

# **EKENEDIRICHUKWU NELSON OBIANOM**

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## **Profile**

I am a dynamic, proactive and determined PhD student with aptitude for developing novel solutions to solve problems. I have worked on more than ten personal and collaborated engineering projects, where I demonstrated strong interpersonal skills, efficiency and hard work.

## **Education**

### **University of Leicester (2022 till date)**

PhD in Biomedical Engineering

Title: Intelligent algorithms for improving target identification of catheter ablation treatment for human atrial fibrillation

### **Bells University of Technology (2016 -2020)**

BEng (Hons) Electrical Electronics Engineering 1<sup>st</sup> class

CGPA: 4.66/5.00

*Core Courses:* Thermodynamics, Electrical/Electronic Circuits, Signals and System, Electromagnetic Fields, Logic Design, Fuzzy Logic, Non-linear Control Systems, Renewable Systems, Digital Signal Processing, Digital Control Systems.

### **Babington Macaulay Junior Seminary (2009 – 2015)**

A 'Levels (Cambridge): Physics (A\*), Mathematics (A), Chemistry (B) O 'Levels (WAEC): 4 A's and 5 B's including English and Mathematics

O 'Levels (Cambridge): 2 A\*'s, 2 A's and 3 B's including English and Mathematics

## **Key Skills**

**Electronics:** Arduino, PCB Design, Circuit building, Circuit design, Machine Learning

**Data Tools:** Microsoft Office (Word, Excel, Power Point), Tableau, Power BI

**Languages:** Python Programming, Embedded systems programming, MATLAB

**Soft Skills:** Data Analytics, Teamwork, Interpersonal communication, Leadership, Project Management.

## **Relevant Experience**

### **Embedded Systems Engineering Contractor**

Nigeria (January 2021 - September 2022)

- Attended to prospective customers.
- Provided cost analysis of the requested system.
- Designed systems based on customer specifications.
- Designed PCB, soldered and coupled systems.
- Prepared Bill of Engineering Materials and Evaluation.
- Prepared system manual.

- Dispatched systems to concerned customers.

### **Associate Lecturer**

Federal Polytechnic Nasarawa, Nasarawa, Nigeria. (May 2021 - April 2022)

- Lecturing mathematics, electrical principles and communication systems.
- Supporting the Head of Department during his lectures.
- Performing office tasks to support the smooth running of the department.
- Invigilation, marking and recording of exams and tests.
- Assisting in running practicals for students during classes.

### **Electrical Engineer (Internship)**

Forte Oil Plc, Ijora, Lagos, Nigeria. (February 2019 - July 2019)

- Responsible for troubleshooting, repair and maintenance of induction motors.
- Using computer -assisted engineering and design software for earth testing of facilities.
- Maintenance of master fill and capping machines.
- Working as a member of a team to proffer solutions in solving faults and offering great customer service.
- Attending meetings, writing reports and giving presentations to managers and clients.
- I cleaned up the paperwork and ensured non-haphazard operation of the engineering unit.

### **Electrical Engineer (Internship)**

Victoria Garden City Maintenance and Management Company Limited (VMMCL), VGC, Lagos, Nigeria. (July 2018 – September 2018)

- Responsible for troubleshooting and repair of flood lamps.
- Assisting with unearthing, splicing and burying of distribution conductors (armoured cable).
- Assisting with connection of homes to the national grid.
- I improved the repair speed of damages by 10%.

### **Electronics Technician Internship**

Fussytech, Eti-Osa, Nigeria. (August 2018 – September 2018)

- Completing work in accordance with company policy and health and safety guidelines.
- Diagnosis and repair of personal computers such as phones, laptops and laptop accessories.
- Working knowledge of communication protocols (RS232/RS485, HTTP, TCP).
- Responsible for communicating and verifying the accuracy of all manufacturing data for procurement and assembly purposes.
- Assisted in project schedules and in the purchase of electronic components.
- I improved the purchase and repair speed of components and devices by 2%.

