Eldar Mukhtarov

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PROFILE

I enjoy working on problems where understanding the data can make something easier for someone else. That has led me to research health risks using wearable sensor data and build an AI assistant to help students navigate admissions. I like both the technical work and the conversations that help me understand what people actually need. I'm looking for a team where I can keep learning, take responsibility for useful work, and help turn data and AI into something people can rely on.

TECHNICAL SKILLS

Programming: Python, C++, SQL/PostgreSQL; Git; Docker, FastAPI.
Machine learning and data: PyTorch, TensorFlow, scikit-learn, NumPy, pandas, Hugging Face, LangChain, ChromaDB, RAGAS, RAG and model evaluation.

EXPERIENCE

Lead Researcher | AI-Driven Cardiovascular Health Monitoring and Risk Assessment
Lodz University of Technology; commissioned by the Polish Ministry of Science and Higher Education Oct 2025 - Present

- Processed 72.6 million wearable measurements from 13,317 telecare patients; applied missing-data filtering to define an analysis cohort of 8,267 patients.
- Engineered physiological and circadian features and benchmarked predictive models against XGBoost, Random Forest, and linear baselines, achieving an AUROC of 0.782.
- Produced interpretability plots and threshold analyses to examine model behavior and potential alarm burden. Published earlier anomaly-detection research as first author at AIME 2026.

Research Team Lead | ChatTUL AI Admissions Chatbot
International Office, Lodz University of Technology Mar 2025 - May 2026

- Led development of a RAG admissions assistant using a crawler, SentenceTransformers embeddings, ChromaDB retrieval, FastAPI services, and Angular UI.
- Built a RAGAS evaluation set of 125 curated and adversarial questions; the latest evaluation achieved 86.5% faithfulness, 83.3% context recall, and 75.6% context precision.
- Translated admissions information into reliable retrieval workflows for non-technical stakeholders.
- Project contributed to a 40% rise in international applications.

Founder | Afterwit.ai
AI training platform for interviews, workplace conflict, and high-pressure conversations Jan 2026 - Present

- Design backend and AI architecture for conversation scenarios, response evaluation, and user onboarding.
- Validated MVP direction with EdTech, HR, and media contacts at SusHi Tech Tokyo, and captured 100+ early waitlist signups.

EDUCATION

Lodz University of Technology Lodz, Poland
Bachelor of Engineering in Computer Science | GPA: 5.00 / 5.00 Oct 2023 - Feb 2027

- *Coursework: Machine Learning, Deep Learning, Data Analysis, Reinforcement Learning*
- *Exchange: Shibaura Institute of Technology, Tokyo, Japan | GPA 4.00/4.00*

University of Lodz Lodz, Poland
Bachelor of Science in Computer Science | GPA: 4.99 / 5.00 Oct 2022 - Sep 2025

- *Thesis: Advanced Acoustic Analysis and Classification of Instrumental Sounds in High-Dimensional Feature Spaces*

SELECTED PRESENTATIONS

AIME 2026: "Unsupervised Anomaly Detection of Acute Health Events in Older Adults Using Longitudinal Wearable Sensor Data," International Conference on Artificial Intelligence in Medicine, Ottawa, Canada, 2026.
Digital Regeneration of Cities 2025: "Why AI Alone Can't Yet Cure Cardiovascular Disease and What We're Doing About It in Lodz," AI in public health panel, Lodz, Apr 2025.

TEDx Copernicus College Youth: "Playing with AI and Creativity in Game Development," Jan 2024.

HONORS AND AWARDS

- Medal for Academic Excellence (highest university honor), University of Lodz, 2025
- Lodz Programmer of the Year, 2024
- 1st Place, Circular Week 2025 National Student Competition, for a Circular Data Center strategy
- Marshal of the Lodz Voivodeship Scholarship

***Also received*:** Rector's and Dean's merit awards at both universities; Lodz University of Technology Foundation Scholarship; Santander Award; "Młodzi w Łodzi" ("Young People in Lodz") scholarships from Accenture, Hexagon, Fujitsu, and Asseco Data Systems; two-time participant in Polish Academic Championship in Team Programming.

LEADERSHIP, SERVICE, AND OUTREACH

- Founded and led the Faculty Chess Club at the University of Lodz, running university-wide tournaments that drew 30+ players each and awarding cash prizes to winners.
- Mentored 20+ students over three years through university mentorship programs and later picked up my own mentors along the way, including a former CTO, a public speaking coach, and an AI team lead.

Also involved with: ECIU Student Ambassador; AIESEC Local Projects member; 12 international academic mobility programs across Japan, Norway, Sweden, Ireland, Italy, Portugal, Germany, France, and the Netherlands, covering topics from medical diagnostics with smartphones, sensors, and VR to anti-corruption, sustainability, digital innovation, intercultural competence, early childhood education, and biomedical engineering for healthcare.

PUBLICATIONS

- E. Mukhtarov and K. Grudzień, "Unsupervised Anomaly Detection of Acute Health Events in Older Adults Using Longitudinal Wearable Sensor Data," in Artificial Intelligence in Medicine (AIME 2026), P. Andreev, W. Van Woensel, J. Holmes, and A. Sauré, Eds. Cham, Switzerland: Springer, 2026, vol. 16748. DOI: 10.1007/978-3-032-30710-1_17.
- E. Mukhtarov, "Advanced Acoustic Analysis and Classification of Instrumental Sounds in High-Dimensional Feature Spaces," B.Sc. thesis, University of Lodz, Lodz, Poland, 2025. Handle: 11089/58331.
- E. Mukhtarov, "Time-Frequency Fourier Methods for Live Audio Noise Reduction," in Matematyka - od zastosowan oczywistych do zdumiewajacych - MathUp 2025. Lodz, Poland: Lodz University of Technology, 2025.
- **Manuscript In preparation:** E. Mukhtarov and K. Grudzień, extended journal version of AIME 2026 feasibility study. Current work includes 3x more data, shorter monitoring windows and more personalized, subject-based detection methods, with the aim of submission to IEEE Journal of Biomedical and Health Informatics.

LANGUAGES

- English C1
- Polish A1
- German B1
- Azerbaijani and Turkish native

I agree to the processing of personal data provided in this document for realizing the recruitment process pursuant to the Personal Data Protection Act of 10 May 2018 (Journal of Laws 2018, item 1000) and in agreement with 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 (General Data Protection Regulation).