

Michael Christolin

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ELECTRICAL ENGINEER | EMBEDDED SYSTEMS | IoT & AUTOMATION

B.S. Electrical Engineering (Dec 2025), M.S. Electrical Engineering in progress (Expected Dec 2026). Hands-on experience designing, building, and validating embedded systems and IoT devices. Strong background in ESP32-based development, hardware prototyping, and system integration. Former university instructor with a master's degree in leadership & management, bringing disciplined documentation, clear technical communication, and team leadership skills.

TECHNICAL SKILLS

Embedded & Firmware: ESP32, Arduino, Raspberry Pi, real-time control, GPIO, timers, interrupts, sensor interfacing

Programming: C, C++, Python, MATLAB, JavaScript, HTML/CSS, VHDL, Verilog, Assembly (basic).

Hardware & Electronics: PCB design (KiCad, EasyEDA), soldering, circuit prototyping, power regulation, BJT-based analog circuits, FPGA basics.

Power & Construction Exposure: AC/DC circuits; single-phase & three-phase fundamentals, Electrical drawings and schematics, NEC familiarity (basic), Field testing, troubleshooting, and commissioning support.

Tools & Simulation: LTspice, PSpice, Keysight ADS, MATLAB/Simulink, Oscilloscope, Multimeter, Function Generator.

Professional: Technical documentation, system integration & debugging, cross-functional teamwork, leadership, mentoring.

PROJECT EXPERIENCE

Smart Self-Cleaning Cat Litter Box (Senior Design) – Team Lead

- Designed and implemented an ESP32-based system integrating PIR sensing, DC motor control, TFT display, and Wi-Fi web UI; led a 5-member team through integration and testing.

Smart Door Lock System (Embedded Systems Class Project) – Team Lead

- Designed and implemented a keypad- and ESP32-CAM-based access control system with LCD feedback; managed system integration and improved security using multi-authentication methods.

3-Stage Analog Audio Amplifier (BJT-Based)

- Built BJT-based amplifier (differential, CE gain, class AB output). Simulated in LTspice/ADS; validated with oscilloscope at multiple frequencies.

BLE MIDI Controller (ESP32)

- Developed wireless BLE MIDI/keyboard controller with 12 buttons, octave shift, and joystick X/Y. Implemented real-time BLE for low-latency performance.

Selected Additional projects: ESP32 FM Radio Receiver, MP3 Player, Automatic Pet Feeder, Wireless Weather Station, Wireless Doorbell, Smart Energy Meter.

EDUCATION

Florida Atlantic University (FAU) – Boca Raton, FL

M.S. in Electrical Engineering (Combined B.S./M.S. Program)

Expected Dec. 2026

B.S. in Electrical Engineering (Combined B.S./M.S. Program) | GPA: 3.6/4.0

Jan 2024 – Dec 2025

Broward College (BC) – Coconut Creek, FL

Pre-Engineering, Electrical Engineering Track | GPA: 3.71/4.0

Jan 2022 – Dec 2023

Université Chretienne du Nord d'Haiti (UCNH) – Haiti

M.S. in Leadership & Management

Sept 2016 – May 2018

B.A. in Music

Sept 2009 – May 2013

LEADERSHIP & EXPERIENCE

Teaching Assistant – Kelly Education | Broward County Public Schools (FL)

2021 – 2022

- Supported STEM and general education instruction, reinforced structured communication and mentoring.

Professor – Université Chretienne du Nord d'Haiti (UCNH)

2013 – 2020

Delivered undergraduate instruction and mentoring; developed strong presentation, documentation, and leadership skills.

Music Director – Churches (HEBC, DFC, others)

(10+ years)

- Directed choirs/worship teams; coordinated rehearsals and managed performances.

LANGUAGES: English (Fluent) | French (Fluent) | Haitian Creole.

REFERENCES: Available upon request.