

Noah Mamie

 noah@mamié.ch

 mamié.ch

 noah-mamie

Research Interests

Artificial Intelligence, Language Modeling, Recommender Systems, Knowledge Representation

Education

- 2025 – Present  **PhD Candidate in Artificial Intelligence, University of Zurich.**
Supervisor: Prof. Dr. Abraham Bernstein. DDIS Group.
- 2022 – 2024  **Master of Science in Artificial Intelligence, University of Zurich.**
Final GPA: 5.54/6.0 - *Summa Cum Laude*
Thesis title: *The Society of HiveMind: Multi-Agent Optimization of Foundation Model Swarms to Unlock the Potential of Collective Intelligence.*
- 2024  **Special Student in Computer Science, ETH Zurich.**
Relevant coursework: ML for Healthcare, Distinguished Seminar in Robotics.
- 2024  **Graduate Exchange Semester, University of Uppsala.**
Relevant coursework: Reinforcement Learning, Natural Comp. Methods for ML.
- 2021 – 2022  **Computer Science, Additional Requirements, University of Zurich.**
Relevant coursework: Informatics (C and Python), Software Engineering (Java).
- 2017 – 2020  **Bachelor of Arts in Business Administration, University of St.Gallen.**
Thesis title: *Watermarking Deep Neural Networks.*
- 2019  **Undergraduate Exchange Semester, Singapore Management University.**
Relevant coursework: Finance, Industry consulting project.
- 2012 – 2016  **Bilingual Matura (EN-DE), Kantonsschule Enge, Zurich.**
Main Subject: Economics, Electives: Physics and Chemistry.

Experience

- 2025 – Present  **Doctoral Researcher, University of Zurich.**
Focus: GenAI in the Context of Personalized News Recommender Systems.
- 2025  **GenAI Development Intern, Detecon Switzerland AG, Zurich.**
Focus: Retrieval Augmented Generation, Large Language Models, Intelligent Agents.
- 2023 – 2025  **Research Assistant, ETH-MTEC Chair of Applied Economics, Zurich.**
Focus: Knowledge Graph Retrieval, Recommendation Systems, LLMs, GNNs.
- 2023  **Teaching Assistant, Department of Computer Linguistics UZH, Zurich.**
Assisted Dr. Mathias Müller for the course "Essentials of Text and Speech Processing".
- 2021 – 2022  **Private Equity Intelligence DACH, Storskogen Switzerland AG, Zurich.**
Focus: Large-Scale Data Analytics, Digitalization, OPEX, Mergers & Acquisitions (M&A Research, Deal Flow, Due Diligence), and Optimization of Business Areas (Services, Trade, Industry).
- 2021  **Intern in Private Equity, Artum AG (Storskogen CH since 07/21), Zurich.**
Contributed to the merger of Artum and Storskogen (July 2021); Identified and contacted acquisition candidates; Analyzed target company data and trends; Developed company valuations and transaction structures.
- 2020  **Teaching Assistant, ITEM-HSG, St. Gallen.**
Assisted Prof. Dr. Wortmann in Fall 2020 (Skills: Operations Management, Excel).

Experience (continued)

- **Assurance Industrial Services Intern, Ernst & Young, Zurich.**
Conducted audits of annual and quarterly accounts per national and international standards (e.g., IFRS).
- 2019 ■ **Student Consultant, Dr. Wolff Singapore Pte. Ltd., Singapore.**
Launched an e-commerce campaign for Plantur 21 (SEM, SEO, social media); Conducted primary research and grew the fan base; Presented weekly client updates.
- **Teaching Assistant, IWI-HSG, St. Gallen.**
Assisted Dr. Silic in Spring 2019 (Skills: Programming, Python, R, HTML/CSS/JS).
- 2016 ■ **Intern in Accounting, Marketing, and Sales, SpanSet, Villabona, Spain.**
Managed supplier bookkeeping and payment software; Coordinated with factory workers and sales team.

