

# RUTH MASSOCK

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## Education

Florida State University, Tallahassee, FL

**Bachelor of Science in Computer Engineering**

*Minor in Computer Science*

Tallahassee State College, Tallahassee, FL

**Associates in Arts (University Transfer Computer Science)**

**Relevant Coursework:** Digital Logic Design, Computer Architecture, Advanced Microprocessor Based System Design, Object-Oriented Programming, Data Structures, Discrete Mathematics, Computer Network, VHDL, Artificial Intelligence

**Expected: May 2026**

GPA: 3.85/4.00

**December 2023**

GPA: 4.00/4.00

## Skills

**Programming Languages:** C, C++, C#, Java, Pascal, Python, MATLAB, VHDL, Verilog, JavaScript, ARM, LEGV8

**Operating Systems:** Windows, Unix, Linux, MacOS, Raspberry Pi OS

**Software & Tools:** Visual Studio, Multisim, Questa, CCS, GitHub, Microsoft Office Suite, Git, Quartus, Logisim

**Web Development:** HTML, CSS, JavaScript, HTML5

**Certifications:** Google IT Support Certification

## Project Experience

**Embedded System Project: Joystick-Controlled Stepper Motor**

- Designed and implemented a motor controller using the MSP430 Launchpad and Booster Pack MKII.
- Developed a joystick-based interface for precise directional and speed control of the stepper motor.
- Integrated debugging functionality to monitor and optimize motor performance in real time.

**Video Graphics Array (VGA) Project: VGA Controller**

- Developed a VGA controller for the DE-1 FPGA board, displaying dynamic colors on a monitor.
- Designed and implemented logic to generate video signals and control screen resolution.
- Integrated a 7-segment HEX display to process and visualize user inputs in real time.

**Socket Programming: Two-Way Client-Server Communication**

- Developed a real-time client-server communication system using socket programming in C.
- Implemented bidirectional messaging for seamless data exchange between server and client applications.
- Optimized system efficiency and reliability using non-blocking I/O and multi-threading techniques.

## Work Experience

**Knack Tutoring**, Tallahassee, FL

August 2024 – January 2025

*Stem Tutor*

- Tutored students in mathematics, computer science, and engineering, improving problem-solving skills.
- Created custom study materials, practice problems, and interactive exercises for effective learning.
- Assisted with programming, data structures, algorithms, and digital logic design concepts.

## Memberships

DevLUp at FSU

June 2024 – Present

- Participating in coding projects, hackathons, and technical workshops to enhance software development skills.

IEEE Institute of Electrical and Electronics Engineers at FAMU/FSU

August 2024 - Present

- Engaging in networking events, research discussions, and engineering projects to advance technical expertise.

The Florida Georgia Louis Stokes Alliance for Minority Participation (FGLSAMP)

September 2024- Present

- Involved in mentorship, research, and career development programs supporting minority students in STEM.

## Honors, Awards and Scholarships

Florida State University President's List

College of Engineering Dean's List

Gadsden County Scholarship

Tallahassee State College President's List (x3)