CAMREN KHOURY

(843)-822-0250 • camrenk@clemson.edu • https://www.linkedin.com/in/camren-khoury-404655226/ • https://camrenkhoury.com

EDUCATION

Clemson University – Clemson, SC
Bachelor of Science in Computer Engineering (In Progress)
Bachelor of Science in Electrical Engineering (In Progress)
Expected Graduation: May 2026

Engineering student with hands-on experience in embedded systems, FPGA development, computer vision, and high-performance computing. Seeking embedded/IoT, firmware, or Intelligent Systems roles.

EXPERIENCE

Clemson University – IS-WiN Lab | Clemson, SC **January 2026 - Present**
Undergraduate Research Assistant – FireSense Project
- Evaluate multimodal AI outputs for wildfire detection using RGB and thermal imagery.
- Validate labels and log results to support fire perception research.
- Assist in dataset quality control for AI model assessment.

Athena Consulting Group (ACG) | North Charleston, SC **May 2022 – August 2022**
Cybersecurity Intern
- Assisted cybersecurity engineers with basic vulnerability scans and patch-compliance workflow support.
- Worked on weekly presentations, graphic design, and spreadsheets.

North Charleston Aquatic Center | North Charleston, SC **March 2021 – August 2024**
Lifeguard + Swim Coach
- Monitored pool safety and maintained operational protocols during high-traffic periods.
- CPR and AED certified for four years.
- Coached youth swimmers ages 5–16, including skill development and competitive readiness.

TECHNICAL PROJECTS

Automated Pool Vision & Control System – Senior Design I (ECE)
- Built a **MATLAB** computer-vision pipeline (HSV masking, morphology, centroid extraction, homography calibration, shot geometry).
- Developed a **MATLAB** App Designer UI for calibration, real-time ball detection, and automated shot execution.
- Implemented **Arduino**-based PWM control for DC motor, servo, and solenoid firing and tuned **PID** based closed-loop control via **Simulink** HIL.
- Integrated full workflow from **computer-vision** detection → shot planning → physical execution, enabling autonomous play.

Water-Quality Sensor System — CEDC Technical Solutions Director
- Lead a 6-member team overseeing project schedules, deliverables, and weekly engineering meetings. Designed new organization website layout; improved clarity and navigation based on internal feedback. Initiated design research for **microcontroller-based** modular water-quality sensor system.
- Researching modular sensor platform for turbidity, chlorine, pH, and TDS **trend detection**.
- Supporting **PCB** architecture planning and early deployment feasibility analysis.

Raspberry-Pi High-Performance Computing Cluster
- Built and configured a **Raspberry-Pi** compute cluster including **MPI**, static-IP networking, SSH key authentication, and **NFS** shared-filesystem integration.
- Benchmarked cluster performance using **HPL** and performed workload-distribution tuning to evaluate scaling efficiency.
- Competed in the 2025 **SBCC** Small-Board Cluster Competition, operating an **11-node** cluster and running distributed workloads including password-cracking and **ParFEMWARP**.

TECHNICAL SKILLS

Programming: C, Python, C++, Swift, MATLAB, SQL, HTML/CSS/JS, OCaml, R
Hardware: Microcontrollers (Arduino/RPi/ESP32), Circuit Design, PCB Fabrication, Verilog HDL,Simulink
Tools: Git/GitHub, Linux, MATLAB App Designer, Excel Analytics, AI Workflow Automation, Ladder Logic
Groups and Affiliations: IEEE Student Branch Member • Clemson Engineers for Developing Communities • Clemson Club Swim Team • Clemson SBCC High- Performance Cluster Team