



Jai ganesh

Hardware Testing Engineer

✉ jaiganesh22012004@gmail.com ☎ 9398756393 📍 Maheswaram,hyderabad 📅 22/01/2004

CAREER OBJECTIVE

Hardware Testing Engineer with hands-on experience in microcontroller programming (ESP32, ATmega), sensor integration (temperature, smoke, door sensors), and communication protocols (UART, SPI, I2C, CAN). Proficient in firmware flashing, debugging, and basic PCB schematic interpretation. Experienced in performing hardware validation tests including High Voltage (HV) and Insulation Resistance (IR) testing, as well as analyzing system performance under various load conditions to ensure reliability and compliance. Actively developing skills in FreeRTOS, MQTT, and IoT cloud platforms.

SKILLS

Skills

- **PCB Testing & Debugging:** Experience in testing assembled PCBs, identifying faults, and verifying protection features (OVP, UVP, OTP). Familiar with relays, MOVs, and clock circuits.
- **Embedded Systems & IoT:** Basic programming and integration using ATmega and ESP32 microcontrollers. Familiar with Wi-Fi, GSM, and Bluetooth-based communication modules.
- **Communication Protocols:** Proficient in RS-232, RS-485, CAN, I2C, SPI, UART and OCPP for device-to-device and app-to-device communication.
- **Firmware Flashing & Debugging:** Skilled in flashing firmware using AVR programmers (USBasp), Serial/USB tools, and Arduino IDE.
- **Testing Equipment Handling:** Hands-on experience with Multimeters, Clamp Meters, Oscilloscopes, IR Testers, and Load Banks for electrical and functional validation.
- **PCB Design (Basic):** Able to read and understand circuit schematics and layouts.
- **App-to-Device Testing:** Verified data communication and integrity in Bluetooth and GSM modules.
- **Team Collaboration & Reporting:** Worked with cross-functional teams to debug hardware and software issues.

EDUCATION

State Board of Technical Education

SMVM Polytechnic College
Electronics & Instrumentation
Percentage Of Marks : 74%

2019 – 2022
Tanuku, India

Board Of Secondary Education

J.S.M.L ZP High School
SSC

2018 – 2019
Tanuku, India

EXPERIENCE, (AXONIFY TECH SYSTEMS)

- **PCB Testing & Validation:** Tested PCBs for functionality and protection features (OVP, UVP, OTP). Measured electrical values using multimeters, clamp meters, and IR testers. Reported and reworked faulty units. 2022 – present
- **Microcontroller Integration & Testing:** Integrated and tested ESP32 and ATmega microcontrollers with various I/O devices (e.g., sensors, relays) in embedded systems. Ensured seamless communication between systems.
- **Communication Protocols:** Configured and debugged communication between microcontrollers using RS-232, RS-485, and CAN protocols. Validated Bluetooth communication for app-to-device interactions.
- **Firmware Debugging & Flashing:** Utilized AVR programmers (e.g., USBasp) for in-system programming and debugging of ATmega microcontrollers. Ensured successful flashing and verified functionality.
- **Electrical Testing:** Performed insulation resistance testing using insulation resistance testers according to IEC 60364 and IEEE 43 standards. Conducted load tests using load banks as per IEC 60038 and UL 60947 standards to verify electrical systems could handle operational demands. Executed contact resistance tests based on IEC 61238-1 and ASTM B193 standards to optimize connection quality and reduce energy loss.
- **App-to-Device Communication:** Verified app-to-device communication for Bluetooth-enabled devices and tested data integrity and compatibility across different platforms. Reported issues with data mismatches and app-to-device errors.
- **Collaboration with cross-functional teams:** Collaborated with the firmware and backend teams to ensure accurate OCPP message exchange and protocol compliance.
- **Sensor Integration & Testing:** Worked with smoke, temperature, and door sensors in embedded systems, ensuring accurate data acquisition and reliable performance.
- **HMI Validation:** Supported testing of Human-Machine Interfaces for real-time monitoring and interaction with system data.

PROJECTS

- Online AC Chargers for HPCL(High Point Chargers)** 08/2023 – present
Conducted thorough testing of AC Chargers integrated with OCPP protocol for real-time communication with and remote monitoring. Validated charger functionality, transaction logging, and backend connectivity to ensure compliance with network requirements
- AC chargers for MG Motors** 07/2022 – 07/2023
Performed end to end testing of AC EV chargers, including hardware validation and Bluetooth app-based functional testing. Ensured seamless communication between the charger and mobile communication. Verified real-time monitoring, charging status, and safety features.

INTERESTS

1. Cooking | 2. Travelling | 3. Sports | 4. Problem- Solving games

DECLARATION

The information presented in this resume accurately reflects my qualification and experience.

Torati Jai Ganesh