validation in **Xilinx Vivado**.

Brickhack XI: Munson's Revenge February 2025

- Implemented an interactive GameBoy game with a team of 4, creating artwork leveraging Aseprite and GBstudio.
- implemented within 24 hours
- Had the game working on real hardware

Orphan Donation Website |Java HTML CSS Typescript August 2023-November 2023

- Directed a team of 5 in building an orphan donation website for patrons.
- Utilized a scrum-based approach for effective project management.
- Formulated and implemented a RESTful API for the backend with Java and Spring Boot.
- Designed the inventory and shopping cart back-end.
- Designed and implemented the front-end and admin login using HTML/CSS and TypeScript with Angular framework.

Leadership Activities

Alma de Mexico RIT, President/Treasurer September 2023 - Present
Co-founded a club dedicated to spreading Mexican culture through folkloric dance, music and food at RIT

Computing Organization for Multicultural Students, Member January 2025 - Present
Implementing a controller using ESP32-C6 microcontroller for an overarching project of building a game console.