





SHANMUGA SUNDARAM

IoT Developer |


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PROFESSIONAL EXPERIENCE

About Me - **IoT Developer with 3 years of experience. Core expertise in Hardware, Software, Cloud & User interface**

Developer - IoT


KevellCorp | Autonomous Navigation & Smart Stair Lifts Project

 Jul 2023 – Present  Madurai, India

- **ROS2 Communication** - Developed and managed communication between ROS2 nodes using publish/subscribe method to ensure efficient data exchange and coordination for autonomous systems
- **Microcontroller Integration** - Worked with ESP32 microcontroller and ROS2 for seamless communication between robot components, ensuring real-time feedback and control over embedded systems
- **Robot Mapping Localization** - Designed and implemented autonomous robot navigation in indoor environments using ROS2. Utilized SLAM Toolbox for real-time mapping and Nav2 bringup for localization
- **Smart Stair Lifts R&D** - Spearheaded research and development for the Smart Stair Lifts project, focusing on improving indoor mobility solutions through automation



Junior Developer - IoT

NiralTek | Worked on end-to-end IoT Tech solutions


 May 2022 – Present  Chennai, India

- **ESP32 OTA update** - Update Over-the-air(OTA) using AWS S3
 - **Updating new firmware** - Developed C++ code in Platform IO and dump bin files in AWS S3 bucket. By triggering AWS MQTT client, S3 bucket connects with OTA in esp32 to update the latest firmware version in existing devices
- **ESP32 - AWS MQTT** - Created PlatformIO library w/o AWS Thing
 - **Library creation** - Developed the C++ code using Platform IO to create a library that will reduce connecting multiple functions to connect MQTT client. By this, we have improved the productivity of developers with minimal hassle
- **ESP Now** - Passing the message in two-way communication using AWS micro controller
 - **Device communication** - Developed the C++ code using Arduino IDE framework, which was used to send messages to devices to communicate in bi-directional like a slave to a master and vice versa

REFEREES

Amal Raj
Head of IoT - NiralTek Solutions
 amalraj.u@niralktek.com
 Chennai
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SKILL-SETS

 **Total Experience - IoT Developer**
3 Years

 **Database**

MySQL AWS MQTT client
AWS S3

 **Languages and Framework**

C++ Python Arduino

 **Dev Ops and Dashboarding**

Git Github Tableau
Thing Speak Postman API

 **Hardware**

ESP32 Micro-controller
ESP8266 Arduino UNO TTL
Motors Push Button Relay
ESP32 Cam
LCD Display - Liquid crystal
OLED Display

 **Communication**

UART I2C SPI Bluetooth
BLE

 **Sensors**

DHT11 Ultra-sonic Oxygen
LM35 Buzzers Tof Lidar
Fingerprint IR LDR

 **Tools & OS**

Linux Visual Studio Code
Turbo C++ Dev C++
Arduino IDE Pycharm
Microsoft Office Suite
wokwi online simulator

EDUCATION

Diploma - Data Analytics

Elysium Institute

 2020-21  Madurai , TamilNadu

B.Sc Physics

The American College

 2017-20  Madurai , TamilNadu