Samuel Kalu

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EDUCATION

Texas Tech University **Lubbock, TX**

Bachelors of Science in Computer Engineering| Minoring in Mathematics and Robotics | Concentrating in: AI and ML

- GPA: 3.4/4.0 | Grad: May 2026 | Awards: Dean's List, Presidential Merit Scholarship
- Coursework: Software Engineering, Data Structures and Algorithms, Mathematical Computing

SKILLS

Programming Languages

- Verilog, Python, Java, Matlab, HTML and C/C++

Specialized Areas

- Embedded Devices, Computer Vision and CV algorithms, Statistical Data Analysis, ML Frameworks (TensorFlow, PyTorch), AutoCAD Inventor

Soft Skills

- Proactive Communication, Analytical Thinking, Creative Problem Solving, Adaptability, Interdisciplinary Teamwork

PROJECTS

Gesture Controlled LEDS (ESP12) Personal Project | Skills: Python, HTML, C++, Computer Vision, Embedded Devices

- Implemented a python-based CV program to identify the number of finger-like contours in a predefined area of interest and make requests to a local HTML web server hosted on an ESP12 to control LEDs dynamically based on user gestures.

Autonomous Rover FPGA(Basys3) Academic Project | Skills: CAD, Programing (Verilog), Systems design, Soldering, Circuit Design, Proactive Communication, Creative Problem Solving, Multidisciplinary Teamwork

- Built a fully autonomous rover capable of simulating inventory stockroom operations as part of a multi-disciplinary team
- I designed and implemented real-time coordination between multiple autonomous rovers by utilizing Verilog for real-time logic processing and integrating multiple sensors
- Optimized rover behavior to accurately follow metallic paths and efficiently communicate color detection.

WORK & LEADERSHIP EXPERIENCE

Robotics Mentor **Dec 2024 - Present**

Texas Tech University *Lubbock, TX*

- Facilitating Problem-Solving: assist mentees in troubleshooting issues, conducting failure analyses, and identifying root causes for hardware or system malfunctions.
- Emphasizing Data-Driven Decisions: teach mentees to conduct testing, analyze performance data, and refine their designs, while challenging them to think outside the box in their approach to automation and system design.

LLM and GEN AI Model Analyst **Feb 2024 - Present**

Outlier AI *Remote, TX*

- Trained and refined machine learning models to improve decision-making accuracy, reducing errors in complex systems.
- Produced technical documentation to help fine-tune models to minimize false positives and negatives in responses.

Peer Mentor **Aug 2024-Present**

Launch Your Future in Engineering (LYFE) *Lubbock, TX*

- I place a focus on building confidence, self-esteem, and resilience in young people by teaching life skills like communication, decision-making, and problem-solving. I also assist with educational goals, providing tutoring, study strategies, and college or career planning.