

OLUWAFERANMI JOSEPH IYIOLA

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Vacoas, Mauritius

PROFESSIONAL SUMMARY

Electronics & Communications Engineer with a minor in Computer Engineering and a strong foundation in digital IC design, analog electronics, embedded systems, and robotics. Hands-on experience bridging hardware and software through Cadence Virtuoso, microcontrollers, sensors, and computer vision. Experienced in building software systems using Python, C++, and MATLAB.

TECHNICAL SKILLS

- **Electronics:** Digital & analog electronics, transmission-gate and CMOS logic design, full-custom IC layout (Cadence Virtuoso, 180nm), circuit design, breadboard and PCB prototyping, circuit simulation (LTspice, Proteus)
- **Embedded:** Microcontrollers (Arduino, ATmega328P, AVR), Raspberry Pi, sensor interfacing, LDR and PIR sensing, MOSFET switching, real-time I/O.
- **Programming & Tools:** C, C++, Python, MATLAB, C#, PHP, Git, Linux, Docker.
- **AI, Vision & Robotics:** PyTorch, TensorFlow, OpenCV, EfficientNet, object detection, edge and on-device inference, ROS; prompt engineering and AI-assisted development (Claude Code)
- **Engineering:** Signals and systems, communication systems, control basics, system design, test and troubleshooting, technical documentation

EDUCATION

B.Tech Electronics & Communications Engineering (Major),

2019 - 2023

B.Tech Computer Engineering (Minor)

Delhi Technological University, New Delhi, India *Grade: First Division*

PROJECTS & RESEARCH

- **EIRT: E-Waste Intelligent Robotic Technology ([Published, IEEE 2023](#))**
 - Built an EfficientNet-D2 computer-vision pipeline that classifies electronic waste and drives a 6 DOF robotic sorting arm, reaching 82.3% classification accuracy.
 - Handled dataset collection, model training in PyTorch, and the control link between inference output and arm actuation.
- **Full-Custom 4-Bit Barrel Shifter (Cadence Virtuoso, 180nm)**
 - Designed a full-custom barrel shifter from 4x1 transmission-gate multiplexers in Cadence Virtuoso on a 180nm process, for the shift-and-rotate datapath used in floating-point units, RISC processors, and DSP ICs.
 - Cut transistor count by two-thirds, from 216 to 72, by building each 4x1 multiplexer from 18-transistor transmission-gate logic instead of the 54-transistor universal-gate version, with lower power consumption.
- **Emulating Biological Memory Using a Memristor (Research Project)**
 - Wrote a research paper project modelling synaptic behaviour with a threshold memristor, mapping its current-dependent conductance onto long-term potentiation and short-term plasticity in biological neurons.
 - Built and simulated the threshold-memristor circuit in SPICE, showing the accumulative conductance change and pulse-triggered firing that reproduce learning and forgetting in a neuromorphic network.
- **Automatic Street Light System**
 - Built an LDR-based street light hardware prototype controller on an Arduino Uno (ATmega328P)
 - The prototype switches lighting by ambient light level, with adjustable sensitivity and no manual operation.
- **Automated Door Systems**
 - Built two Arduino door-actuation prototypes: one triggered by a PIR motion sensor, one using a MOSFET touch switch, each with debouncing and timed actuation.
- **Software Projects**
 - Xidoko, a personal finance manager (PHP, React Native).
 - QuickRoute, a URL shortener (.NET, React, Docker).
 - DTU-ISS student portal (React, PHP, SQL).

WORK EXPERIENCE

Software Engineer

VGR Solutions Ltd, Mauritius

Sep 2023 - Present

- Design and ship backend services and APIs in C# and PHP for a multi-tenant ERP platform, including real-time messaging and third-party system integrations.
- Root-caused and fixed a production data-integrity fault caused by a non-atomic dual-database write, and shipped a repair script for the affected records.
- Sole-authored a standalone Python/FastAPI microservice handling SSO token exchange with the core PHP platform and per-tenant report provisioning, paired with a QuickBooks Online OAuth2 + ETL data warehouse.
- Mentor junior developers on the team, reviewing code and raising delivery quality.

Software Engineer Intern

Hi-Tech Power India, New Delhi

Mar 2022 - Jun 2022

- Built real-time .NET applications and maintained APIs for data exchange at a power-equipment company.
- Managed SQL databases and joined system design reviews with the engineering team.
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Independent Software Work

SaaS backends and remote engagements

2019 - Present

- Built and operate two SaaS back ends (*Tailoring & property management*) and a long-running remote engagement maintaining a US company's e-commerce platform.

PUBLICATION

- A Deep Learning Approach for Electronic Waste Detection, Classification, and Sorting. [IEEE, 2023.](#)

LEADERSHIP

Delhi Technological University International Students' Society (DTU-ISS)

- **Co-Founder (2021), First Vice President (2021–22), Second President (2022–23)**

- Co-founded DTU-ISS with four other international students and co-wrote its founding Constitution and Memorandum.
- Rose from First Vice President to Second President, leading a 16-member Executive Council that represented 700+ international scholars from 35+ countries.
- Set up DTU's first Training & Placement coordination for international students and a standing communication channel with ICCR.

CERTIFICATIONS

- Digital Electronics and Robotics (*Vs Energy Technology, New Greater Noida, UP, India*)
- Web Applications for Everybody Specialization (*Coursera*)
- JavaScript, jQuery and JSON (*Coursera*)
- Crash Course on Python.