

GEORGE JOSEPH

Electronics & Communication Engineering Graduate | VLSI Design & Verification

Mundakkayam, Kottayam, Kerala, India | +91 8075849523 | georgejoseph1239@gmail.com | [LinkedIn](#) | [GitHub](#)

PROFESSIONAL SUMMARY

Electronics and Communication Engineering undergraduate with a strong interest in VLSI design and verification. Skilled in Verilog HDL, digital logic design, RTL concepts, and embedded systems. Hands-on experience through academic projects and a VLSI internship, with a focus on practical problem-solving and applying advanced semiconductor design methodologies.

TECHNICAL SKILLS

VLSI & Digital Design: RTL Design, Digital Logic Design, Functional Verification Basics, VLSI Design Flow, Verilog HDL

Embedded Systems: Raspberry Pi 5, ADE9000 Energy Metering IC, SPI Communication, IoT Systems

Programming: Basics in C, C++, Python

EXPERIENCE

VLSI Design and Verification Intern — SMEC Automation Pvt. Ltd.

June 2025

Kaloor, Ernakulam, Kerala, India

- Completed hands-on internship training in VLSI design and verification with exposure to the semiconductor design flow.
- Designed and simulated digital circuits using Verilog HDL and RTL design methodologies.
- Developed working knowledge of functional verification concepts, debugging techniques, and digital system design.

PROJECTS

AI Smart Energy Guardian for Next-Gen Energy Monitoring

- Developed a low-cost power quality analyzer using Raspberry Pi 5 and the ADE9000 energy metering IC for real-time single-phase and three-phase electrical monitoring.
- Implemented measurement of voltage, current, power factor, energy consumption, and harmonics via SPI-based data acquisition between hardware modules.
- Designed a web-based monitoring dashboard with Non-Intrusive Load Monitoring (NILM) for appliance-level energy analysis and visualization.
- Reduced hardware cost to deliver an affordable alternative to industrial power quality analyzers.

Smart Energy Guardian using IoT

- Built an IoT-based smart energy monitoring system for real-time electricity consumption tracking.
- Implemented high power consumption alerts to improve energy efficiency and user awareness.
- Performed hardware integration, circuit testing, and system-level debugging.
- Presented the project at Kerala State Electricity Board (KSEB) and received appreciation for practical innovation.

ACHIEVEMENTS & RECOGNITIONS

- Received a Certificate of Appreciation from KSEB for developing a Smart Energy Monitoring project using Raspberry Pi and IoT technologies.

EDUCATION

Bachelor of Technology (B.Tech), Electronics and Communication Engineering

2022 – 2026

College of Engineering Chengannur, APJ Abdul Kalam Technological University (KTU)

CGPA: 7.59 / 10