

Noah Mamie

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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.*
- 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)

- 2019
 - **Assurance Industrial Services Intern, Ernst & Young, Zurich.**
Conducted audits of annual and quarterly accounts per national and international standards (e.g., IFRS).
 - **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>.

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

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

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

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

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