

# Samuel Kalu

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## EDUCATION

### **Texas Tech University**

**Lubbock, TX**

*Bachelors of Science in Computer Engineering | Minor 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.