Imanol Schlag

March 2025

CONTACT INFORMATION

AI Center, ETH Zürich
X20 OAT
Andreasstrasse 5, 8050 Zürich, Switzerland

phone: +41 79 347 52 42
e-mail: ischlag@ethz.ch

RESEARCH INTERESTS

My research focuses on developing transparent and responsible AI systems, particularly large language models (LLMs) that serve Swiss and global needs. As a leader of the LLM area of the Swiss AI Initiative, I guide the development of foundational AI technology utilising Switzerland's latest supercomputer *Alps* at CSCS, which features over 10,000 state-of-the-art NVIDIA Grace Hopper GPUs. This effort aims to create open-source models that combine high performance with rigorous standards for transparency, multilingual capabilities, and regulatory compliance. My earlier research in neural architectures, particularly on Fast Weight Programmers during my PhD at USI, provided the technical foundation for scalable Transformer alternatives. Through the Swiss AI Initiative, I now focus on bridging cutting-edge AI research with practical applications, ensuring Swiss institutions can benefit from trustworthy AI technology while maintaining alignment with Swiss and European values.

CURRENT

Research Scientist, AI Center, ETH Zürich **since 02/2024**

- Technical Lead for the Swiss AI Initiative
- Co-leading the Large Language Model effort of the Swiss AI Initiative
- Teaching a new MSc course *Large-Scale AI Engineering*

EDUCATION

Università della Svizzera italiana, Lugano, Switzerland
PhD, Artificial Intelligence and Machine Learning, March 2023

- With distinction
- Thesis: *Fast Weight Programmers for Greater Systematic Generalisation in Language*
- Adviser: Prof. Dr. Jürgen Schmidhuber

University of St Andrews, St Andrews, Scotland
MSc, Artificial Intelligence, August 2016

- With distinction
- Thesis: *Face Recognition from Ancient Roman Coins*
- Adviser: Prof. Dr. Ognjen Arandjelović

University of Applied Sciences and Arts Northwestern Switzerland, Brugg, Switzerland
BSc, Computer Science, August 2015

- With specialisation in *Information Processing and Visualization*
- Thesis: *Face Similarity - Finding Lookalikes from Images*
- Adivser: Prof. Dr. Manfred Vogel

Swiss Armed Forces Special Forces Training Center, Isone, Switzerland

- Basic Training, 2010
- Non-commissioned Officer School, 2011

TEACHING EXPERIENCE

ETH Zürich, Switzerland **2023 - 2025**

Lecturer

- Large-Scale AI Engineering Spring 24/25
- AI Center Projects in Machine Learning Research Spring 24/25

Head teaching assistant

- Deep Learning Fall 23/24

Università della Svizzera italiana, Lugano, Switzerland **2017 - 2021**

Teaching assistant

- Machine Learning Fall 17/18
- Deep Learning Lab Fall 18/19, Fall 19/20
- Graph Deep Learning Spring 20/21

Course development

- Assisted the development of the first version of the Deep Learning Lab for Fall 18/19

Swiss Armed Forces, KSK, Gren Bat 30/2, Isone, Switzerland **2012 - 2019**

Military instructor and squad leader in the Special Forces Command (KSK)

- A yearly 4 week repetition course

Professional Experience

ETH Zürich, Zürich, Switzerland **08/2023 - 01/2024**

Postdoctoral Researcher under Prof. Dr. Thomas Hofmann

Università della Svizzera italiana, Lugano, Switzerland **05/2023 - 7/2023**

Postdoctoral Researcher under Prof. Dr. Jürgen Schmidhuber

Università della Svizzera italiana, Lugano, Switzerland **09/2016 - 4/2023**

Doctoral Researcher under Prof. Dr. Jürgen Schmidhuber

Meta AI, Menlo Park, California, USA **07/2022 - 10/2022**

Research internship at FAIR with Dr. Xian Li and Dr. Jason Weston

Google Research, Mountain View, California, USA **09/2020 - 02/2021**

Remote research internship in the Blueshift Team with Dr. Behnam Neyshabur

Microsoft Research, Redmond, Washington, USA **06/2019 - 09/2019**

Research internship with Prof. Dr. Paul Smolensky

Basler Kantonalbank, Basel, Switzerland **09/2006 - 06/2010**

Apprentice in informatics

Awards

NVAIL Pioneering Research Award

- For *Learning to Reason with Third-Order Tensor Products*. Received at NeurIPS, 2018.

University of St Andrews

- Medal for the best dissertation in Computer Science, 2016

Reviewing

NeurIPS 19/20/21, ICML 20/21/25, ICLR 20/21/22