

NEEMA SURESH

VLSI & Embedded Systems Engineer

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Kannur, Kerala

CAREER OBJECTIVE

Motivated M.Tech student specializing in VLSI and Embedded Systems, with strong hands-on experience in FPGA design, STM32 microcontrollers, digital signal processing, and hardware–software co-design. Seeking roles in Embedded Systems, FPGA/RTL Design, or VLSI Design where I can contribute to real-time, high-performance hardware solutions.

EDUCATION

M.Tech – VLSI & Embedded Systems

Mar Athanasius College of Engineering, Kothamangalam

CGPA: 8.12 / 10

Expected: 2026

B.Tech – Electronics & Communication Engineering

College of Engineering, Thalassery (CUSAT) CGPA: 7.8 / 10

Higher Secondary

A.K.G Memorial HSS, Pinarayi

92.25%

ACADEMIC PROJECTS

FPGA-Based Signal Conditioning Using FIR Filter with Real-Time Coefficient Control

- Designed and implemented an FPGA-based FIR filter architecture on Intel Cyclone 10 LP.
- Developed Verilog modules for data path, coefficient memory, and control logic.
- Implemented real-time coefficient computation on STM32 and SPI/UART-based communication to FPGA.
- Verified functionality using ModelSim/GTKWave simulations and testbench validation.

AC Mains Frequency Measurement Using STM32 and Optocoupler

- Designed isolated signal conditioning using optocoupler for AC mains input.
- Implemented timer capture-based frequency measurement on STM32.
- Designed PCB and validated system accuracy experimentally.

Embedded-Based Control System for Efficient Waste Plastic Sorting

TECHNICAL SKILLS

Embedded Systems

- STM32 (ARM Cortex-M), Arduino
- Timers, UART, SPI, GPIO, Interrupts

FPGA / Digital Design

- Verilog HDL
- RTL Design, Testbench Development
- Intel Cyclone 10 LP (T20Q144I4)

Programming

- Embedded C
- Python
- MATLAB (Basics)

EDA & Development Tools

- Altium Designer (PCB Design)
- Keil uVision, STM32CubeIDE
- ModelSim / GTKWave
- Xilinx ISE, Proteus

SOFT SKILLS

- Problem solving
- Technical documentation
- Communication and teamwork

LANGUAGES

English, Malayalam, Hindi

- Developed sensor-based embedded control logic for automated sorting.
- Designed real-time actuator control for air-jet based segregation.

Wireless Touchscreen-Based Heartbeat Monitoring System

- Designed microcontroller-based health monitoring system with LCD interface.
- Implemented real-time alerts and wireless data transmission.

CERTIFICATIONS

- **Computer Architecture and Organization** – NPTEL (IIT Kharagpur)
Jul–Oct 2025, 12 Week Course
Score: 73%

TRAINING AND INTERNSHIPS

- **India Semiconductor Workforce Development Program (ISWDP)**
Indian Institute of Science (IISc Bangalore) & Synopsys Inc., Samsung
Cohort 7
Level 1, Level 2, Advanced, Level 2 Hands-on, Advanced Hands-on
(Currently Ongoing)
- Embedded Systems Internship – **Aster India Pvt. Ltd.** (6 weeks)
- Embedded Systems Training – **KELTRON Knowledge Centre, Kozhikode**
- LABVIEW Workshop – National Instruments
- MATLAB Image Processing Training – Rhydo