Michał Czyż | Software Developer

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I am currently pursuing a degree in Computer Science at the Silesian University of Technology in Gliwice. Programming is my passion. I have experience working with a variety of languages. Recently, I have been focusing my attention on Rust and JavaScript. I am also interested in artificial intelligence and machine learning. In addition, I actively create and develop many projects to further enhance my skills.

Skills

Professional Skills

- Web Development – I regularly use technologies such as React, NextJS, NodeJS, and CSS frameworks.
- Application Development – I create applications in Rust, C++, C#, and Python.
- System Administration – I am proficient in managing operating systems and services running on them, such as Windows Server and Active Directory, Linux, Nginx, Traefik, and Docker.
- Database Management – I am familiar with SQL and can design database schemas.
- Machine Learning – I am capable of training custom models using libraries like TensorFlow, PyTorch, and NLTK.

Soft Skills

- Teamwork and team leadership.
- Independence and strong time management.
- Presentation and event hosting skills.
- Full professional English proficiency (C1 level).

Projects

- Remote Monitoring System for a Quadruple Bioreactor – Co-developed a program in Rust that collects sensor data and sends notifications based on predefined data thresholds about the current state of the bioreactor.
- NLP Platform – Co-developed a web platform for natural language processing. Responsible for developing the machine translation mechanism. Trained a custom statistical model based on IBM Model 1 and compared its performance with a Seq2Seq Transformer and other large language models (LLMs).
- Neural Network Operation Visualizer – Co-developed a program using Unreal Engine 5 to visualize the operation of neural networks by showing neuron interactions between layers.
- Precision Control System for a Syringe Pump in Microfluidic Systems – Co-developed a high-precision syringe pump control system integrated with a flow meter enabling precise flow control. The system included a graphical interface developed in Python using the PyQt library.
- Lyra - Open-Source Discord Bot created in Rust that allows music playback on Discord.
- Development of a Battery-Free Smart Tag Prototype powered by cellular networks – As team leader, I was responsible for literature review, task allocation, and project team organization.
- Building a Computing Cluster – Designed and implemented a computing cluster for a student scientific association using Proxmox and SLURM.
- Self-hosting Applications on a Personal Server – For many years, I have maintained my own instances of open-source web applications and my own email server. I have gained experience with Docker, Traefik, Nginx, DNS configuration, and operating systems administration.

Courses

- [2024] Management Skills Certification Course (Now with AI!)
- Build a Blockchain & Cryptocurrency | Full-Stack Edition
- Ethereum and Solidity: The Complete Developer's Guide
- Learn Ethical Hacking From Scratch

Certificates

- MTA: Security Fundamentals - Certified 2021
- MTA: Introduction to Programming Using JavaScript - Certified 2021

Education

Silesian University of Technology **Gliwice**
Bachelor of Engineering, Computer Science *2022–2026*
Additionally, an active member of the vFly Virtual Flight Student Science Club and a regular representative of the university at scientific conferences and events.

School of Printing and Mechanical Engineering **Katowice**
IT Technician *2018–2022*
Actively participated in school life. Additionally, assisted with sound system operations and managed the school radio station.

Experience

mccom sp. z o.o. **Katowice**
Intern *May 2021*
Developed an online store service in PHP using Sylius and Symfony. Worked on a Linux system with Docker Compose and version control using Git. Worked as part of a team.

Publications

M. Ochman, M. Czyż, et al. A controllable and integrated pump system for high-precision microfluidics used for drug testing and cell cultures. In *Molecular Oncology Volume 19: Special Issue: EACR 2025 Congress: Innovative Cancer Science*, page 680, 2025.

M. Czyż, M. Ochman, et al. Ensuring proper flow control in a syringe pump system for microfluidic applications. In *Computational Oncology and Personalized Medicine - New technologies - new challenges!, Gliwice, May 21st, 2025*, page 57, 2025.

M. Czyż, M. Ochman, et al. Usprawnienie procesu sterowania przepływem w systemie pompy strzykawkowej. In *XII Śląskie Spotkania Naukowe, 09-11 maja 2025, Złoty Potok*, page 22, 2025.

J. Wieczorek, M. Czyż, D. Głąb, et al. Remote control and administration of a quadruple bioreactor designed for bacterial hydrogen production. In *XXVIII Gliwice Scientific Meetings, Gliwice, November 21-22, 2024*, page 206, 2024.