

# SUDARSHAN IYENGAR

## Embedded Software Engineer

✉ sudi.iyengar@gmail.com

☎ +91-7353639083

📍 Bengaluru, Karnataka, India

🌐 [linkedin.com/in/sudarshan-iyengar-286a9422](https://www.linkedin.com/in/sudarshan-iyengar-286a9422)

🔗 <https://github.com/sudi1992>

### 📋 OBJECTIVE

- Embedded Software Engineer with hands-on experience in FPGA development, hardware debugging, Embedded C programming, and RTOS-based systems.
- Skilled in integrating hardware and software for complex embedded platforms, with a strong interest in advancing expertise in Linux device drivers, kernel porting, and high-performance embedded system design.

### 📜 CERTIFICATIONS

- Embedded Systems
- FPGA Design for Embedded Systems Specialization

### 🎓 EDUCATION

#### **Bachelor of Engineering (BE) - Electrical & Electronics Engineering**

Visvesvaraya Technological University

2011 – 2015

### ★ PROFESSIONAL SUMMARY

- 8+ years of experience developing bare-metal and RTOS-based device drivers.
- Strong background in custom board bring-up and hardware-software integration.
- Recognized for delivering reliable solutions under tight deadlines and driving continuous improvement.

### ★ CAREER HIGHLIGHTS

- **Linux & Drivers:** Designed and integrated Linux DMA drivers, device trees, and Yocto builds for FPGA.
- **FPGA & RTL:** Developed custom AXI/AXIS Verilog modules, protocol monitors, and data stream schedulers on Zynq/Artix platforms.
- **RTOS & MCUS:** Ported applications to FreeRTOS/ThreadX, delivered RTOS peripheral drivers across multiple MCU families.
- **IoT & Wireless:** Built POC phase Bluetooth/Wi-Fi solutions on Microchip platforms and sub-1GHz sensing for smart monitoring.
- **Power Electronics:** buck-boost converters, MPPT controllers, and battery management analysis.
- **System Validation:** Automated test setups, compliance testing, and cross-team debug for production-grade systems.

### 👛 PROFESSIONAL EXPERIENCE

#### **Associate Lead Engineer**

Veoneer Safety Systems, India

08/2022 – Present

- Developed AXI/AXIS Verilog RTL modules to monitor protocols like SPI/GPIO.
- Implemented GSML stream decoder with DMA, achieving efficient high-speed data transfers.
- Integrated MicroBlaze soft-core with Zynq for Linux IPC and high-speed digital decoding.
- Maintained Yocto, secure boot scripts, and custom device trees.
- Designed Linux DMA drivers for FPGA-to-CPU data streaming.
- Managed QSPI flashing and RTOS driver integration for peripherals (I2C, SPI, UART, CAN, LIN, PWM, Timers, GPIO).

#### **Embedded Engineer**

Alif Semiconductor

03/2021 – 02/2022

- Ported applications to ThreadX/FreeRTOS on Cortex-M55 platforms.
- Developed Baremetal Watchdog, Timer, GPIO drivers.
- Debugged RTOS drivers frameworks with Lauterbach, ULINK, and Segger J-Link.
- Developed and validated RTOS peripheral drivers.

- Partnered with cross-functional teams for feature enhancements.

**Design Engineer**

J.P. Electronics Pte. Ltd.

05/2020 – 02/2021

- Designed PWM-based lighting control solutions for efficiency.
- Developed Bluetooth/Wi-Fi IoT solutions for customers using Microchip platforms.
- Designed schematics in KiCAD, supported full product lifecycle.
- Provided consulting, prototyping, and troubleshooting for customer projects.

**R&D Engineer**

GreenTronics Design Labs India Pvt. Ltd.

02/2017 – 04/2020

- Developed buck-boost converters and MPPT charge controllers with validation.
- Contributed to Battery Management System (BMS) analysis for efficiency, safety, and reliability.
- Built sub-1GHz radio-based water-level monitoring (PoC) with capacitive sensing.
- Created LDR and remote-controlled lighting solutions for automation.
- Designed and tested three-phase star-delta starter for motor control.
- Delivered solutions across multiple MCU families, optimizing embedded firmware.
- Led system validation, automated test setups, and compliance testing.