Emeline MULLIER, Ph.D.

Machine Learning Engineer • Biomedical Data Scientist

Lausanne, Switzerland • 077 812 24 01 • emeline.mullier@gmail.com • emullier.github.io

PROFILE

ML Engineer specializing in biomedical data, neuroimaging, signal processing and reproducible ML pipelines. 9+ years multimodal ML systems in clinical and research environments, building HPC workflows, and dockerized pipelines.

CORE SKILLS

Programming & Scripting: Python, Bash, MATLAB

ML & Data Analysis: SVM, unsupervised learning (clustering, embeddings), dimensionality reduction

DevOps & Reproducibility: Docker, Git, CI/CD, MLOps (Nipype workflow)

Neuroimaging Expertise: MRI, EEG, fNIRS, FreeSurfer processing, BIDS

EDUCATION

Ph.D. Neuroscience
University of Lausanne

M.Sc. Engineering
Centrale Marseille (Grande École)

CERTIFICATIONS

Deep Learning Specialization (DeepLearning.ai)

Innosuisse Business Concept

LANGUAGES

French (Native), English (C1)
German (B1), Hindi (A1)

EXPERIENCE

Machine Learning Engineer & Data Scientist - CHUV (2023–Present)

- Built HPC-scale MRI/EEG pipelines (Docker, Git, CI/CD).
- Developed new workflows and GUI features for Connectome Mapper 3 software, improving useability for 50+ researchers.
- Managed multimodal datasets & harmonization.
- Teaching assistant in diffusion MRI PhD training class.

ML Researcher - HUG (2023–Present)

• Led EEG/MRI data acquisition and BIDS conversion.
• Implemented MRIQC + HPC preprocessing pipelines.
• ML analysis on multimodal MRI/EEG data (graph signal processing)

Neuroscience Application Specialist - Seenel Imaging (2021–2023)

- Built real-time EEG/fNIRS algorithms, , reducing processing time by 30% with automation of file conversion and processing.
- Collaborated with 10+ labs; trained 100+ users via workshops and webinars.
- Collaboration and training of distribution partners (Biopac) for product launch, marketing, tutorial content, booth in 5+ scientific conferences to support product adoption.

Postdoctoral Researcher - Campus Biotech, Geneva (2020–2021)

• Processed 1000+ MRI scans, 20 sites; to study neurodevelopment using new multimodal analysis pipeline
• Mentored MSc and PhD students in data analyses techniques

Ph.D. Researcher - CHUV (2016–2020)

• Built ML + graph-based models for brain connectivity in psychosis research to identify biomarkers.

SELECTED PROJECTS

- CMP3: BIDS ML pipeline + PyQT GUI + CI/CD
- SINERGIA: 7T MRI + HD-EEG preprocessing
- fNIRS synchronization ML (adult–child interactions)
- Autism biomarker pipelines for multimodal MRI