

EXPERIENCE

Inria Saclay, Mind team

Machine learning PhD. Advisors: Alexandre Gramfort and Remi Flamary

Palaiseau, France
September 2022 –current

- Multi-Domain adaptation for neurological based signals
- Improving method using domain adaptation
- Contributing to python library

Polytechnique Montréal, Neuropoly

Machine learning Internship applied to Neuroscience. Advisors: Julien Cohen-Adad

Montréal, Canada
April 2022 –current

- Implement a model to detect Epileptic spike in M/EEG data
- Use of Brainstorm: software to process brain data
- Learning how to process M/EEG data

Inria Saclay, Parietal team

Machine learning Internship. Advisors: Alexandre Gramfort and Remi Flamary

Palaiseau, France
February 2021 –July 2021

- Solving the domain adaptation problem with optimal transport for sleep staging
- Use of different DA methods: DeepJDOT, DeepCoral, DAN, DANN, ADDA
- Contributing to braindecode library
- Learning more in-depth theory in optimal transport: Joint distributionally optimal transport, Unbalanced optimal transport

Centre Borelli, Ecole Normale Supérieure Paris Saclay

Machine learning Internship. Advisor: Laurent Oudre

Paris, France
September 2020 –January 2021

- Learning of multi-domain graphs with applications to neurosciences
- Use of python for optimisation problem
- Modeling with graph

Université de Montpellier

Deep Learning Internship. Advisor: Marc Chaumont

Montpellier, France
Summer 2020

- Trout Image Recognition using Deep Learning
- Use of libraries related to deep learning (Keras, tensorflow, pandas ...)
- Database manipulation

TEACHING EXPERIENCE

Institut Polytechnique de Paris

Signal processing practice course for M2 students

Palaiseau, France
2023, 2024

- Advance signal processing practical lessons
- psd, denoising, stfft

Institut Charpak

Teaching assistant

Orsay, France
2023, 2024, 2025

- Probability course
- Introduction to machine learning course

- Teaching course on different machine learning topics
- Python exercise
- Oral presentation

PUBLICATIONS

1. T. Gnassounou, A. Collas, R. Flamary, A. Gramfort, PSDNorm: Test-Time Normalization Layer for Deep Learning in Sleep Staging, preprint, 2025.
2. Gnassounou T., Kachaiev O., Flamary R., Collas A., Lalou Y., de Mathelin A., Gramfort A., Bueno R., Michel F., Mellot A., Loison V., Odonnat A., Moreau T. (2024). SKADA : Scikit Adaptation (version 0.3.0). URL: <https://scikit-adaptation.github.io/>
3. T. Gnassounou, A. Collas, K. Lounici, R. Flamary, A. Gramfort, Multi-Source and Test-Time Domain Adaptation on Multivariate Signals using Spatio-Temporal Monge Alignmen, under review at JMLR, 2024.
4. Y. Lalou, T. Gnassounou, A. Collas, A. de Mathelin, O. Kachaiev, A. Odonnat, T. Moreau, R. Flamary, A. Gramfort, SKADA-Bench: Benchmarking Unsupervised Domain Adaptation Methods with Realistic Validation, under review at TMLR, 2025.
5. T. Gnassounou, R. Flamary, A. Gramfort, Convolutional Monge Mapping Normalization for learning on biosignals, Neural Information Processing Systems (NeurIPS), 2023.
6. T. Gnassounou, P. Humbert and L. Oudre, “Adaptive subsampling of multidomain signals with product graphs”, *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, September 2020

SCIENTIFIC CONTRIBUTION

- Maintainer of SKADA: Scikit Adaptation
- Serve as a reviewer for Neurips(2023), ICLR(2023, 2024), ICML(2024, 2025), JMLR
- Participating in organization of the ELLIS Doctoral Symposium: AI & Sustainability
- Organize Weekly Team Seminar at Inria

EDUCATION

Ecole Normale Supérieure Paris Saclay, Université Paris Saclay

Saclay, France

Master MVA : Mathematics for vision and machine learning

2021–2022

Convex Optimisation, Optimal Transport, Machine learning for time series, Mathematics for Neuroscience, Computational Statistics, Kernel methods

Master 1 E3A (électronique, électrotechnique, énergie et automatique)
equivalent of the Master’s degrees in electrical engineering

2019–2020

Signal Processing, Image Processing, Industrial Programming, Numerical Electronics

Saphire program, equivalent to a bachelor’s degree in electrical engineering,
mechanical engineering and civil engineering

2018–2019

SKILLS

- **Python:** Advanced knowledge, 10 years of use including.
- **Git:** Advanced knowledge, 5 years of use.
- **LateX:** Advanced knowledge, 8 years of use.
- **C:** Basic knowledge, 2 years of use during my studies.
- **Matlab:** Good knowledge, 2 years of use during my studies & 6 months during an internship.
- **Brainstorm:** Good knowledge, 6 months during an internship.

LANGUAGES

- **French:** Native
- **English:** Advanced
- **IELTS:** 7.5/9

REFERENCE

Alexandre Gramfort : Senior research scientist (DR, HDR) at Inria in the Parietal Team
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Laurent Oudre : Professor at Ecole Normale Supérieure Paris-Saclay in the Centre Borelli
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Rémi Flamary : Assistant Professor at CMAP
Laboratory from École Polytechnique
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