John Lewis

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EDUCATION

Bachelor of Science in Computer Engineering May 2027

University of Florida | Gainesville, FL 3.90/4.0

Awards: Dean's List (Spring 2024 – Spring 2025), Florida Bright Futures Scholarship

Relevant Coursework: Digital Logic and Computer Systems, Microprocessor Applications, Digital Design, Computer Organization, Operating Systems, Data Structures and Algorithms

SKILLS

Programming: C++, VHDL, Python, C, MATLAB, ARM Assembly, HTML/CSS, React.js, Tailwind CSS

Tools & Technologies: Linux, Intel Quartus, Questa/ModelSim, VS Code, CLion, PyCharm, VirtualBox

PROFESSIONAL EXPERIENCE

Engineering Intern May 2025 – August 2025

Kratos Defense | Jupiter, Florida

- Performed Hardware-in-the-Loop (HIL) validation testing to verify Power Control Module (PCM) performance, providing insight into a $200,000 procurement decision
- Applied control theory concepts to tune Proportional-Integral-Derivative (PID) controller gains, improving motor responsiveness and stability, verified via oscilloscope measurements
- Strengthened communication with 5 stakeholders by authoring and delivering technical documentation, including test plans and post-test debriefs, reducing turnaround time
- Optimized a MATLAB tool for CAN bus logger data processing using pre-allocation and best practices, reducing runtime by 87%

Undergraduate Peer Instructor - Digital Logic and Computer Systems January 2025 – May 2025

University of Florida | Gainesville, Florida

- Improved comprehension of course material through one-on-one mentoring in weekly office hours, guiding students in deepening their understanding of combinational and sequential circuits
- Led weekly lab sections of 10+ students, applying digital logic principles from lectures and preparing them for practical exams through hands-on applications
- Composed and administered lab quizzes to reinforce circuit design concepts and provided targeted feedback, resulting in a 13% improvement in average lab scores over the semester

TECHNICAL PROJECTS

MIPS Processor - VHDL March 2025 – April 2025

- Designed an FPGA-based processor modeled from the fetch-decode-execute cycle, which executes MIPS-type instructions given a Memory Initialization File (MIF)
- Developed a datapath and control unit capable of executing R-type, I-type, and memory-access instructions, applying knowledge of finite state machines (FSMs) and combinational logic
- Integrated on-board RAM and memory-mapped I/O to input and store variables and instructions, execute them, and store the result

Game Twin - C++, Python, HTML, CSS December 2024

- Collaborated in a group of 3 to develop an application to recommend video games based on previously enjoyed titles
- Parsed and filtered a dataset of 470,000+ video games to ensure games chosen apply to criteria selected by players
- Implemented an advanced sorting algorithm to rank similar games by user-selected parameters, reducing search time by 99.95%, from 205ms to 0.1ms

Solar Guard - C++ March 2024 – April 2024

- Worked in a team of 6 to design, 3D print, program, solder, and assemble a smart sunscreen bottle that alerts the user when they should reapply
- Utilized an Arduino, UV sensor, piezo, a slide switch, and an RGB LED to calculate the current UV, decide how long the user should wait before reapplying, and trigger an alert after that period