KRZYSZTOF CIEŚLIK

Embedded Developer

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SUMMARY

I am an electronics and embedded developer with 2 years of professional experience, working mainly with STM32 bare-metal systems, communication protocols, and PCB design. I combine practical skills in electronics, automation, and mechatronics with programming in C, C++ and Python, applying them in the development of new devices, prototypes, and testing tools.

I have experience working independently and in R&D teams, including automated hardware validation, measurement equipment operation, and prototyping (3D printing, small CO laser). My background also covers hydraulics, pneumatics, and mechanical design from my earlier automation work. I continuously expand my competencies toward modern embedded software, clean architecture, and reliable engineering practices.

PROFESSIONAL EXPERIENCE

10.2024–present **Programmer - Electronic Designer** — **RADMOR S.A., Gdynia**
Designing and programming electronic circuits, prototype development, R&D work

07.2024–10.2024 **R&D Department Intern** — **RADMOR S.A., Gdynia**
R&D team support, electronic equipment testing and documentation

02.2024–10.2024 **Programming Tutor for children and teenagers** — **Giganci Programowania, Gdańsk**
Teaching programming basics, Python, algorithms

12.2023–06.2024 **Computer Laboratory Technician** — **ManpowerGroup, Gdańsk**
Computer hardware maintenance and repair, lab administration

08.2022–01.2024 **Facility Technician** — **Sodexo, Gdańsk**
Electrical installation maintenance and repair, technical facility support in a skyscraper

07.2022–09.2022 **Automation Technician** — **Ceramika Paradyż, Opoczno**
PLC controller programming, IT support and maintenance

06.2021–09.2021 **Automation Technician** — **CERSANIT GROUP, Opoczno**
Production machine maintenance, process continuity assurance

07.2020–09.2020 **Electrician** — **PKP Intercity Remtrak Sp. z o.o., Opoczno**
Repair of electrical systems in passenger railway cars

KEY SKILLS

- Python
- Electronics
- Electrical Engineering
- Automation
- Embedded Systems
- Communication Protocols (i2c,spi,eth)
- Automated Validation Hardware (Python)
- PCB Design and circuit
- Microcontroller Programming (mainly stm32)
- Equipment Diagnostics and Repair
- C/C++
- Linux

LANGUAGES

- Polish – native
- English – B1

MORE ABOUT ME

I am an embedded developer with a multidisciplinary background that combines electronics, automation, software engineering, and mechanical design. I enjoy working on projects where hardware and software intersect, and where thoughtful engineering decisions make systems not only functional, but reliable, understandable, and maintainable.
My earlier experience in industrial automation shaped my engineering mindset: precision, robustness, and problem-solving under pressure. This foundation, combined with embedded software development and prototyping skills, influences the way I design systems today. I value clarity, predictable behavior, and solutions that scale over time rather than quick fixes that create technical debt.
Beyond electronics and programming, I work with 3D printing, mechanical modelling (FreeCAD, OpenSCAD), and small CO laser machining. I also build physical prototypes and test rigs, solder SMD/BGA components, and operate lab equipment such as oscilloscopes, signal generators, power analyzers, and VNA instruments. This hands-on experience helps me design systems that account for physical reality, not only theory.
What motivates me most is creating tools, devices, and workflows that make engineering smoother, clearer, and more enjoyable for the people who use them—whether it's a team, future maintainers, or my future self.

ENGINEERING PHILOSOPHY

I believe good engineering is a craft. It requires intention, documentation, and thoughtful architecture. My approach focuses on designing systems that are easy to extend, test, and reason about. Instead of relying on shortcuts or tightly coupled designs, I invest in structure and clarity—from consistent workflows and CI/CD to well-documented interfaces and reproducible development environments.
Clean architecture, maintainability, traceability, and solid engineering practices (SOLID, modular design, layered firmware structure) guide my work. I strive to build solutions that "ratchet forward": each iteration should make the system stronger, cleaner, and easier to maintain.

ENGINEERING THESIS PROJECT

As the leader of a five-person engineering team, I am currently developing a system for creating structured technical documents with templating, metadata management, and automatic versioning. The project is built in Python (FastAPI) with a React-based GUI running inside Tauri, allowing cross-platform distribution and a native-application feel.
My responsibilities include:
– architecture design and defining the entire toolchain – CI/CD pipeline development – workflow automation and project structure – documentation standards and requirement gathering – internal team tools (time tracking, communication utilities) – maintaining the local hosting environment for services
This project reflects how I work: treating software as a well-designed system rather than a collection of scripts. I place strong emphasis on clear separation of concerns, maintainability, and reproducibility so the application can evolve with the team's needs.

WHY THIS PAGE EXISTS

A résumé lists skills and history. This page explains how I think, how I approach engineering problems, and what drives my work. If you want a deeper understanding of what I bring to a project or a team, this narrative is designed to provide that context.