

Mateusz Głowiński

Senior Software Engineer



CONTACT

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- Łódź

TECHNICAL SKILLS

- Programming & Frameworks:** Python 3.x, Django, FastAPI, Flask, AsyncIO, Threads & Processes
- Databases:** SQL (advanced queries, performance optimization, schema design), PostgreSQL, MySQL, NoSQL (MongoDB, Redis)
- ORMs:** SQLAlchemy, Django ORM
- Testing & QA:** Pytest, Unittest, BDD techniques, automated testing (unit, integration, end-to-end, performance), debugging, performance optimization
- CI/CD & DevOps:** Git, GitHub Actions, GitLab CI, Jenkins, Docker, Docker compose
- Cloud & Infrastructure:** AWS Terraform (IaC), Sentry, Datadog, Airflow for orchestrating data pipelines
- Data & Analytics:** SQL queries, Pandas, NumPy, Elasticsearch (basic)
- Message Brokers:** RabbitMQ, Kafka
- Industrial Automation & Embedded:** Rockwell PLCs, Cognex cameras, microcontrollers
- Frontend Basics:** HTML, JavaScript
- OS & Tools:** Linux, Git (version control), system monitoring, debugging tools
- Other:** Architecture diagrams (UML), test strategy design

SUMMARY

I'm a **Backend Developer** passionate about **Clean Architecture**, **Domain-Driven Design (DDD)**, and applying **design patterns** to build **scalable, reliable, and maintainable software**. Experienced in **software architecture**, **system integration**, and **automated tests**. Familiar with **asynchronous programming (AsyncIO, threads, processes)**. I specialize in **web frameworks** such as **Django, FastAPI, and Flask**, with my primary focus on **architectural design, backend systems, and automation**. I design **robust, high-performance applications** and optimize code for clarity and efficiency.

Additionally, I have hands-on experience in **industrial automation**, including **Rockwell PLCs** and **Cognex cameras**, which helps me bridge the gap between **software and hardware systems**. I'm an active member of the **Python Łódź community**, author of **technical articles**, and presenter of **workshops on clean code, design patterns, and test automation**.

FIELD OF SPECIALISATION

- Architecture Patterns:** Designing systems using **Clean Architecture, Microservices, Distributed Systems**, applying **DDD (Domain-Driven Design)** and **TDD (Test-Driven Development)**; creating **UML diagrams**, ensuring scalability and performance.
- Design Patterns:** Applying **SOLID, GRASP**, and other **object-oriented design patterns** to create maintainable and reusable code structures.
- Backend Development in Python:** Designing and implementing **backend applications and APIs** using **Python**, with frameworks like **Flask, Django, FastAPI**; ensuring **high performance, scalability, and maintainability**; debugging and improving application efficiency; **async programming, threads, and processes**.
- Test Automation and Quality Assurance:** Creating automated tests with **Pytest** and **Unittest**, applying **BDD techniques**; covering **unit, integration, end-to-end, and performance tests**; verifying functionality, reliability, and performance of backend systems.
- CI/CD and DevOps:** Designing, building, and maintaining **Continuous Integration (CI)** and **Continuous Delivery (CD)** pipelines (**GitHub Actions, GitLab CI, Jenkins**); **Docker/Docker Compose**; deploying, monitoring, and troubleshooting production environments.
- Databases:** Designing and managing **relational databases** (PostgreSQL, MySQL) and **non-relational databases** (MongoDB, Redis); proficient in **SQL** (query design, optimisation, and performance tuning); experienced with **ORMs** such as SQLAlchemy, Django ORM, and Peewee. experienced with schema versioning and database migrations (Django migrations, Alembic, Flyway).
- System and API Integration:** Designing and implementing **REST** and **GraphQL APIs**; integrating backend systems with external services and industrial devices.
- Infrastructure as Code:** Basic experience with **AWS** and **Terraform**; configuring cloud environments, process monitoring, and automation.
- Frontend Basics:** Basic knowledge of **HTML** and **JavaScript**.
- Data Analysis and Machine Learning (currently learning):** Data processing and visualization with **Python (Pandas, NumPy)**;
- Industrial Automation:** Programming **Rockwell PLCs**, integrating **Cognex cameras**, automating industrial processes, and designing control systems.
- Embedded Systems (basic experience):** Working with controllers and microcontrollers; low-level hardware-software integration.

EDUCATION

SGH Warsaw School of Economics, Poland

Postgraduate studies: *Data analysis and statistics* (February 2020 – December 2021)

- Data analysis in Python (Keras, Scikit-learn) and R.
- Data processing in SQL, creating queries and reports.
- Analysing large data sets.

Lodz University of Technology, Poland

Master's degree in *Electrical and Electronic Engineering* (2016 – 2018)

- PLC, Python, and C++ programming.
- Projects related to automation, robotics, and control systems.

Lodz University of Technology, Poland

Bachelor's degree: *Mechatronics, Robotics and Automatic Control* (2012 – 2016)

- Microcontroller programming (ATmega, Arduino).
- Operation of sensors, actuators, cameras, motors, and inverters.
- Creating electronic schematics in Altium Designer, AutoCAD, and Inventor.
- Basics of programming in C++, working with databases and networks.
- Participation in the Young Microelectronics Association.

COURSES

- **"Developer of Tomorrow" course** – Artificial intelligence in software development (till now)
- **"Domain Drivers" course** – Introduction to the concept of Domain Driven Design (DDD).
- **"Software Architecture Mindset" course** – Translate client conversations into actionable software architecture.
- **"Legacy Fighter" course** – Code refactoring and eliminating code smells, refactoring code with design patterns.
- **"Path of Modern Architect" course** – Gaining experience in various software architecture styles.
- **"Future Great Developer" course** – Development of skills in Python, C++, HTML, CSS (Bootstrap), JavaScript.

