Nils Fahrni

hi@nils.me • website • github • linkedin

Education

Linköping University — Linköping, Sweden
MSc in Statistics & Machine Learning — *Aug 2025 - Aug 2027*
Relevant Courses: t.b.d.
Activities: t.b.d.

University of Applied Sciences Northwestern Switzerland — Brugg-Windisch, Switzerland
BSc in Data Science. GPA 5.5/6, Grade A — *Sep 2022 - Aug 2025*
Relevant Courses: Statistical Learning, Natural Language Processing, Deep Learning, Computer Vision
Activities: FHNW MAKEathon (Top 3, 2023), FHNW NLP Mini Challenge (first place, 2024)

Gewerblich industrielle Berufsschule Bern, Apprenticeship — Bern, Switzerland
VET Diploma in Computer Science, specialized in Software Eng. GPA 5.4/6 — *Aug 2017 – Jul 2021*
Activities: Class President

Experience

Swiss Post & PostFinance — Bern, Switzerland
Software Engineering Apprentice — *Aug 2017 – Jun 2021*

- Lead development of a full stack .NET Core app to track large-scale investments of Swiss Post that keep track of over **$35M** per year.
- Collaborated on the "Seamlessly Mobile" project by building the mobile app for car and bike sharing.
- Led and coached 2 teams of freshman apprentices.
- Organized taster apprenticeships and led bring-kids-to-work day.
- Led development of banking voice assistant on Siri, Alexa and Google Assistant. Secured company innovation investment of **$250K**. Got selected to present the product to the public in the SBB Sandbox in Zürich.

Relevant Projects

Bachelor Thesis: 3D Pollen Grain Reconstruction with sparse 2D Images (ongoing)

- t.b.d.

Dual-Pathway Neural Networks for Alzheimer's Diagnosis [Preprint]

- Designed and implemented a dual-pathway deep learning model for Alzheimer's disease diagnosis using 3D MRI hippocampus regions extracted from ADNI's full 3D brain MRIs.

Autograd Engine from Scratch in Python [GitHub]

- Implemented an autograd engine from scratch inspired by tinygrad and PyTorch in order to gain a deeper understanding of the inner workings of machine learning.

Implementation of DDPM Paper with Conditional Diffusion [GitHub]

- Implemented the original DDPM paper (Ho et al., 2020) and trained it on the NYU Depth V2 dataset to generate new rooms conditioned on furniture classes and their depth.

Skills & Interests

Technical: Python, PyTorch, Weights & Biases, Hydra, Slurm, FastAPI, SQL & NoSQL, React
Language: Swiss German & German (Native), English (C1 Advanced), French (B1 Basic)
Interests: Computer Vision, SLAM, 3D Reconstruction, Generative Models