RUTH MASSOCK

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Education

Florida State University, Tallahassee, FL   **Expected: May 2026**
Bachelor of Science in Computer Engineering   GPA: 3.8/4.00
Minors in Computer Science

Tallahassee State College, Tallahassee, FL   **December 2023**
Associates in Arts (University Transfer Computer Science)   GPA: 4.00/4.00
Relevant Coursework: Digital Logic Design, Computer Architecture, Advanced Microprocessor Based System Design, Object-Oriented Programming, Data Structures, Discrete Mathematics, Computer Network, VHDL

Skills

Programming Languages: C, C++, C#, Java, Pascal, Python, MATLAB, HDL, VHDL, Verilog, JavaScript, ARM
Operating Systems: Windows, Unix, Linux, MacOS, Raspberry Pi OS
Software & Tools: Visual Studio, Multisim, Questa, CCS, GitHub, Microsoft Office Suite, Git, Quartus
Web Development: HTML, CSS, JavaScript
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)