## **Projects Achievements**

### **Personal Project (2022): Telephone**

A design was proposed for a rechargeable telephone. It was to be designed with cheap DIY (Do-It-Yourself) components. The construct was completed with the use of an Arduino pro mini for data processing and a sim800l module GSM connectivity. The telephone consisted of a screen, a 4x4 keypad, a speaker, a microphone and an extension to include external sounds during calls (like music), a ring volume control, and a charging port.

### **Mini Joint Project (2022): Autonomous Shopping Cart**

In grocery stores, mechanisms that would improve sales and ease customer stress are constantly being searched for. This design focused on the automating the shopping cart. The shopping carts were improved to be self-driving. The system was designed to be easily integrated into any shopping mall without need to redesign the malls. It used ultrasonic sensors to map its environment and track its user while using an array of relays to control the movement of the rotation of the motors.

### **NITDA Hackathon (2022): Smart Farming**

My team (Yieldas) came second place out of ten in the 2022 South-South version of the NITDA Hackathon competition in University of Calabar, Calabar, Cross River, Nigeria.

#### Project Idea

Our proposed idea was the use of weather forecast, NPK sensors, temperature sensors, humidity sensors, pH sensors, in conjunction with an artificial intelligence (AI) system to proffer best farm practices for local farmers at a cheap rate and all year round. With such technology, the yearly yield is prognosticated to increase. It is also estimated that the business plan team Yieldas designed around this project is estimated to regain its capital in just over a year or running the business.

### **Mini Joint Project (2021): Vein Blockage Detection and Dilation**

Clogged veins come simultaneously with high pulse rates and a rise in temperature. This project goes ahead to sense these elements in the body and intelligently decide the correlation between these measurements and the user's health history. When danger is assumed, the particular area of the body affected is heated and vibrated causing it to dilate and the blood flow eases.

### **Mini Joint Project (2021): Shoe-based Piezoelectric Generator**

Walking causes an exertion of energy on the ground while walking. This energy could be harnessed and stored for future use. While walking piezoelectric discs are connected with rectifiers to harness the energy exerted and store the energy in a power bank which can be used later.

### **Personal Project (2020): Forward Vehicle Collision Prevention System**

Lidar sensors were used to detect the forward distance to the closest object. Infrared speed sensor was used to measure the speed of the moving vehicle. The breaking distance of the

moving vehicle was computed by an Arduino then compared to the forward distance of the moving object. If the breaking distance is smaller, it means an accident could occur and a caution is sent out to the user.

### **Final Year Project (2019 – 2020): Starting of 3-phase Wound Rotor Induction Motor**

An ATmega328P was used to time and control the rotation of a stepper motor, which was mechanically coupled to rheostats by a gear system. These rheostats were connected to the induction motor rotor circuit for control of flow of current which inadvertently controlled the speed and torque of the induction motor during starting. The timing of starting could be changed by employing the variable capability of a rheostat.

### **Airbus Project (2016 – 2017): Automated Taxiing Technology in Airports**

My team (Team Nevada) were part of the five (5) finalists of the 2017 Fly Your Ideas competition in the world which we presented at the Airbus Headquarters, France.

#### Project Idea

Our proposed idea was the use of an automated taxiing system to improve the airport traffic. The system was to adopt the present 4d technology (that combines length, width, height, and time) in combination with a smart computer that would route each flight into the schedule based on each of their 4d information. The 4d information was to control the flights from landing to take off. This will reduce the amount of time spent on taxiing and increase the amount of flight taxiing at the same time.

#### **Certifications**

Udemy .....December 2022

Machine Learning A-Z: Python & R in Data Science

Tritek Consulting .....September 2022

Data Analysis (Certificate of Completion)

World Safety Organisation .....August 2019

Health, Safety and Environment 1 (HSE 1)

World Safety Organisation .....August 2019

Health, Safety and Environment 2 (HSE 2)

World Safety Organisation .....August 2019

Health, Safety and Environment 3 (HSE 3)