

# Jacob Mixon

[in](#) Jacob Mixon | [✉ jtmixon10@gmail.com](mailto:jtmixon10@gmail.com) | [📞 706-308-8945](tel:706-308-8945)

## EDUCATION

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2025 - 2027 MS in Engineering, ECE Emphasis at **The University of Georgia** (GPA: 3.5/4.0)  
2021 - 2024 BS in Computer Science at **Georgia Institute of Technology** (GPA: 3.42/4.0)  
Awards: High Honors, Faculty Honors, Dean's List

## WORK EXPERIENCE

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### Computer Operations Tech

July 2025 - Present

- Supported deployment and maintenance of systems within a mission-critical data center environment, including environmental sensors, power delivery units, and networked control hardware
- Assisted in the installation, testing, and integration of physical computing hardware such as servers, routers, switches, and monitoring devices
- Utilized tools like Nagios, SolarWinds, and Liebert to monitor real-time telemetry, respond to anomalies, and ensure continuous operation of infrastructure systems

## PROJECTS

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### Single-Cycle CPU and Microcode ROM Design — Verilog

- Designed and verified a 32-bit single-cycle CPU in Verilog, integrating modular instruction fetch/decode/execute stages and a microcode ROM loaded from assembler output
- Implemented and debugged ALU control, NZCV flag logic, and conditional branching, ensuring full program execution including bubble sort and multiply instruction tests.
- Applied hardware architecture, RTL design, and validation techniques to confirm functional correctness through simulation and memory self-checks.

### Dynamic System for Patient Data Management

- Designed a dynamic system architecture for managing patient data without the need for a database.
- Utilized HAPI API to exchange patient information between the backend and a medical record storage server, leveraging JSON objects for data transfer.
- Developed a backend Java server to obtain, process, and transfer patient information to the frontend, ensuring secure handling of patient health records.

### Weather Station for Environmental Monitoring

- Designed and built a custom weather station to monitor temperature, humidity, atmospheric pressure, and rainfall using a tipping bucket rain gauge.
- Integrated multiple sensors with a microcontroller to collect real-time environmental data.
- Implemented wireless data transmission and sent sensor readings to ThingSpeak.

## SKILLS

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Programming: C, C++, C#, Python, Java, MATLAB, Assembly, Verilog  
Software Tools: Git/GitHub, Visual Studio, Excel, Word