

(WISDOM) AWELE CHIEKWENE

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Electrical Hardware Engineering | Embedded Systems | Sensor & Control Systems | Hardware Testing & Validation

SUMMARY

Engineering student focused on embedded systems, hardware prototyping, and sensor-based control systems. Experienced in debugging electronics, validating system performance, and integrating hardware and software in real-time environments.

EDUCATION

GRAMBLING STATE UNIVERSITY

Electronics Engineering Major, Drafting-Design Engineering Major (Mechanical Engineering)

May 2028

GPA: 3.87

TECHNICAL SKILLS

Embedded Systems: Arduino, ESP32, Microcontrollers, Sensor Interfacing, Serial Communication (UART, I2C)

Programming: C++, Python, Embedded Firmware Development

Hardware Testing & Measurement: Oscilloscope, Multimeter, Hardware Debugging, Signal Verification, System Testing

Hardware Design: KiCAD, PCB Design, Electrical Circuits, Schematic Reading,

CAD & Mechanical Design: AutoCAD, Autodesk Inventor, SolidWorks

Tools: LTspice, Arduino IDE, OpenCV, Tesseract OCR, MediaPipe, Microsoft Office,

PROJECTS

ASL to Morse Code System -- Computer Vision & Embedded Interface Project | Spring 2026

- Developed a real-time system converting typed text, handwritten text, and ASL gestures into Morse code signals
- Implemented a Python computer vision pipeline using OpenCV, Tesseract OCR, and MediaPipe
- Built serial communication interface between a Python host system and Arduino microcontroller hardware

DWIPS – Embedded Sensor & Control Systems Project | Fall 2025

- Designed and prototyped an embedded sensor-based control system using ESP32 and LIDAR for real-time obstacle detection
- Developed embedded C++ firmware for real-time sensor data acquisition, threshold detection, and automated system response
- Integrated sensors, firmware, and control logic to enable real-time environmental monitoring

ENGINEERING EXPERIENCE

Undergraduate Researcher - Solar Cell Materials & Power Characterization

T.L James Electronics Laboratory | Grambling, LA | Jan 2026 - Present

- Evaluated photovoltaic device performance through electrical component testing and I-V characterization of perovskite solar cells
- Supported engineering modeling, simulation, and validation testing to evaluate system efficiency and reliability

Engineer Technician Intern

Grambling TV Center | Grambling, LA | Jan 2025 - Present

- Increased hardware reliability by 26% by designing and implementing a system validation and hardware testing protocol for broadcast signal distribution
- Coordinated a 9-member technical team to manage multi-system hardware integration across 28+ national broadcast events
- Performed real-time hardware debugging, signal verification, and system-level testing to maintain uninterrupted operation

Design and Make Ambassador

Autodesk | Grambling, LA | Jun 2025 - Present

- Led integration of CAD tools into electronics engineering curriculum impacting 100+ students annually
- Developed and taught biweekly CAD training course preparing students for AutoCAD certification
- Founded campus CAD & Electronics Hackathons engaging 68+ students in rapid hardware design challenges over a 3-month period

National Society of Black Engineers (NSBE)

Engineering Workshop Leader | Grambling, LA | Nov 2024 - Present

- Delivered hands-on workshops introducing circuit design, microcontrollers and prototyping workflows to middle school students
- Led workshops introducing embedded control systems and hardware prototyping, guiding 20+ NSBE collegiate students in building sensor-based electronic systems.