Michał Midor

Automation Engineer & IT Developer Python | C++ | Linux | Frontend

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I am a second-year student at the AGH University of Science and Technology in Cracow. I like understanding maths, physics and computer science concepts deeply and to help myself with that I often create projects that help me visualize and understand what I am learning and how things work. I take interest in various different fields of study and then I take satisfaction from combining them in one project, so that is why you can see that I have acquired quite sparse skills and experiences. At the same time I take care to keep things professional, documented and useful for myself and others.

EDUCATION

B.Eng. in Automation Engineering and Robotics | *2024 – Present* | *AGH University of Science and Technology, Cracow*

High School Diploma (Mathematics, Physics & IT Profile) | *2020 – 2024* | *Bartłomiej Nowodworski High School (No. 1), Cracow*

PROFESSIONAL EXPERIENCE

UAV Swarm System Engineer | AGH Avader Team | 2025

- Worked on developing autonomous swarm logic, integrating **PX4**, **NVIDIA Jetson**, and **Intel RealSense** platforms via **ROS2**.
- Executed hardware configuration and tuning of **PX4 flight controllers**, including field testing and real-time debugging.
- Designed system architecture and mission logic for autonomous aerial systems at the “**Droniada**” competition

Race Car Electrical Engineer | AGH Racing Team | 2025

- Developed **STM32**-based subsystems, implementing C-level firmware integrated with hardware logic for an electric race car.
- Designed and fabricated custom sensors and managed the assembly of electronic components.

Mathematics Tutor | Freelance | 2025

- Prepared high school students for the national exit exam (Matura) in **mathematics**.

SELECTED PROJECTS

- **Neural Network Signal Classifier:** Developed a classifier in **python** (**NumPy, Pandas, Matplotlib, TensorFlow, PyWavelets** modules) using Discrete Wavelet Transform (DWT) for automated feature extraction to distinguish industrial sound profiles (e.g., fan vs. gear failure).

  https://github.com/mayyyk/digital_signal_classification

- **Interactive Hiking Map:** Created a Python-based (**GeoJSON, GpxPy modules**) processing engine that transforms raw .GPX tracks into a unified interactive map gathering all recorded routes together.

  https://github.com/mayyyk/hiking_map

- **Logistics Network Simulator (C++):** Built a discrete-event simulator featuring graph-based modeling and rigorous integrity validation.

  https://github.com/mayyyk/netsim

- **Physical Process Visualizations:** Developed a suite of 4 Streamlit-based Python applications using **SciPy** and **NumPy** for real-time numerical process visualization. (Codes and demo videos are linked here: https://midor.me)

  Live Demos: https://fourierseries.streamlit.app/, https://aliasingvisualizer.streamlit.app/, https://amplitudemodulation.streamlit.app/, https://frequencycharacteristics.streamlit.app/

- **MATLAB Academic Archive:** Authored over 20 professional reports covering Digital Signal Processing (DSP) and Dynamical Systems Modeling (DSM).

TECHNICAL SKILLS

- **Core:** Python, C++, TypeScript (and frontend frameworks), Linux, Git.
- **DevOps & Infrastructure:** Docker, GitHub Actions (CI/CD), Terraform, Ansible, Prometheus, Grafana
- **Web & Database:** Node.js, PostgreSQL, REST API.
- **Languages:** English (C1), Polish (Native), German & French (active learning)

INTERESTS

- **Sports:** Mountain trekking, strength training, and bouldering.
- **Motorsport:** Formula 1 and automotive engineering.
- **Continuous Learning:** Readings books and learning languages (not only coding ones)

GDPR Clause

I hereby give consent for my personal data included in my application to be processed for the purposes of the recruitment process under the Personal Data Protection Act of 10 May 2018 (Journal of Laws 2018, item 1000) and the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 (GDPR).