Olasubomi Rufai

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EDUCATION

Kennesaw State University Kennesaw, GA
Bachelor of Science in Computer Engineering, Minor in Mechatronics Engineering May 2026
GPA: 3.45 / 4.0
Relevant Courses: Circuit Analysis, Digital Logic Design, Computer Organization Interfacing, VHDL design with FPGAs, Device Network, Internet of Things, Advanced Embedded System design
Honors: National Honors Society, Kennesaw State University President's List, Kennesaw State University Dean's List (3x)
Organizations: NSBE (Member), Bethel Campus Fellowship (President)

EXPERIENCE

RCCG International Center for Christ - Volunteer Riverdale, GA
Visual and Sound Engineer April 2020 – Present

- Delivered high-quality livestreams of church services, managing sound and visuals to create a seamless and engaging worship experience for congregants
- Created visual resources to enhance the church's outreach and communication efforts, leveraging photography skills to capture and share compelling images that resonate with the congregation

Kennesaw State University Kennesaw, GA
Research Assistant – Visual Sensor Fusion for Robotic Intelligence on Edge October 2022 – Present
Publication: https://digitalcommons.kennesaw.edu/undergradsymposiumksu/spring2023/presentations/169/

- Developed innovative solutions for high-speed, energy-efficient visual tracking challenges
- Employed Arduinos, Raspberry Pi, and Jetson Nano systems to effectively control and automate robotic systems
- Implemented Convolutional Neural Networks (CNNs) in tandem with event and standard cameras to enable object tracking on Raspberry Pi platforms
- Provided guidance and support to undergraduate and graduate students in integrating Simultaneous Localization and Mapping (SLAM) techniques into Raspberry Pi-based autonomous vehicles

PROJECTS

Portfolio Website

- Designed and developed a dynamic portfolio website using HTML, CSS, and JavaScript
- Implemented CSS animations and effects to enhance user experience and visual appeal
- Integrated JavaScript functionality to facilitate seamless data transfer between HTML forms and Google Sheets

Smart Mailbox (https://github.com/JalenT1/Smart-Mailbox)

- Collaborated and Designed and built a smart mailbox system using a Raspberry Pi to automate mail detection and data collection
- Integrated IR sensor to detect mail delivery and a door sensor to monitor mailbox access, enabling accurate tracking of mail status
- Configured AWS IoT Core to connect Raspberry Pi to the cloud, allowing real-time data transmission and device management
- Utilized AWS SNS (Simple Notification Service) to send instant email or SMS alerts to users whenever mail is received or retrieved
- Implemented Python scripts and GPIO interfacing to manage sensor inputs and trigger email notifications sent to the user.

Color Sorting Robot

- Utilized C++ to write an Arduino program that controls various parts of robot allowing for precise operations of the robot.
- Implemented various electrical components such as breadboard, H-bridge, transistor, diode, etc. to build a circuit that controlled sensors and pneumatics of the robot.
- Derived and analyzed digital and analog signals from sensors utilizing Arduino to determine their optimal range and conditions of operations preventing under performance of any specific action of the robot.

Digital Lock System

- Designed and implemented a digital lock system with an STM32L476RG Nucleo board, 4x4 keypad, and LED indicators, achieving a 100% functional prototype.
- Programmed firmware to authenticate a 4-digit passcode, with a reset function and error-handling mechanism that blinked LEDs for incorrect attempts.
- Developed a structured flowchart and formal documentation, leading to a successful project demonstration and evaluation.

Handwritten Digit Recognition Model

- Developed a machine learning model for handwritten digit recognition using a pretrained neural network, achieving high accuracy in classification.
- Implemented data preprocessing techniques and trained the model using Python and TensorFlow for real-time digit recognition.
- Integrated the model with a camera module for live digit capture and recognition, demonstrating practical usability.

SKILLS, AWARDS & INTERESTS

Technical Skills: C++, Python, Adobe Lightroom, HTML, CSS, JavaScript, LTspice, Circuit analysis, Arduino, raspberry Pi, Assembly, VHDL, MATLAB, AWS

Soft Skills: Verbal and Written Communication, Critical Thinking, Multi-tasking, Team Collaboration

Awards: Hope Scholarship

Certificates: Semiconductor Summer Bootcamp