ATTAH MAC-ANTHONY OJOCHEGBE

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Profile

A hardworking and enthusiastic Embedded Systems Engineer with a passion for overseeing projects through the lifecycle and bringing products to life. Demonstrates the ability to architect and design innovative embedded systems, ensuring optimal performance and functionality.
Strong understanding of embedded software development, including coding in **C/C++, Embedded C, Python,** and utilizing **RTOS platforms**. Proficient in **Linux, OpenCV, TensorFlow, Keil MicroVision, and MATLAB** for developing cutting-edge embedded solutions. Experienced in **PCB design**, utilizing industry-standard tools, and adept in working with **ARM processors** and **Git**. Proficient in IoT integration and prototyping using **Arduino, and Raspberry Pi and** experienced in **Agile practices**. Having a strong background in utilizing communication protocols such as **CAN, SPI, Ethernet, TCP/IP,** and **I2C**, to enable seamless data transfer and networking in embedded systems. Interested in Machine Learning. Multilingual having fluency in English and basic proficiency in French, and Hindi. Available to start immediately.

Employment

Embedded Systems Engineer - National Center for Artificial Intelligence and Robotics, Abuja, Nigeria (January 2024 – Present)

- Developed an autonomous vehicle using RP lidar A3 and Raspberry Pi using Robotic Operating System (ROS).
- Worked with a team of 3 to develop a machine learning model for predicting the price of cars using linear regression.
- Successfully conducted a course on “Introduction to microcontrollers” for 10 interns.

Embedded System Designer - Pantech Solutions, Chennai, India (April 2023 – September 2023)

- Developed an IoT-based weather monitoring system Using ARM7
- Conducted thorough performance testing and validation of the power supply, ensuring compliance with industry standards and specifications.
- Designed and developed temperature monitoring systems using ARM Cortex M4, Zigbee, and LoRa
- Collaborated closely with cross-functional teams, including hardware engineers, software developers, and project managers, in all project phases in order to effectively complete projects in a timely manner.

- Developed home automation systems using ESP8266 enabling wireless connectivity and control of various home devices and appliances.

Industrial Based Embedded System Design and Development Engineer - National Small Industries Corporation Limited, Chennai, India (December 2018 – January 2019)

- Led a team in designing and implementing a high-efficiency switching power supply for a specific application, achieving improved power conversion and reduced energy consumption.
- Developed an audio amplifier circuit with low distortion and high fidelity, optimizing the design for specific audio requirements and achieving superior sound quality.
- Actively involved in the design and development of a low-noise amplifier for high-frequency applications.

Projects

Plant Disease Detection System using Raspberry PI and Image Processing

- Using a Raspberry pi programmed with python to implement image processing techniques such as segmentation, thresholding, and masking, to detect infected areas on the plant's leaf a plant disease detection system was successfully developed.
- A USB camera was used to capture images of the plant. Furthermore, using SMTP protocol, an email stating if the plant was infected or not was sent to the farmer.

Fruit Plucking Robot with Smart Agriculture Monitoring and Irrigation System

- A robust robot for plucking fruits using the ATMEGA256 microcontroller, a gripper, sensors, actuators, and a car chassis was successfully designed and deployed.
- Additionally, by utilising soil moisture sensor for monitoring the moisture content of the soil based on which a pump was automatically turned on to provide water to the soil (smart irrigation system).

Smart Waste Segregation System

- Developed a Model using Yolo V5 to segregate different kinds of wastes (Plastic, food, paper, etc)
- Collected and annotated the data for 200 images
- Achieved an accuracy of 75%

Water Purity Detector for Dialysis Machines

- Using the TDS sensor, temperature sensor and an Arduino micro controller, a water purity checker was successfully developed for use in analysing the purity level of water used in the process of dialysis.
- Based on the TDS values obtained from the sensor, the water was classified as pure or impure by comparing with the set threshold values.

Gesture Controlled Robot Car

- Using an Arduino Uno, Accelerometer, motor driver and a Zigbee wireless module, a gesture-controlled robot car was successfully designed.
- The accelerometer was programmed detected tilting movements which were transmitted to the motor driver for controlling the motors to move the car.

Education

SRM Institute of Science and Technology, Chennai, India Oct 2021 - Jun 2023
Masters of Embedded Systems
CGPA: 8.29/10

Excel Engineering College (Anna University), Tamil Nadu, India Sept 2016 - Nov 2020
Bachelors of Electronics and Communication Engineering
CGPA: 7.3/10

Workshops Conducted

5-day workshop on image processing using OpenCV at SRM Institute of Science and Technology

- During the course of the workshop, I and my team, successfully trained 40 students to use OpenCV for image processing applications such as: Image augmentation, and Image Filtering.

Volunteering

International Student Ambassador SRM Institute of Science and Technology 2022 – 2023

- I guided new international students aiding their seamless integration and successfully organized cultural events, promoting intercultural understanding and unity among diverse student populations.

Institution of Electronics and Telecommunication Engineers 2017 - 2020

- I attended and participated in various technical conferences and workshops, gaining valuable knowledge in modern trends in electronic and telecommunication system design.

Achievements / Awards

- Secured third place for paper presentation on **"Plant Disease Detection Using Image Processing"** during the 2022 Symposium at MIT, Chennai, India.
- Secured second place for a project on **"Gesture Controlled Robot Car"** in the National Level Science and Tech Expo and Aero Show 2018 held at Excel Group of Institutions, Tamil Nadu, India.
- Secured second place in the region finale of **"ICT Academy Youth Talk 2018"** in the Salem region.

Certifications

- [Machine Learning Specialization] Supervised Machine Learning: Regression and Classification by Stanford University on Coursera
- MATLAB ONRAMP BY MathWorks

References

- Available upon request.