Bryan Rambo

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Education

University at Buffalo, The State University of New York — Buffalo, NY
Masters of Science in Electrical Engineering — *Expected 2026*

University at Buffalo, The State University of New York — Buffalo, NY
Bachelor of Science in Computer Engineering

- **Relevant Coursework:** Microprocessors, Computer Architecture, Circuit Analysis, DSP, Signals & Systems
- **Leadership & Involvement:** Treasurer, UB Theme Park Engineering Club | Member, NSBE | Member, TEA

Technical Skills

Languages: Python, C, ARM Assembly, SystemVerilog, MATLAB
Tools & Frameworks: SketchUp (3D Modeling), Docker, Microsoft Office, PyTorch, VS Code
Hardware & Networking: Raspberry Pi, ARM Cortex-M4, FreeRTOS, FPGA Design, Linux

Experience

The Walt Disney Company — Anaheim, CA
Quality Engineering Intern — *Jan. 2025 - June 2025*

- Support WSA Quality Engineers on special projects to evaluate and enhance safety measures for both registered and non-registered attractions.
- Lead focused project meetings and facilitate discussions on key sub-topics, and conduct field research at attractions to gather data and insights supporting project development.
- Review and assess the alignment of critical documentation across Maintenance, Engineering, QA, and Operations teams to ensure consistency and compliance.

WN4SS Lab - University at Buffalo — Buffalo, NY
Research Assistant — *July 2024 - Jan. 2025*

- Researched techniques to improve time synchronization accuracy across distributed Raspberry Pi nodes using NTP and PTP protocols; developed Bash scripts to automate synchronization and diagnostics, enhancing data consistency and system performance in a smart grid testbed.
- Assisted in developing a multi-node Phasor Measurement Unit (PMU) testbed using 5G-enabled Raspberry Pis, supporting the implementation of distributed optimization algorithms and UDP-based coordination for voltage control under non-ideal communication conditions.

Amazon Web Services — New York, NY
Software Development Engineering Intern — *June 2023 - Aug. 2023*

- Developed and shipped new React/TypeScript features in AWS Glue Studio's frontend, enabling enterprise customers to more easily configure and monitor ETL pipelines; collaborated with backend services to ensure seamless data flow and reduced job setup time by improving UI workflows.
- Integrated AWS CloudWatch dashboards into Glue Studio's frontend, enabling users to visualize ETL job metrics (e.g., runtime, error rates, resource utilization) directly within the UI; refactored rendering components to reduce API overhead and improve responsiveness for large-scale data workflows used by thousands of AWS customers.

Projects

8-Bit Processor Design and Implementation | *Basys 3 FPGA, Xlinix Vivado, Verilog*

- Developed an 8-bit single-cycle processor using Verilog RTL design, implementing ALU, control logic, register file, and memory subsystems.
- Generated bitstream files and successfully deployed the design FPGA board for hardware validation.
- Utilized structural Verilog for datapath integration and behavioral Verilog for component-level design.
- Performed functional simulation and verification of processor components using Xilinx Vivado to ensure correct instruction execution.
- Conducted hardware debugging and verification of the processor on FPGA, comparing simulation vs. physical results.

Atari Breakout | *ARM Cortex M4 Processor, ARM Assembly, C, UART*

- Remade the classic arcade game Atari Breakout using arm assembly and low-level programming concepts
- Designed the game mechanics, including the ball physics, paddle movement, and brick collisions, to closely match the original game, while also adding new features to add a unique aspect to the game
- Assembled multiple levels with increasing difficulty, incorporating speed-ups, and creating a dynamic scoring system to encourage user engagement