

Elton Emini

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SUMMARY

B.S. Computer Engineering Junior at MSOE. Hands-on project experience with Java, Python, C, Assembly, and React. Experience with multithreaded applications, embedded systems, data manipulation apps, and a deployed portfolio site. Seeking Summer 2027 internships in embedded systems, firmware, hardware, or software engineering.

EDUCATION

B.S. Computer Engineering | Milwaukee School of Engineering | GPA: 3.1 | Expected May 2028

TECHNICAL SKILLS

Languages: C, ARM Assembly, VHDL, Java, Python

Embedded: STM32 (ARM Cortex-M4), bare-metal C, preemptive scheduling and context switching (SysTick/PendSV), interrupts, GPIO, I2C, SPI, UART, ADC, PWM

Hardware: FPGA (DE10-Lite), digital logic, circuit analysis, Quartus, NI Multisim, oscilloscope, logic analyzer

PROJECT EXPERIENCE

Preemptive Task Scheduler and Snake Game | STM32F4, C | Spring 2026

- Built a round-robin scheduler using SysTick interrupts and PendSV context switches with 1 ms time slices, running 5 tasks for movement, collision detection, win detection, apple spawning, and rendering
- Interfaced a joystick via ADC, an 8x8 LED matrix through I²C, and a piezo buzzer with PWM to support menu, gameplay, and sleep states
- Implemented a wait-for-interrupt sleep state with periodic joystick checks; stored the snake as a linked list for dynamic growth and fast collision checks during apple placement

ARMv4 Single-Cycle CPU and Robot Controller | VHDL, DE10-Lite FPGA, ARM Assembly | Spring 2025

- Implemented a single-cycle ARMv4 processor in VHDL and schematic design with memory-mapped sensor, motor, LED, and display interfaces
- Wrote ARM assembly to plan and execute a robot path using proximity sensor input

Multithreaded TCP Chat System | C, POSIX sockets, Linux | Team of 2 | Fall 2025

- Built a client-server chat system where the server uses threads to maintain shared chat memory and a forked process to broadcast messages to all clients
- Verified zero memory leaks and invalid accesses with Valgrind; logged participants, messages, and timestamps to a session file

LEADERSHIP EXPERIENCE | CO-CURRICULAR INVOLVEMENT

Residence Life, MSOE | Community Assistant (Aug 2025 – May 2026); Office Assistant (Dec 2025 – Present) | 10-20 hours per week

- Served as primary contact for 45+ residents on a 24/7 on-call rotation, resolving conflicts and coordinating with campus supervisors while working 20 hrs/week
- Planned and ran educational and social programs for the residence hall

Throttle Body Board Project Owner (In Progress) | Mozee Motorsports | Sep 2026 – Present | 10 hours per week

- Design a PCB that controls the Internal Combustion Engine to respond to throttle controls from the Hybrid Control board through a PID loop to reach the target RPM for Mozee Motorsports Vehicle.