

NEIV MALAVIYA

Embedded Systems Engineering Student

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Seeking 12-month industrial placement · 2027 – 2028 · Full time, available to relocate

EDUCATION

09/2024 – 07/2028
Arnhem, Netherlands

BSc Embedded Systems Engineering

HAN University of Applied Sciences

- GPA: 8.2 / 10

EXPERIENCE

09/2026 – 02/2027
The Hague, NL

Engineering Intern

Airborne Composites Automation B.V.

Automatic Tool Center Point (TCP) calibration for robotic composite cells

- Developing an automatic TCP calibration routine for a KUKA ply placement cell, replacing a manual procedure measured with a marker pen, a ruler and a spirit level.
- Characterised the incumbent method first, an operator judging circle concentricity by eye and hand-stepping every pose, so the replacement is specified against real practice, not assumption.

03/2026 – Present
The Hague, NL

Junior Support Engineer (Working Student)

Airborne Composites Automation B.V.

- Sent to customer sites including Airbus Getafe, supporting, upgrading and repairing Automated Ply Placement (APP) cells to keep them in production, often as the sole Airborne representative on site.

06/2025 – Present
Netherlands

Co-Founder & Technical Lead

HAN Competitive Robotics Team

Featherweight Competition Platform · 13-member team across electronics, mechanical, and firmware

- Split the system across two MCUs: an nRF52840 on Zephyr for the 2.4 GHz ESB link, and a dual-core ESP32 on FreeRTOS splitting drive and weapon across its two cores. Wrote the protocol between them.
- Rebuilt the hall sensor driver to make the weapon speed loop closable, timing edge intervals rather than counting edges in a fixed window, for ~1800x finer RPM resolution. The 100 Hz PI loop with anti-windup runs behind four fail-safes: link loss, killswitch, 90 and 100 C thermal, 300 ms watchdog.

09/2024 – 12/2025
Netherlands

Chief Electronics Engineer

HAN Automotive Rally Team

Dutch Rally Championship · Led the car's electronics and a three-student subteam from 01/2025

- Designed and validated the car's real-time telemetry logger, fusing 100 Hz IMU and 10 Hz GPS into 50 Hz CRC-checked binary logs with automatic rotation; run across 8 championship events and still in service.
- Performed live fault diagnosis on the car's 500 kbit/s MaxxECU CAN bus, sniffing traffic alongside JTAG, oscilloscopes, and logic analysers to isolate timing, grounding, and signal integrity faults.
- Built the dual-core ESP32 FreeRTOS firmware behind it (acquisition on one core, SD logging and Wi-Fi telemetry on the other), with a SPIFFS-hosted dashboard over UDP/REST/mDNS and CI-tested drivers on GitHub Actions.

PROJECTS

2026

Rally Car Cooling Digital Twin

MATLAB · Simulink · PID Control · Model-Based Development github.com/Si6gma/clio-cooling-twin

- Built a validated thermal digital twin of the rally car cooling system from 1,165 s of real MaxxECU and GPS logs, reproducing measured coolant temperature with the fan state computed by the model, not read from the data: 18/18 cycles, 1.73 C RMS against a 1.5 C target, missed and traced to limit-cycle phase drift.
- Benchmarked a tuned PID fan controller against the car's bang-bang logic, narrowing the temperature band from 5.1 to 3.9 C and cutting actuator travel 40%, and reported that the stock control was already adequate.

TECHNICAL SKILLS

Interfaces & Buses: CAN, SPI, I²C, UART, GPIO, ADC, TCP/IP

Debugging & Validation: JTAG/SWD, Logic Analyser, Oscilloscope, CAN Bus Analysis, Fault Isolation

Embedded Software: Bare-metal C/C++, ARM Cortex-M, AVR, ESP32, FreeRTOS, Zephyr RTOS

Modelling & Simulation: MATLAB, Simulink, PID Control, Model-Based Development

Tools & Automation: Python, Linux, Git, GitHub Actions, Docker, PlatformIO, Jira

Digital Logic: VHDL, RTL Design, FPGA (DE10-Lite), ModelSim

LANGUAGES

English (Native) · Hindi (Native) · Dutch (elementary, sitting A2 exam 11/2026)