PROFESSIONAL EXPERIENCE

Leica, Lodz, Poland

Expert Automation Engineer

April 2025 – till now

- **Technical consulting across teams – solving complex Python issues** in automation and embedded environments, including API communication with controllers and sensors.
- Development and maintenance of Python packages for **embedded devices and microcontrollers**.
- **Creating and maintaining automated tests** to verify the functionality of cameras and embedded devices.
- Designing and maintaining **test setups for engineering teams**.
- Analysing camera data, preparing quality reports, and verifying product compliance with customer requirements.
- Building and maintaining **CI/CD pipelines**, monitoring, and **debugging production systems**.

Makimo, Lodz, Poland

Python Developer

June 2021 – March 2025

- Creating **backend applications in Django, Flask, and FastAPI**, including full implementation, **database integration**, and automated testing.
- Conducting training courses and technical lectures focused on Python, Django, automated testing, and clean code.
- Publishing technical articles related to **clean code, web development, and Django**.
- Participating in consulting projects, supporting teams in **design and implementation of Python-based solutions**.

digitalSTROM AG, Zurich, Switzerland

Python Tests Developer

April 2018 – December 2021

- Creating automated tests in Python and designing **test setups for automation systems**.
- Analysing test data with Pandas, preparing reports and visualising results.
- Collaborating on Django and Flask applications, integrating them with **CI/CD pipelines (Jenkins)**.
- Designing **test process diagrams** and creating test documentation.

STX Next, Lodz, Poland

Python Developer

August 2019 – April 2020

- **Project for a major bank in the UK** – a platform for premium ("gold card") owners, providing access to exclusive features (e.g., ticket sales for sold-out events).
- **Developed and maintained backend services** for a banking platform using **Django and Flask**, integrating multiple microservices with databases and external APIs, and implementing **automated tests** to ensure system reliability.

Contec – Industrial Automation Solutions, Lodz, Poland

Junior Automation Engineer

January 2016 – April 2018

- Programming **Rockwell PLCs and Cognex cameras**, configuring industrial automation devices.
- Developing visualisations and managing processes in **FactoryTalk View (HMI)**, integrating PLC systems with servers and I/O.
- Preparing FAT/SAT documentation, test and implementation reports.
- Taking part in **automation projects in industrial facilities**.

Cassioli Group, Lodz, Poland

Electrician (Internship)

May 2015 – August 2015

- Building electrical circuits and control cabinets according to documentation.
- Connecting sensors, motors, and devices to PLCs and I/O cards.
- Supporting **hardware-related troubleshooting** and configuring device communication.

- **Vavatech “General Python” training** – improvement of Python OOP skills, with practical exercises in Django and Flask.
- **Contec PLC Training** – Practical experience in PLC programming in Belgium for 4 months.

LANGUAGES

- **English** – Advanced
- **German** – Basic

ADDITIONAL INFORMATION

- **SEP** – Electrical qualifications.
- **Driving license** – Categories A and B.
- **References available upon request;** links to recommendations can be found on my [LinkedIn profile](#).

INTERESTS

- **Hiking and exploring mountains** – I summited Mera Peak (6,476 m) in Nepal and Mount Kazbek (5,047 m) in Georgia.
- **Climbing** – I attend classes twice a week.
- **Football** – I’ve been playing since childhood.
- **Horse riding**
- **Motorcycles**
- **Board games**

ADDITIONAL PROJECTS

Management Application Template (02/2024 – till now)

- **Owner and Lead Developer**, responsible for the full lifecycle of the project.
- **Consulting directly with clients** to gather requirements, define technical solutions, and plan development milestones.
- **Designing backend architecture** and implementing an **API for booking management** with configurable business policies and rules.
- **Implementing automated testing**, database integration, and reporting systems.
- **Optimising performance and scalability**; deploying and maintaining production environments.

Factory Manager (01/2021 – till now)

Video presenting the product: https://youtu.be/TjLDj_aW2Nw

- **Owner and Lead Developer.**
- Developing an **application for PLC control and data analysis from industrial automation systems.**
- Designing and implementing **system architecture, automated testing, and reporting mechanisms.**
- **Deploying, monitoring, and iteratively improving** the solution in **production environments.**

Clan House (05/2020 – 06/2023)

- Development and maintenance of **open-source Python packages and web applications.**
- **Collaboration in an open-source team**, code review and mentoring junior programmers.
- **Publication of Python packages for the community** and user support in implementing solutions.

OPEN SOURCE PROJECTS

- [Large Application Template](#) – Repository demonstrating **Clean Architecture, DDD, TDD**, and best practices for building scalable Python applications.
- [ETL Template](#) – Template for **data pipelines, CI/CD integration, and automated testing**, showcasing practical patterns for Python ETL projects.

COMMUNITY & EDUCATIONAL ACTIVITIES

Python Lodz meetings (08/2016 – till now)

- **Regular participation in meetings for Python enthusiasts.**
- Conducting lectures and workshops on **Python, Django, Flask, automated testing, and clean code.**
- **Establishing a network of contacts in the local community**, supporting junior developers, and sharing sector-specific knowledge.

Publications and lectures

- Numerous technical articles and presentations on **clean code, system migration, Django, and automated testing.**
- All projects, publications, and lectures available on my [LinkedIn profile](#).

I consent to the processing of my personal data for the purposes necessary to carry out the recruitment process (in accordance with the Act of 10 May 2018 on the Protection of Personal Data (Journal of Laws of 2018, item 1000) and in accordance with the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (GDPR)).