

Hugo DEMULE

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EDUCATION

Ecole Polytechnique Fédérale de Lausanne (EPFL) , Lausanne, Switzerland M.Sc. in Computer Science, Minor in Neuroscience. <i>Grade: 5.5/6.0 (current)</i>	Sep 2024 – Present
Danmarks Tekniske Universitet (DTU) , Copenhagen, DK Bachelor Exchange Program.	Sep 2023 – Jun 2024
Ecole Polytechnique Fédérale de Lausanne (EPFL) , Lausanne, Switzerland B.Sc. in Communication Systems. <i>Grade: 5.0/6.0 (Bachelor Cycle)</i>	Sep 2021 – Jun 2024

PROFESSIONAL EXPERIENCE

Software Engineering Intern – Distributed Data Management , CERN, Geneva, CH Integrating role based access to the Rucio, a scientific software for large-scale distributed data.	Aug 2026 – Jan 2027
Machine Learning Research Intern – Neural Decoding , Campus Biotech, Geneva, CH 8 months experience working on training and improving machine learning neural decoders for highly efficient and implantable chips. Explored new techniques such as data quantization and self-supervised learning to improve baseline generalization.	Jun 2025 – Jan 2026
Teaching Assistant in Physics , EPFL, Lausanne, CH Worked with Prof. Brantut from the <i>Laboratory for Quantum Gases</i> for the general physics course as tutor.	Aug 2022 – Dec 2022

PROJECTS

Self-Supervised Learning for Brain-Machine Interfaces (Link) Improved the robustness and generalization of transformer-based neural decoders for brain-machine interfaces using self-supervised learning on ECoG signals. → <i>Python (PyTorch), TS-TCC, Contrastive Learning</i>	Sep 2025 – Jan 2026
Music Processing Software for Automatic Transition Detection (Link) Designed and implemented an application for opera music analysis and boundary detection using various techniques and algorithms. → <i>Python, PyQt6, MVC, Multithreading, Multi-OS builds</i>	Sep 2025 – Jan 2026
FindChef, Online Platform Development (findchef.ch) Developed an online reservation platform that aimed at connecting student cooks with clients. → <i>Next.js, Stripe, Supabase, Resend.</i>	Aug 2024 – Nov 2024
Gifmaker Studio, Online Platform Development (gifmaker.studio) Developed an online platform that aimed at facilitating online GIF creation by bringing a simple and efficient user interface. → <i>Next.js, Node.js, Google Virtual Machines, Web Assembly, REST API</i>	Jun 2023 – Feb 2024

SKILLS & INTERESTS

Programming: Python, PyTorch, Java, C, C++, C#, Javascript, Scala, SQL, Next.js, Node.js
Fields: Software Development, Applied Machine Learning, Signal Processing
Languages: French, English (Full Professional Proficiency), German (Limited Working Proficiency)
Hobbies: Music Composition, Hiking, Video Games, Drawing, Cooking

EXTRACURRICULAR ACTIVITIES

Omega European Masters Staff Member , Crans-Montana, CH	Aug 2022 – Sep 2022
EPFL Coach , EPFL, Lausanne, CH	Sep 2022 – Jun 2023
Caddy Master , Golf Club Crans-sur-Sierre, Crans-Montana, CH	2017 – 2021 (Summer)