

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's Engineer | AGH Avader Team | 2025

- Worked on developing autonomous drone logic, integrating **PX4**, **NVIDIA Jetson**, and **Intel RealSense** platforms via **ROS2**.
- Executed configuration and tuning of **PX4 flight controller**, including field testing and real-time debugging and took part in “**Droniada**” competition.
- Assembled two **drones** for an autonomous drone swarm.

Race Car Electrical Engineer | AGH Racing Team | 2025

- Designed a HAL sensor for throttle position in **Altium Designer**.
- Assembled an alternative for ST-LINK (for **STM-32** programming).
- Mounted circuit breakers on the vehicle to switch off high-voltage circuit in case of an accident
- Assisted with mounting electrical components on the vehicle.

Mathematics Tutor | Freelance | 2025

- Prepared high school students (mainly third and fourth grade) for the national exit exam (Matura) in **mathematics**. Worked with 10 students simultaneously.
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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).
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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)
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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)
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GDPR Clause

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