Richard Tony

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EDUCATION

NIIT UNIVERSITY
B.TECH in Electronics And Communication
SPECIALIZATION: Robotics & IoT
Grad.2022 | CGPA: 9.58

ST.JOHN'S ENGLISH SCHOOL
PCM with Computer Science
Grad.2018 | Class XII: 93%
Grad.2016 | Class X: 10.0 CGPA

SKILLS

PROGRAMMING

Languages:
• C • C++
• Python

Technologies:
• GSM/GPRS • GPS/GNSS

Real-Time Operating Systems:
• FreeRTOS

Hardware Boards:
• Ai-Thinker A9/A9G
• BeagleBone Black (Arm - Cortex A8)
• STM32F103C8T6 (Arm - Cortex M3)
• STM32F103C6T6 (Arm - Cortex M3)
• STM32F401CCU6 (Arm - Cortex M4)
• STM32F411CEU6 (Arm - Cortex M4)
• Raspberry - Pi Pico
• ESP8266
• ESP32

IoT Cloud Platforms:
• AWS IoT Core • Google Firebase
• Thingspeak • Thingsboard

Communication Protocols:
• UART • I2C • SPI
• ModBus • BLE • MQTT
• TCP/IP

PUBLICATIONS

[1] R. Tony and I. Nanda. Brain-controlled robotic car with raspberry pi. *Advanced Research Publications*, 2020.

EXPERIENCE

INTUGINE TECHNOLOGIES | Firmware Engineer | July 2022 – Present | Bengaluru, India

TITAN GPS Tracker
- Improved the tracking accuracy by **98%** using the **Ai-Thinker A9G GPS/GPRS** module.
- Added feature to overcome ping loss issues by **storing the pings** onto **SD-Card** and uploading upon cell reception.
- Developed a cold storage tracker prototype by adding temperature sensors.

TITAN GSM Tracker
- Reduced cell tower scanning time by **28 seconds** using the **Ai-Thinker A9 GSM/GPRS** module.

INTUGINE TECHNOLOGIES | Embedded Intern | Jan 2022 – June 2022 | Bengaluru, India

ORION MAX HYBRID Tracker
- Increased the battery life on the device by **4 days** by developing the firmware from scratch utilizing **FreeRTOS**.
- Resolved the GPS unavailability issue by developing the **HYBRID mode** which switches between GPS & LBS automatically.
- Optimized the existing firmware to perform efficiently as the newly developed firmware.

PROJECTS

VACCINES: LAB-TO-NEEDLE
- Developed a temperature and humidity logger prototype using **ESP8266**, **DHT22 Temperature sensor**.
- Visualized and Plotted the data on the **Thingspeak cloud platform**, to monitor variations.
- Programming language used: **C++**.

TEMPERATURE CONTROLLER
- Developed a PID-based temperature controller prototype using the **Arduino UNO**.
- Enabled WiFi communication with the prototype using the **ESP8266**, to set the fixed temperature value.
- Utilized the **MITAppInventor**, to develop the Android app in which the user sets the desired fixed temperature value.

ACHIEVEMENTS

HACKATHON:
• Winner **(1/20)** of HackNU2.0 Hackathon, NIIT University, 2020

LEADERSHIP:
• Team Lead of **winning team HeraPheri** in HackNU2.0 Hackathon, NIIT University, 2020
• Project Mentor of **4 Teams** in **Workshop Practice Course**, NIIT University, 2021
• Member of **President's Student Advisory Board (PSAB)**, NIIT University, 2021
• Science **Club Secretary** in Class XII, 2016-2017