

Edouard Koehn

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EDUCATION

EPFL - Swiss Federal Institute of Technology in Lausanne <i>Master of Science MSc in Neuro-X - Ing. neuro-X. EPF</i>	Lausanne, Switzerland 2022 – 2025
EPFL - Swiss Federal Institute of Technology in Lausanne <i>Bachelor of Science BSc in Life Science Engineering</i>	Lausanne, Switzerland 2017 – 2022
Sport school, Spiritus Sanctus Brig <i>Economics High School Diploma</i>	Brig, Switzerland 2011 – 2017

RESEARCH EXPERIENCE

UCB - University of California Berkeley <i>Master Thesis</i>	August 2024 – February 2025 Berkeley, CA, USA
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Neural Systems and Machine Learning Laboratory (NSML)

- Developed Recurrent Neural Networks (RNNs) integrated with biologically inspired connectivity.
- Applied chaos theory to analyze and understand the system's dynamic.
- Used control theory methods to guide the system's dynamic.

EPFL - Swiss Federal Institute of Technology in Lausanne <i>Semester Project</i>	2023 – 2024 Lausanne, Switzerland
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Mathis Group for Computational Neuroscience and AI

- Deployed transformer-based policies for natural locomotion problems.
- Uncovered the attention and learning mechanisms of the transformer model in the context of locomotion solutions.

Medical Image Processing Laboratory (MIPLAB)

- Developed a new technique to generate brain connectomes from diffusion MRI data.
- Applied graph signal processing techniques on white matter brain graphs

EPFL - Swiss Federal Institute of Technology in Lausanne <i>Bachelor Project Researcher</i>	2021 – 2022 Lausanne, Switzerland
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Medtronic Chair in Neuroengineering

- Evaluate the performance of different object detection for cortical visual prosthesis
- Applied pattern recognition techniques for the detection and classification of outdoor scenes.

EXPERIENCE

Deep Learning Specialist <i>Di Ianni Lab – University of California, San Francisco</i>	April 2025 – April 2026 San Francisco, USA
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- Developed deep learning methods for ultrasound image reconstruction.
- Designed and managed experimental ultrasound imaging datasets.

Research Intern <i>Genomics and Health Informatics Group – Idiap</i>	Aug. 2022 – Jan. 2023 Martigny, Switzerland
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- Applied Convolutional Neural Networks (CNNs) to imaging data for studying cellular morphology in neurodegenerative diseases.
- Evaluated AI explainability techniques for CNNs in the context of bioimaging.

Research Intern <i>R&D Team – Swiss National Ski Federation</i>	Aug. 2019 – Feb. 2020 Bern, Switzerland
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- Investigated the use of GNSS technology for performance analysis in winter sports.
- Conducted an empirical study on starting strategies in alpine skiing.

Teaching Assistant

Distributed Object Programming Lab – UNIL

Feb. 2020 – July 2020

Lausanne, Switzerland

- Detected similarities between GNSS trajectories in large datasets using a novel trajectory indexing technique.

Ski Trainer

Stockman Sport

July 2017 – Sept. 2017

New Zealand

- Trained athletes as part of the Stockman Sport team in New Zealand.

Alpine Ski Racer

Swiss National Ski Federation

2003 – 2015

Brig, Switzerland

- Competed and trained internationally in alpine skiing for over a decade.

VOLUNTEERING

President of the Organizing Committee

FIS European Cup

September 2021 – April 2024

Jaun, Switzerland

- Managed and coordinated an international alpine skiing competition
- Organized a two-day event with around 200 volunteers, 100 athletes, and 3,000 spectators

SKILLS

Programming Language

Python, Matlab, C++, Julia

Language

French: native, English: advanced, German: advanced

Field of Expertise

Data Science, Computational Neuroscience, Machine learning, Biology, Applied software engineering

Interest:

Outdoor sports (climbing, hiking, surfing)

RELEVANT COURSEWORK

Computer Science:

Machine Learning, Modern Natural Language Processing

Statistics:

Applied Probability & Stochastic Processes

Signal Processing:

Neural Signals Processing, Image Analysis and Pattern Recognition

Neuroscience:

Brain-like Computation and Intelligence, Neuronal Dynamics