

PROFILE

PhD student at ETH Zurich and Student Researcher at Google DeepMind, working on multimodal models, multi-agent systems for scientific discovery, and self-supervised representation learning. Multilingual (German, Spanish, English) from growing up in Latin America. Outside research I play tennis, go hiking and biking, and like to build software that is both useful and beautiful.

Education

ETH Zurich

PhD Student, D-ITET

2026 – present

Zurich, Switzerland

ETH Zurich & UZH

MSc. Neural Systems and Computation

— Thesis: Scaling Self-Supervised Learning for Clinical EEG

2024 – 2026

Zurich, Switzerland

Experience

Google DeepMind

Student Researcher

Jul 2026 – present

Zurich, Switzerland

Working on Co-Scientist (multi-agent scientific discovery) and science evals for Gemini.

Browser Use (YC25)

Creative Thinking Intern

Jul 2025 – Oct 2025

San Francisco, USA

Built and shipped prototypes for many different use cases for browsing agents.

EPFL — Prof. Courtine Lab (.NeuroRestore / ONWARD)

Research Intern

Jun 2023 – Oct 2023

Lausanne, Switzerland

Worked on using self-supervised learning with Electrocorticography (ECoG) data from brain implants to improve neural decoding and walking in patients with spinal cord injury.

Publications & Preprints

M. Kalcher, T. Dubcek. *A Scaling Law for Bandwidth Under Quantization*. arXiv:2602.23252, 2026. [paper]

M. Kalcher. *Frequency-Ordered Tokenization for Better Text Compression*. arXiv:2602.22958, 2026. [paper]

Interests

- Computer vision and multimodal models
- Multi-agent systems and AI for scientific discovery
- Self-supervised / representation learning and compression
- Neural decoding and neurotechnology

Service & Awards

Compute Grant recipient from the *Swiss National Supercomputing Centre* (CSCS), 2026.

Reviewer for *Biomedical Signal Processing and Control* (Elsevier), 2024.

Google (Keras) Community Prize Winner, December 2022.