Research

Conference Proceedings

- 1 N. Mamié and S. R. Xi, "The Society of HiveMind: Multi-agent Optimization of Foundation Model Swarms to Unlock the Potential of Collective Intelligence," in *Advances in Swarm Intelligence*, Y. Tan and Y. Shi, Eds., Singapore: Springer Nature Singapore, 2025, pp. 243–254, ISBN: 978-981-95-0982-9.
- 2 S. Rao, N. Mamié, Y. Tu, and P. Bhandar, "AI Support Systems for Academic Research," in *Proceedings of the 9th edition of the Swiss Text Analytics Conference*, 2024, pp. 226–227.
- 3 E. Egli, N. Mamié, E. L. Dolev, and M. Müller, "Voting Booklet Bias: Stance Detection in Swiss Federal Communication," in *Proceedings of the 8th edition of the Swiss Text Analytics Conference*, received best poster award, ACL Anthology, 2023. ↗ URL: <https://arxiv.org/pdf/2306.08999.pdf>.

Featured Projects

- 2025 ■ **HiveLLM: "The Society of HiveMind".**
Explored the foundations for a graph-based framework for building individual AI agents and orchestrating self-organizing, self-improving swarms. *Python*. ↗
- 2024 ■ **Reinforcement Learning: "Playing Atari with Deep Reinforcement Learning".**
Trained a deep RL agent to successfully play the famous Atari game Pong. *Python*. ↗
- **Vision Algorithms for Mobile Robotics: "A Visual Odometry Pipeline".**
Developed and demonstrated a complete visual odometry pipeline. *Python*. ↗
- **ML for Healthcare: "Interpretable and Explainable Classification for Medical Data".**
Worked on a project for explaining deep learning models on medical data. *Python*. ↗
- 2023 ■ **ZurichNLP: "Voting Booklet Bias".**
Developed a tool to analyze bias in voting booklets. *Python*. ↗
- 2022 ■ **Chatbot: "Building an Intelligent Conversational Agent".**
Created an interactive chatbot with intelligent response capabilities. *Python*. ↗
- **MyPark: "A Parking Reservation System".**
Built a web application for reserving parking spaces. *React.js, Java, Gradle, Heroku*. ↗
- 2020 ■ **Bachelor's Thesis: "Watermarking Deep Neural Networks".**
Researched and implemented methods for watermarking deep neural networks. *Python*. ↗
- 2019 ■ **Portfolio: "Data Visualization - Storytelling with R".**
Created a series of data visualizations focusing on effective storytelling. *R, Python Jupyter*. ↗

Skills

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| Languages | ■ German (native), English (bilingual), French (fluent), Spanish (fluent). |
| Programming Languages | ■ Python, C, Java, JavaScript, R, Matlab. |
| Databases | ■ MySQL, PostgreSQL, SPARQL. |
| Machine Learning | ■ PyTorch, PyTorch Geometric, TensorFlow. |
| Web Development | ■ HTML, CSS, React.js, TypeScript, JavaScript. |
| Other Tools | ■ L ^A T _E X, Gradle, Heroku, Google Cloud, SpringBoot, Linux OS. |

Volunteering

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| 2022 – present | ■ Core Member, Global AI Hub.
Active member of the 10million.AI initiative. |
| | ■ Head of IT, Swiss Racketlon Federation.
Board member responsible for IT, including website management, SEO, and data analytics. |
| 2020 – 2021 | ■ Head of Finance and Treasury, SGMUN Conference, St. Gallen.
Managed budget and financial decision-making for the conference. |
| 2018 – present | ■ Member of the Electoral Office, City of Wädenswil.
Volunteered at polls and elections in Switzerland. |
| 2015 – present | ■ Coach Diploma, Jugend+Sport Switzerland.
Undertakes annual educational courses to enhance teaching methods for coaching badminton and table tennis to aspiring young players. |

Miscellaneous Experience

Awards and Achievements

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| 2023 | ■ Best Poster , Awarded as the "best poster" at the 8th Annual SwissText Analytics Conference. |
| | ■ Datathon Winner , 1st Place in the D-One Challenge of the ACE-ETH Datathon 2023. |
| 2018 | ■ Honorable Mention , 2nd Place at St. Gallen Model United Nations Conference in the Committee on LAWS and Cybersecurity. |

Certification

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| 2020 | ■ CS50x: Computer Science and the Art of Programming, HarvardX.
Completed MOOC covering introductory computer science concepts. |
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