

Rishab Aggarwal

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PROFESSIONAL SUMMARY

Embedded Hardware Engineer with 3+ years of experience delivering complex robotic and mixed-signal systems from schematic capture and multilayer PCB layout through bring-up, EMI/EMC validation, and system integration. Strong in digital control board design, engineering automation, and structured root-cause debugging.

WORK EXPERIENCE

ADDVERB TECHNOLOGIES, Noida, India

Jan 2023 - Present

Embedded Engineer, Embedded Systems

Dec 2024 - Present

Own end-to-end development of an 8-layer FPGA-based LiDAR logic board with LVDS and Ethernet, covering schematic capture, layout, and bring-up; prototype functions are working on the bench and under validation.

Led design, development, and onsite deployment of an 8-layer, 600+ component AGV logic board with PCI, HDMI, and USB 3.0 interfaces, improving hardware and sensor/peripheral reliability.

Created an engineering workflow automation system for approvals and activity tracking, improving execution visibility across stakeholders.

Graduate Engineer Trainee (GET), Embedded Systems

Dec 2023 - Nov 2024

Developed a hybrid multi-zone obstacle-detection sensor for AGVs within the existing form factor, reducing cost by 20% while improving field-of-view coverage through sensor fusion.

Designed a 6-layer, 250+ component mixed-signal PCB with isolated communications and a boost converter; investigated radiated-emissions failures and implemented EMI/EMC corrective actions.

Developed ASRS embedded firmware that achieved 2 mm stopping accuracy at 3 m/s under a 40 kg load.

Intern, Embedded Systems

Jan 2023 - Nov 2023

Built a PCB production-test jig that reduced test time by 40% and prototyped the multi-zone AGV obstacle-detection architecture.

EDUCATION

THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY, Patiala, India

Aug 2019 - Jun 2023

B.E., Electronics and Computer Engineering | CGPA: 8.67/10

TECHNICAL SKILLS

PCB & Hardware: Schematic capture, multilayer layout, FPGA board design, MCU Controller Boards, stack-up definition, controlled impedance, length matching, LVDS, Ethernet, mixed-signal design

Bring-up & Validation: Hardware bring-up, board-level debugging, system integration, root-cause analysis, EMI/EMC testing, oscilloscope, logic analyzer, spectrum analyzer

Tools & Embedded: Mentor PADS, LTspice, STM32, AVR, ESP32, Raspberry Pi, Python, shell scripting, engineering automation

LEADERSHIP & VOLUNTEERING

THE ART OF LIVING FOUNDATION, Volunteer

Jan 2015 - Present

Organized meditation and yoga programs for 350+ rural-school students; supported plantation drives totaling 250+ trees and pandemic relief distribution.

FROSH, THAPAR UNIVERSITY, Technical Mentor

Jul 2020 - Dec 2021

Conducted an IoT workshop for 300+ freshmen and led technical delivery for large virtual events.

SELECTED RECOGNITION

Rookie of the Year - Nominated, Addverb Technologies

Aug 2024

Winner, Digital Village Hackathon - Tel Aviv University

Apr 2022

Top 5 Innovations in Healthcare - NITI Aayog, Government of India

Jan 2019