



Education

Master of Science, ETH Zurich

2021 - 2023

Electrical Engineering and Information Technology

Major: Signal Processing and Machine Learning (Grade: 5.36/6.0)

Bachelor of Science, ETH Zurich

2017 - 2021

Electrical Engineering and Information Technology

Bachelor of Science, ETH Zurich

2016 - 2017

Biology - First year (passed)

Publications

Representation Learning for Missing Data Imputation

AAAI

[Jungo et al. „Representation Learning for Wearable-Based Applications in the Case of Missing Data,“ in Human-Centric Representation Learning Workshop at AAAI 2024.](#)

Reinforcement Learning for Power Market Trading

In preparation

Jungo et al. “Trading to Protect the Grid: A Reinforcement Learning-Based Bidding Strategy for Local Flexibility Markets”

Optimal Control & Machine Learning for Power Grid Automation

Hitachi AI Conference

Jungo and Poland. “Learning Load Management for Transmission Line Overload Control,” in 5th Hitachi AI Conference 2024

Academic Experience

Research Engineer (Civil Service), Lucerne University of Applied Sciences and Arts

Mar 2026 - May 2026,
Jan 2025 - Apr 2025

- Explored a reinforcement learning-based trading strategy as an alternative method for grid providers to regulate a power grid via energy markets and compared it to optimization-based methods.
- Designed optimization models for bidirectional charging of EV fleets and modeled dynamic systems of batteries.
- Trained and compared time-series forecasters (transformer, statistical models) for electrical demand and market price prediction.

Research Intern, Hitachi Energy

May 2023 - Oct 2023

- Designed a hierarchical, learning-based controller for power grid automation, training a machine learning model to identify critical states that a model-based optimal controller can solve, and a reinforcement learning-based emergency agent.

Research Assistant, ETH Zurich

May 2021 - Oct 2021

- Provided illustrations and technical drawings of electric circuits at the Power Systems Laboratory.

Lab Assistant, ETH Zurich

Sep 2020 - Dec 2020

- Coordinated and assisted students in control systems theory and practice during their laboratory work at the Automated Control Lab.

Industry Experience

Data Scientist, Rheinmetall Air Defence

Apr 2025 - Now

- Developed optimization algorithms for spatial and temporal calibration of tracking data.
- Built an analysis software, automating the processing and evaluation of multi-sensor data (radar, laser, GPS), which is used as the engineering department's primary testing tool and was sold to an external customer.
- Analyzed and wrote technical reports of the tracking performance of drone defence systems to customers and internal teams.

Engineering Intern, Rheinmetall Air Defence

Jun 2024 - Dec 2024

- Developed a Windows application for recording hit patterns that is widely used during test campaigns and was successfully sold to a customer.
- Built a data logger that records and encrypts critical system data during engagements for fault detection.

Theses

Master Thesis, ETH Zurich & Hitachi Energy

Automated Control Laboratory

Explored a hierarchical, learning-based control architecture as a computationally lightweight alternative to MPC for power grid automation: a machine learning model is trained to identify critical regions (power lines) in the grid that an optimal control algorithm can solve. Additionally, the concept of deliberate power line shutdowns to change graph topology is investigated for emergencies (blackout) using reinforcement learning.

Semester Thesis, ETH AI Center

Sensing, Interaction & Perception Lab

Investigated a transformer-based self-supervised learning approach for filling in missing data gaps from wearable devices (e.g. smartwatches) and compared its performance across signal type and gap length against conventional methods. Furthermore, I explored the methods' impact on a real-world downstream task, where I trained a convolutional neural network (CNN) to predict fatigue in patients.

Semester Thesis, AMZ Racing (Formula Student)

High Voltage Laboratory

Designed a hardware-in-the-loop PCB to test the drivetrain performance of the team's electric race car. Includes a three-phase high-voltage measurement circuit, a high-voltage safety circuit, and a communication interface to read data signals from the race car.

Skills

Machine Learning	Programming & Control	Optimization	Data Science
Reinforcement Learning, Time-Series Forecasting, Self-Supervised Learning	Full-Stack Development, Real-Time Simulation	LP, QP, MILP, NLP	Data Analysis, Data Engineering
PyTorch TensorFlow OpenCV Scikit-Learn SciPy Stable-Baselines3	Python C++ Matlab Simulink HTML CSS Qt	Pyomo Gurobi JAX cymipopt	R SQL Pandas NumPy Dash

Personal

Personal Projects (more at my [portfolio](#))

- Training NNs with Evolution: Explored training MLP/CNN with genetic algorithm instead of gradient descent.
- Developing my Own Chess AI: Built an AlphaZero-style (RL) agent that plays chess autonomously.
- Coding a Neural Network from Scratch: Programmed an MLP with backpropagation without any libraries.

Hobbies

Freediving, Tennis, Martial Arts, Bouldering,
Art (Drawing, Photography)

Languages

German (native), English (fluent), French/Spanish
(intermediate), Russian/Japanese (beginner)