Rafał **Cielenkiewicz**

Electronic and Computer Engineer

(+48) 514 637 289 | rcielenkiewicz@gmail.com | RafalCielenkiewicz.github.io | RafalCielenkiewicz | rafalcielenkiewicz

Experience /

KBA Automatic

Opole, Poland

Practices

Aug. 2023 –Sep. 2023

- Hands-on experience in PLC and HMI programming using Siemens S7-1200 and S7-1500.
- Programmed and integrated the Mitsubishi Melfa RV-2SD robot with external sensors and controllers.
- Designed and simulated automation processes in TIA Portal and Factory IO for real-world applications.
- Developed and tested automation scenarios, including security system simulations and industrial control applications.

Volvo

Wrocław, Poland

Project

Feb. 2024 - July 2024

- Developed a driver identification system for Volvo buses, with a focus on embedded systems and real-time data processing.
- Researched and selected components for prototype development.
- Assembled and prototyped hardware, integrating components and performing soldering tasks.

Projects

Warehouse Inventory System Model Using a Mobile Robot

- Developed a warehouse inventory system utilizing a mobile robot with camera-based QR code recognition.
- Designed and implemented a mobile application for inventory verification and robot control.
- Built a custom 3D-printed chassis for the robot, optimizing its functionality.
- Utilized ESP32-CAM, Arduino Uno R3 and a Motor Shield for robot control and vision processing.

Line Follower Robot

- Designed and assembled a line-following robot from scratch.
- Selected and purchased components, ensuring optimal performance.
- Gained hands-on experience in robotics, troubleshooting and embedded system development.

Custom Arduino Uno Shield

- Designed and developed a custom shield for Arduino Leonardo using Altium Designer.
- Implemented a 32-bit microprocessor, 5V power regulation and galvanic isolation for improved functionality.
- Integrated a temperature sensor, I/O ports, status LEDs and a reset button into the PCB design.
- Personally handled the entire process, from PCB design to soldering and testing.

Scuba Diving Signals Recognition

- Designed and implemented a real-time recognition system for scuba diving hand signals.
- Integrated YOLO-based hand detection for accurate gesture recognition.
- Developed a custom Convolutional Neural Network for real-time gesture classification.

Skills

Hardware and Electronics, Altium Designer, Arduino, PLC
Software and Tools, TIA Portal, Factory IO, Excel
Programming, Python (fundamentals), C++ (fundamentals), MATLAB (fundamentals)
Operating Systems, Windows, Linux (basics)
Certificates, Volvo Project : Driver identification system, CCNAv7: Introduction to Networks, Cambridge English B1
Courses, Operation of computer graphics program with 3D modeling and printing, PWR “Studio talentów” mathematics and physics, Underwater activity commission Scuba Diver LEVEL P1

Education

Master’s Degree, Embedded Robotics in English

Wrocław, Poland

Wrocław University of Technology

Mar. 2025 – present

- Embedded Systems, Artificial Intelligence and Machine Learning, Artificial Neural Networks

Bachelor’s Degree, Electronic and Computer Engineering in English

Wrocław, Poland

Wrocław University of Technology

Sep. 2021 – Feb. 2025

- Microcontrollers, Computer Vision, Robotics, Electronics, Artificial Intelligence, Machine Learning, Automation, Networking