

Adam Szwajcowski, PhD

AI ENGINEER, RESEARCHER

Professional experience:

- **09.2025 - still: Agentic AI Engineer at Liger Trading**
Maintaining and developing MCP server wiring together several internal applications. Co-authoring new architecture of data flow in the company, balancing AI solutions with deterministic tools and orchestration engines.
- **06.2024 - 07.2025: Software Engineer for AI training data II freelance at Outlier.ai (Scale Labs)**
Supervising LLM training in tool usage (AI agents), software engineering (Python), and data science tasks. Working in distributed, international teams.
- **02.2021 - 02.2023: Principal Investigator in a scientific project “[Continuous representation of directivity patterns in acoustics using four-dimensional basis functions](#)”** financed by National Science Centre.
Exploring advanced mathematical models of directivity data, reducing the dataset size by 98% while maintaining psychoacoustic relevance.
- **02-06.2021: Academic teacher at Cracow University of Technology.**
Leading course on sound acquisition and processing for CS grad students.
- **06-08.2017: Intern at OptiNav.** Developing DAQ systems in LabVIEW.
- Independently, since 2019, freelancing as a composer, arranger, music director, and performing artist. More details on [my website](#).

Education:

- **2019 - 2023: PhD course** in mechanical engineering (focused on acoustics, mathematics and computer science). Defended with honors on 25.03.2024.
- **2018 - 2019: MSc course** in Acoustic Engineering (speciality: Vibration and Noise in Technology and Environment).
- **2014 - 2018: BSc course** in Acoustic Engineering.

All of the above completed at AGH University of Science and Technology in Cracow.
List of honors and awards during my time at the university: [LinkedIn](#)

Exemplary completed projects:

1. MCP server connecting internal tools via API with authorization via Zitadel SSO system. What previously required going through complex UIs, analysts could now achieve by prompting an LLM using a natural language.
2. Refactoring data dashboard platform to provide modularity. Before, a new dashboard used to be a source code change to a couple of files and required a software engineer; after, it could be provided as a plugin. Additionally, I designed a plugin template, which allowed anyone (both humans and AI agents) to contribute new dashboards.
3. Efficient multi dimensional modelling of head-related transfer functions; advanced data representation method published in a top JCR journal: [link](#)
My method allowed for 60-fold compression with negligible changes to perceptibility of spatial hearing.

For more details on my career in academia and IT, visit [my website](#).



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Professional profiles and website:

 [LinkedIn](#)

 [ResearchGate](#)

 [ORCID](#)

 [Personal website](#)

Languages:

 Polish: native

 English: fluent

 French: basic

Top programming languages:

 Python ([exemplary code](#))

 MATLAB ([exemplary code](#))

Familiar with:

Python Data Science stack (NumPy, SciPy, Pandas, Matplotlib, etc.), ML/AI, ETL, SQL (PostgreSQL), Git, Docker, FastAPI, AWS, C++, and anything else if you give me a couple of days and access to Internet