

WILLIAM CAPPELLETTI

Mathematical engineer & PhD candidate in Computer Science

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Lausanne, Switzerland
21 August 1996



PROFESSIONAL EXPERIENCE

PhD candidate @ Signal Processing Laboratory (LTS4)

“Dynamic-graph representation models for multivariate time series”

EPFL, Ecole Polytechnique Fédérale de Lausanne

2021 Oct - 2025 Lausanne, CH

- Synergy project “PEDESITE: Personalized Detection of Epileptic Seizure in the Internet of Things (IoT) Era”
- Explainable sparse representations of multivariate data
- Anomaly detection on dynamic networks
- Self-supervised learning and graph neural networks
- Standardization of ML pipelines for seizure analysis from EEG
- Managing student projects and internships

Machine Learning Engineer

Visium SA

2021 Mar - 2021 Oct
2019 Jul - 2019 Oct Lausanne, CH

- Recommender Systems research and development
- Sales forecasting models and data imputation
- Computer Vision pipeline for person tracking and re-identification

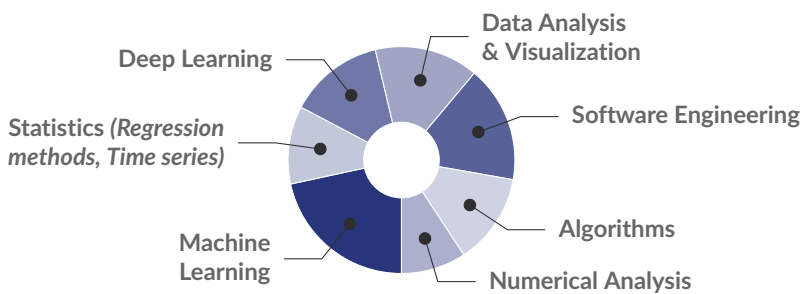
Research scientist in Quantum Machine Learning

Entropica Labs

2020 Feb - 2020 Aug Singapore, SG

- Design and publish ML algorithms for quantum hardware
- Design and development of Python package for classification with quantum computers

MAIN COMPETENCES



IN A NUTSHELL

An analytical mind, eager to learn and always looking for new challenges

EDUCATION

MSc in Applied Mathematics
(Ingenierie Mathématique)

EPFL

2018 Sep - 2021 Feb Lausanne, CH

+ Minor in Computer Science

BSc in Mathematics

EPFL

2015 Sep - 2018 Jul Lausanne, CH

Scientific High School Diploma

ISILT Binel-Viglino

2015 Saint-Vincent, IT

TECH SKILLS

Python (expert) PyTorch sklearn
C++ (advanced) R LaTeX bash
Java Scala Web development

LANGUAGES

English C2 ●●●●●●
French C2 ●●●●●●
German A1/2 ●○●○●○
Italian native ●●●●●●

FIND OUT MORE



SCAN ME

PUBLICATIONS

- 📄 Cappelletti, William, Yuhan Xie, and Pascal Frossard. "Learning Self-Supervised Dynamic Networks for Seizure Analysis". In: *ICLR Workshop on Learning from Time Series For Health*. 2024.
- 📄 Dan, Jonathan et al. "SzCORE: Seizure Community Open-Source Research Evaluation Framework for the Validation of Electroencephalography-Based Automated Seizure Detection Algorithms". In: *Epilepsia* (2024). DOI: 10.1111/epi.18113.
- 📄 Cappelletti, W., R. Erbanni, and J. Keller. "Polyadic Quantum Classifier". In: *IEEE International Conference on Quantum Computing and Engineering (QCE)*. 2020. DOI: 10.1109/QCE49297.2020.00013.

PROJECTS

Decentralized robust optimization for Machine Learning

🎓 Master Thesis

👤 Martin Jaggi & Emmanuel Abbé

- Train machine learning models on distributed computers networks, improving data privacy and performances
- Study consensus methods for decentralized gradient descent robust to adversary agents

Polyadic Quantum Machine Learning – polyadicqml

🔗 Python software package

- High level interface to define, train and deploy Polyadic QML models on multiple quantum providers, including IBM machines.
- I designed and developed the package as well as its documentation

Convolutional Neural Tangent Kernel

📄 Semester Project

👤 Clément Hongler

- Study of Convolutional Neural Networks as Kernel methods
- Implement a kernel regression extension for PyTorch

On the volume of zonotopes

📄 Bachelor Thesis

👤 Janos Pach

- Study properties of a projection of an hypercube in a smaller space
- Prove necessary conditions to achieve maximal volume

OTHER ACHIEVEMENTS

AgePoly Committee member

EPFL

📅 2017 – 2019

📍 Lausanne, CH

- Represent Mathematics Section in AgePoly (EPFL Students' association)
- Discuss study plans and teaching issues in Section Committee and in Direction Meetings
- Mediate students and professors discussions

🔗 LauzHack

Major League Hacking Competition

📅 2017, 2018

📍 Lausanne, CH

- Developing software in a 24-hours coding contest, facing a variety of technical challenges
- 🏆 **Winner** of Logitech Music App Challenge in 2018

🎿 Ski Instructor

Scuola di Sci del Cervino

📅 2016 – free time

📍 Breuil-Cervinia, IT

- European abilitation to teach any level and age
- Avalanche rescue certification

🏆 Competitive Skier

ASIVA

📅 until 2014

📍 Italy

- Part of the Skicross Regional Team
- Took part in FIS Junior World Ski Championships (2014) and many Europa Cup races
- 🏆 Italian Junior Champion in 2012/13

MY FREE TIME

