Orhun Habib Erdogan

Mechatronics engineer · Eindhoven, NL

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Mechatronics engineer who's happiest where software meets real machines. Commissioned loop-sorter control systems on customer sites in the UK and India, wrote ROS2/C++ machine software and a production BLDC driver library. Currently available for freelance projects.

EXPERIENCE

International Controls Project Engineer — Vanderlande

SEP 2025 – SEP 2026

- Brought loop-sorter control systems to life on customer sites in the UK and India, in teams of 2–4.
- PLCs over Profinet plus FSC safety, and Vanderlande's Debian-based flow controller.
- Bring-up, verification against spec, on-site fault finding, all the way to customer handover.
- Longest stint: six months on an XXL loop sorter in the UK, 800+ destinations.

Graduation Intern Mechatronics — Vanderlande

FEB 2025 – SEP 2025

- Feasibility study on replacing the traditional PLC control architecture with a Siemens platform that unifies control types, compared against vendor-independent options.
- Looked at what moving control from OT hardware onto IT infrastructure (Docker containers) does to deterministic behaviour.
- Built the evaluation platform myself in IEC 61131-3 ST and ran the validation test plan.

Mechatronics Intern — WeFabricate

FEB 2024 – JUL 2024

- Rewrote the Bin-Handler (AGV-fed bin registration station) control software in C++, re-architected so it scales.
- ROS2 for modular comms, a C++ behaviour tree with custom Groot nodes.
- Built a Gazebo digital twin from a URDF covering its full range of motion.

Mechatronic Engineer (part-time) — Fyllar

MAY 2023 – JUL 2024

- Low-level C++ driver library for the MCF8329A three-phase BLDC FOC gate driver over I^2C, written straight from the register map.
- It shipped in Fyllar's dispensing machine.
- Also a C# proof of concept for automated unit testing.

Software Engineer — Robotics Team Pi

JUL 2022 – AUG 2023

- One of two software engineers. Designed the full software architecture for the PHINIX robot, including sensor comms.
- Object detection in Python + OpenCV with a depth camera.
- Third place at the regional competition.

EDUCATION

BSc Mechatronics Engineering

2021–2025

Fontys University of Applied Sciences. Specialisation Project Management & Automation. Final grade 8/10.

PERSONAL BUILDS

- **Tallbike** — Two bikes, one on top of the other. It works. Getting on is the hard part.
- **Iron Man helmet** — Fully 3D printed, with a faceplate that lifts itself. About 50 hours of printing.
- **X-wing** — Designed from scratch in SolidWorks and Blender, printed, painted and weathered by hand.
- **Own 3D printer** — Designed, built and programmed a CoreXY printer from zero, with a team of four.

SKILLS

C++, ROS2, Python, C#, Linux, Git, PLC programming, TIA Portal, IEC 61131-3 ST, Profinet, Gazebo, Matlab, SolidWorks, Fusion 360, 3D printing

CERTIFICATES

- SolidWorks CSWA (2021)
- VCA-VOL (on-site safety)

LANGUAGES

Dutch (native), Turkish (native), English (professional), German (limited)