

# AARTI KUMARI

+91-9572408446

[kumariaarti8446@gmail.com](mailto:kumariaarti8446@gmail.com)

[Aarti Kumari](#)

## Software Engineer

Highly Skilled Software Engineer with extensive experience of more than 1 year in Embedded Design and Development, System Development, IOT solutions, and wireless power devices.

### CAREER SUMMARY

- Programming Languages: C, C++, Java, Data Structure and Algorithm.
- Experience with Linux, Windows and RTOS.
- Microcontrollers- ESP32, Arduino, EC21, SC20, EC200A (Quectel).
- The IDE used Arduin, ESP-IDF and VS Code.

### TECHNICAL SKILLS

- **Programming Languages:** C, C++, Java, Data Structure and Algorithm.
- **Technologies:** Firmware, IOT, Wifi , GSM, GPS.
- **Tools & Utilities:** Visual Studio, Arduino, Yocto, ESP32-IDF, Q-COM, QFlash.
- **Platform:** Git and Jira.
- **Protocols :** MQTT, HTTP, UART, USART, SPI, I2C , RS485, Wireless etc.

### CERTIFICATIONS

- Certificate of [Internship](#) in Trainee Engineer.
- Certificate of [Internship](#) in Android App Development.
- Certificate of [Internship](#) in Web Development.

### EDUCATION

- **B.Tech** - Darbhanga College of Engineering, Darbhanga Bihar.  
**Stream** - Electrical and Electronics Engineering **CGPA: 7.48, PER: (71.06 %)**

### PROFESSIONAL EXPERIENCE

- **Aaensa Tech Pvt. Ltd.**  
Location: Gurugram  
Designation : Software Engineer  
Years: June 2023 to Present

### PROJECTS

#### Project 1: V-16 Lights.

**Responsibility:** Collaborated within a team for BC65 module OpenCPU programming to implement switch-based functionality.

**Environment:** OpenCPU

**Processor:** BC65 ,LC76F (Quectel)

**Technologies:** MQTT, GPS, GSM.

**Language:** C ,C++

**Description:** Developed a device for emergency conditions utilizing BC65 controller and LC76F GNSS module. The system shares vehicle location and relevant details, including manufacturer and customer information, with traffic police. The implementation involves switch-based functionality for efficient operation during emergencies.

### **Project 2: AC Energy Optimizer.**

**Responsibility:** Collaborated within a team for code development for both the optimizer and gateways, utilizing Arduino IDF programming for the optimizer and OpenCPU programming for the gateway. Employed Docker for development.

**Environment:** Linux, OpenCPU, Arduino IDF, Docker

**Processor:** S20(wifi module), EC21(cellular module), ESP32(wifi module)

**Technologies:** OpenCPU, RestAPI, FreeRtos, ESP IDF, Wi-Fi, GSM, Yocto, RS485 - Modbus Protocol.

**Language :** C ,C++

**Description:** Developed an AC Energy Optimizer system comprising an optimizer and a gateway. The optimizer, using an ESP32 WiFi module, performs energy optimization and communicates with the gateway. The gateway, equipped with S20 (WiFi) and EC21 (cellular) modules, collects data from optimizers and a meter via RS485, gathering phase voltage, current, and kWh. This data is compiled and sent to the server.

### **Project 3: Etracker.**

**Responsibility:** Collaborated within a team for code development for the project which is based on AC Automation Algorithm including IR feature.

**Environment:** Arduino and OpenCPU.

**Processor:** ESP32 , EC200A.

**Technologies :** FreeRtos, IR, MQTT, ESP IDF, GSM, Wi-Fi, OTA.

**Language :** C ,C++

**Description:** Developed an advanced Etracker system designed for AC automation with remote control capabilities. The device leverages ESP32 for Wi-Fi connectivity and EC200A for GSM communication, enabling users to track and control their air conditioners from anywhere. The project incorporates an IR stack compatible with most AC brands and an innovative algorithm that can reduce electricity bills by 20%.