

Edouard Koehn

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EDUCATION

Ecole Polytechnique Fédérale de Lausanne, EPFL <i>Master of Science MSc in Neuro-X - Ing. neuro-X. EPF</i>	Lausanne, Switzerland Feb. 2022 – 2025
Ecole Polytechnique Fédérale de Lausanne, EPFL <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

Univeristy of California Berkeley, UCB <i>Master Thesis</i>	August 2024 – Present Berkeley, CA, USA
Neural Systems and Machine Learning Laboratory (NSML) <ul style="list-style-type: none">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 dynamics.	
École Polytechnique Fédérale de Lausanne, EPFL <i>Semester Project</i>	2023 – 2024 Lausanne, Switzerland
Mathis Group for Computational Neuroscience and AI <ul style="list-style-type: none">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) <ul style="list-style-type: none">Developed a new technique to generate individual-centered brain connectomes from diffusion MRI data.Applied graph signal processing techniques on white matter brain graphs	
Ecole Polytechnique Fédérale de Lausanne, EPFL <i>Bachelor Project Researcher</i>	2021 – 2022 Lausanne, Switzerland
Medtronic Chair in Neuroengineering <ul style="list-style-type: none">Evaluate the performance of different object detection for cortical visual prosthesisApplied pattern recognition techniques for the detection and classification of outdoor scenes.	

EXPERIENCE

Research Intern <i>Genomics and Health Informatics Group - Idiap</i>	Aug. 2023 – Jan. 2024 Martigny, Switzerland
<ul style="list-style-type: none">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
<ul style="list-style-type: none">Investigated the use of GNSS technology for performance analysis in winter sports.Conducted an empirical study on starting strategies in alpine skiing.	
Teaching Assistant <i>Distributed Object Programming Lab - UNIL</i>	Feb 2020 – July. 2020 Lausanne, Switzerland
<ul style="list-style-type: none">Detected similarities between GNSS trajectories in large datasets using a novel trajectory indexing technique (Geodabs)	

Ski Trainer

Stockman Sport

Jul. 2017 – Sept. 2017

New Zealand

- Trained athletes 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

Interests:

Outdoor sport (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