

EMMANUEL IDIAGHE

Software Engineer

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Education

2013 – 2018

B.ENG (Hons), Electrical and Electronic Engineering

University of Benin, Nigeria

Second Class Honours (Upper Division)

Select Coursework: Control engineering; microprocessors & microcontrollers; electronic circuits; programming and embedded systems; energy generation, transmission and distribution; reliability and maintenance; power systems and machines.

Work Experience

July 2020 – Present

Software Engineer Intern

Dufuna Codecamp, Nigeria.

Duties: Web development – HTML, CSS & JavaScript, frontend and backend design, debugging codes, web servers, and databases

June '19 – May '20

Tutor and Coach

Emmaculate Academy, Ikare, Nigeria

Duties: Taught and examined high school science students' mathematics and information technology, prepared students for external mathematics competitions, introduced students to low-level and high-level programming languages.

Jan '18 – Nov '18

Embedded Systems Project Consultant

University of Benin, Benin City, Nigeria

Duties: Guided final year electrical and electronic engineering students in the design and implementation of course projects on embedded systems; created and taught embedded system courses with hands-on training: microcontroller programming (C/C++) and embedded systems design – PWM, ADC, Interrupts, communication protocols – USART, I2C, SPI, etc.

Mar '17 – Sept '17

Embedded Systems Design Engineer Intern

Electrohyve Research Institute of Technology, Auchu, Nigeria

Duties: Developed microcontroller programming (C/C++) skills, architecture and application designs, gained firsthand practical knowledge in basic electronic circuits design and analysis; soldering techniques; introduction to several electronic components, especially relating to embedded systems; microcontroller peripherals; measurement, evaluation and maintenance techniques; designed, implemented and installed electronic display boards for commercial purposes; controlled and monitored data for the design of solar-powered pure sine wave inverters.

Technical Experience

Projects:

Web Development

- 2020 **Web App Currency Converter:** A scalable converter that converts between currencies of two countries. Users have the option of adding as many currencies as are available: HTML, CSS & JavaScript.
- Shopping App:** A web application that uses DOM to give the user some control over the styling feature. The user may add or remove items from the shopping list and change the background color to their favorite colors.
- 2019 **Facebook App Imitation:** A web application that stores user login details and custom messages. On logging in, the app checks if the login details are correct and updates the newsfeed accordingly.

Embedded Systems

- 2020 **Wireless Gas Monitoring System:** A design that sends the volume of cooking gas to the mobile device of the owner to enhance timely refill. The design also senses butane gas leakage and alerts the owner through a mobile app.
- Pure Sine Wave Inverter:** A low-cost 500VA inverter with ATmega16A microcontroller powered by ‘used’ 18650 Li-ion cells costing less than \$30 with a secure access control using keypad: C++, SPWM and ADC.
- 2018 **Data Logger System:** Temperature-controlled cooling system for rotating machines with data logging and alarm system: Arduino, C++, and SPI.
- Energy Conservation System:** Automatically switching light bulbs on/off depending on the presence of a person in a room or the external light conditions, using LDR: ATmega16A, C++ and ADC.
- Wirelessly Updated Digital Clock:** Electronic Clock with LCD and 7-Segment Displays updated with both Android application and 4x4 keypad: C++, USART, I2C and PWM.
- Home Automation:** Internet of Things - controlling home AC loads with Web and Mobile Applications, using Wi-Fi: ESP8266, C++, I2C, and MIT App Inventor.
- 2017 **Electronic Display Board:** A content-display board using P10 display module with contents updated with an Android application: C++, USART.

Skills

Programming: C/C++, Embedded C, MATLAB, JavaScript, HTML, and CSS.

Software: Atmel Studio, Eagle PCB, Proteus™, ProgISP, Visual Studio Code, Microsoft Office Suites and MYSQL.

Personal: Team play, Active listening, Excellent Reading, Writing skills and Oral Communication.

Interests: Software engineering, IoT, Digital Systems, Learning new skills, and Travelling.

Publication

2020

E O Idiaghe, R I Osave and E Osazee. Design of a Wirelessly-Updated Digital Clock with Android Interface. *International Journal of Computer Applications* 175(15):6-10, August 2020. **DOI: 10.5120/ijca2020920641**