Marvin Rivera Martinez

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Education

University of Virginia   **Expected Graduation: May 2026**
B.S. in Computer Engineering, Minor in Data Science, GPA: 3.48/4.0   *Charlottesville, VA*

- **Honors:** Dean's List (Spring 2023, Spring 2024, Fall 2024, Spring 2025), QuestBridge National Scholar

Technical Skills

Programming: C/C++, Java, Python, JavaScript, HTML/CSS, SQL, MATLAB, Verilog
Engineering Tools: Git, STM32CubeIDE, Keil, KiCad, nRF Connect SDK, Zephyr RTOS, ModelSim
Hardware: PCB Design & Assembly, Oscilloscopes, TM4C123, nRF52840DK, RISC-V Architecture
Cloud & Databases: AWS S3, PostgreSQL, SQLite, Heroku
Languages: Fluent in Spanish & English, Proficiency in Italian

Engineering Projects

RentScan - Wireless NFC Tag Rental System | *Project Lead (IoT Course)*   **Spring 2025**
- Led design of wireless rental management system using NFC and Bluetooth Low Energy (BLE) communication between nRF52840DK devices
- Engineered firmware using Zephyr RTOS and nRF Connect SDK for NFC reader and BLE gateway with rental database management

RISC-V CPU with Memory-Mapped UART | *Lead Designer (Computer Architecture)*   **Fall 2024**
- Designed complete RISC-V CPU system in Verilog featuring RV32I core and custom memory-mapped UART peripheral
- Developed multi-cycle datapath, controller, and integrated with custom RAM (4KB), ROM (8KB), and address decoder

SkiRentals Web Application | *Software Architect & Lead Developer*   **Spring 2025**
- Spearheaded architecture design of full-stack web application using Django, Python, PostgreSQL, and AWS S3
- Engineered backend features including user authentication (Google OAuth2), role-based access control, and rental logic

Candy Ninja Game | *Lead Developer & System Integrator*   **Spring 2025**
- Led core development for interactive TM4C123 microcontroller game with RTOS environment and multiple synchronized threads
- Implemented sound design, game state logic, deadlock prevention algorithm, and joystick input processing using Keil

Research: Entity-Specific Biases in Text Classification | *First Author*   **Spring 2025**
- Led research investigating entity-specific biases in NLP models using Perturbation Sensitivity Analysis framework
- Analyzed model responses to perturbed data, revealing significant variations based on nationality and gender attributes

Leadership & Experience

University of Virginia | *Teaching Assistant, Computer Systems & Organization II*   **Spring 2025**
- Mentor students in advanced computer systems topics including architecture, concurrency, and security
- Facilitate weekly laboratory sections and hold office hours for complex topics like cache coherency and networking

SHPE UVA Chapter | *Active Member & Mentor*   **Sep 2022 – Present**
- Selected as UVA representative for 2024 SHPE National Convention, recognized for technical engagement
- Mentored first-year Computer Engineering students and developed study materials for core courses

Solar Car Team | *Hardware Integration Team Member*   **Sep 2023 – Present**
- Collaborated on PCB designs for telemetry and steering wheel systems using KiCad with STM32-based interfaces
- Contributed to communication architecture development for real-time data transmission within the vehicle

Engineering Student Council | *Diversity Committee Member*   **Fall 2024 – Present**
- Contributed to diversity initiatives and organized career panels for engineering students
- Supported mentorship programs connecting students with industry professionals