# Łukasz Sawala

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## Personal Statement

Passionate about translating my academic expertise and relentless curiosity into impactful industry solutions. By combining my strong technical skills with the expertise of industry professionals, I aim to deliver innovative, data-driven advancements that shape the future of technology.

## Experience

**Subteam Navigation Lead**, Makercie Space Rover Team — October 2024 – Jun 2025

- Coordinating a team while developing a navigation system for a fully functional, NASA-inspired, and independent Mars rover, preparing the student team for the European Rover Challenge. Website
- **Systems developed:** Sensor Fusion via SLAM, Object Detection and Avoidance, Teleoperation, Autonomous Driving.

**Teaching Assistant**, University of Groningen — Feb 2024 – Jun 2025

- **Topics:** Signals and Systems for AI, Algorithms and Data Structures in Python, Robotics
- Responsible for leading, teaching, and evaluating ∼30 Bachelor AI students
- Respected among students, with multiple explicit positive mentions in the course evaluations.

## Education

**MSc** **Artificial Intelligence**, University of Amsterdam — Sept 2025 - Current

- **Coursework:** Deep Learning, Data Science, NLP, Programming, Mathematics

**BSc** **Artificial Intelligence**, University of Groningen — Sept 2022 - Jun 2025

- GPA: 9 - ***Cum Laude*** distinction
- **Nominations:** GUF-100 2025 for best students at the university, TA of the Year 2024
- **Extracurriculars:** Honours College, a diverse 2-year program with deepening and broadening courses for the best students within the university
- **Activities:** Elected Councilman at the Faculty of Science and Engineering, representing a body of over 6000 students at the faculty. Responsible for the improvement of the TA policies and financial efficiency.

  2-year member of the Committee of External Affairs (ComExA) of Study Association Cover, obtaining and maintaining key sponsorship deals for the association.
- **Thesis Topic**: Low-Latency Language-Action Foundation Models via Upside-Down RL

## Projects

**Low-Latency Language-Action Foundation Models via Upside-Down RL** — GitHub Repo

- Pioneered two novel transformer-based architectures for scalable and easy command-conditioned control in high-dimensional continuous environments, achieving superior alignment, generalization, and efficiency over baselines.
- Developed transfer learning and self-imitation pipelines enabling robust adapta-

tion to stochastic, goal-conditioned tasks, demonstrating potential for real-world deployment in low-resource and embedded settings.
- Skills Gained: PyTorch, Offline RL, Transfer Learning, Transformer Architectures, HDF5 Data Pipelines

**Data-Driven Forecasting in Urban Environments** GitHub Repo

- An end-to-end programming project aimed to predict NO2 and O3 levels in Utrecht. This project was chosen to contribute to the open-source environmental sustainability project called Open Sustainable Technology.
- Skills Gained: MLflow, StreamLit, fastAPI

**Outpacing the Market with Automated Financial News Sentiment Analysis** GitHub Repo

- An end-to-end programming project applying SoTA LLM-based methods aimed to predict market responses to press releases of biotech companies.
- Skills Gained: HuggingFace, HPC, Python

**Exploring the role of artificial Theory of Mind in human-agent negotiations** GitHub Repo

- Developed a compact, expandable, and reusable research environment to test various hypotheses of human-agent interaction based on the Colored Trails game.
- Skills Gained: Java, UI, and OOP design

**Cover Career Day** 2023 & 2024

- Connecting thousands of AI&CS students at the University to potential employers from multiple tech companies via a full day of talks, lectures, and info markets.

## Awards

**Cognitive Model Blackjack competition winner** 2024

- Developed the winning cognitive model for the blackjack challenge using the Adaptive Control of Thought-Rational (ACT-R) framework.
- Tied for the first place as all-time best in the course history, achieving a winrate of 45.7%

**RDW Lego Self-Driving challenge winner** 2023

- Utilizing sensor fusion in a time-intensive, in-office, self-driving challenge.
- Combating data scarcity with clever heuristics.

## Skills

**Technical Skills:** Python, Java, PyTorch, Transformers, FastAPI, Signal Processing, Statistics, Deep Learning, NLP, Git, Streamlit, Robotics.

**Soft Skills:** Project Management, Efficient Teamworking, Communication, Conflict Management.

**Languages:** Polish (Native), English (Proficient).