Marcus Francisco

East Amherst, NY, USA | marcushfrancisco@gmail.com | (716) 444-9631

www.linkedin.com/in/marcus-francisco/ | marcaura.github.io/MarcusFrancisco/

Education

University at Buffalo, Master of Science, Electrical Engineering, GPA: 3.9/4.0 June 2025

University at Buffalo, Bachelor of Science, Electrical Engineering, GPA: 3.9/4.0 June 2024

- **Relevant Coursework:** VHDL/FPGA, MATLAB & Simulink, Vivado, Digital Design, Embedded Systems, Control Systems, Cleanroom Fabrication, Multisim, C++, Machine Learning, Digital Integrated Circuits

Experience

Electrical Engineering Internship: Tapecon, Buffalo, NY Jan 2023 – Aug 2024 *(1.6 years)*

- Designed circuits for Flexible Hybrid Electronics (FHE), showcased at conferences in California and Berlin.
- Extensive use of programming skills, CAD Design, logic, micro-controllers and embedded systems knowledge.
- Leadership role in getting factory production line operational. Operated large SMT machines (Stencil Printer & Universal Pick and Place) and developed schematics. Troubleshooting production line serial connections.

Student Assistant (EE Courses): University at Buffalo Sep 2023 – May 2024 *(0.7 years)*

- Student Assistant for Microelectronic Circuits, HDL based Digital Design, Programming & Logic, Embedded Systems, and Circuit Lab. Worked hands-on teaching labs for Vivado, FPGA program design and Simulation, Xilinx Vitis, embedded systems, oscilliscope usage, and circuit building.

Electrical Engineer Researcher: University at Buffalo REU May 2022 – June 2023 *(1.1 years)*

- Interactive Digital Twin Campus Prototype development. Built a custom 3D printer and programmed firmware for the system microcontrollers. Used knowledge of device intercommunication, SPI, I2C, and WebSocket.
- Awarded the 2022 Russell L. Agrusa UB CSE Student Innovation Award. Project was published in 2022 ACM Sensors and Systems Conference. doi.org/10.1145/3560905.3568049

Professional Musician: French Horn Player, Vocalist, and Pianist Ongoing

- Perform regularly with American Legion Band Post 264, Amherst Symphony, pit orchestras, and Brass Quintets.

Skills

Programming Languages: C++, MatLAB, VHDL, Verilog, Java, Python, VSCode, Atmel Studio, IntelliJ IDEA

Software: Simulink, AMD Vivado, Xilinx Vitis, Autodesk Inventor, AutoCAD, Solidworks, LaTeX Typesetting, MS Excel (Sensitivity Analysis, Decision Tools & RISK), MS PowerPoint, MS SharePoint, MS Teams.

Embedded Systems: FPGA & Microcontrollers, ESP32, Zybo Z7, Arduino, I2C, SPI, & UART communication

Test & Measurement Equipment: Oscilloscope, Logic Analyzers, data acquisition systems and sensors.

Cleanroom Fabrication: Ellipsometry, EBL, EBPVD, Silicon Wafer Cutting, Profilometry, Spin-Coating.

Honors and Awards

- **Summa Cum Laude** (2024) Electrical Engineering Bachelor of Science with Highest Distinction
- **Dean's List** (2022 – 2024) Awarded for 7 consecutive semesters at University at Buffalo
- **Russell L. Agrusa UB CSE Student Innovation Award** (2022) Awarded for work on research project.
- **Tau Beta Pi Scholar** (2022) E-Board member of UB NY Nu chapter. Academic excellence and TBP involvement.
- **Barbara & Jack Davis Endowment Fund** (2023) Academic excellence and strong connection to WNY area
- **National Honor Society & Scholar Athlete** (2019) – Varsity Volleyball, excellence in academics and athletics.

Projects

UPS System for Extended Outages: Designed a deep-cycle battery UPS to sustain 600W loads during outages.

BlueLink Bluetooth & WiFi IoT Network: ESP32-based IoT network with a custom app and connection protocol.

5G Network Performance Analysis: Developed a data collection and visualization interface to analyze 5G KPIs.