APOLLINE MELLOT

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EXPERIENCES

Dementia Screening Challenge at Biomag 2022 **Birmingham, United Kingdom**
Winner *August 2022*

Winning solution in MEG signal processing in order to screen dementia and mild cognitive impairment.

INRIA Saclay - MIND Team **Palaiseau, France**
PhD candidate *October 2021 - Now*

Machine learning and domain adaptation for enhancing the measure of brain health with MEG and EEG signals.

INRIA Saclay - MIND Team **Palaiseau, France**
Internship *March - August 2021*

Combining different modalities of brain imaging for age prediction with an opportunistic prediction-stacking approach.

CEA Saclay - NeuroSpin **Saint-Aubin, France**
Internship *March - August 2020*

Automation of brain folds identification in newborns and application to the study of the effects of prematurity on cortical folds.

IMEC Belgium **Leuven, Belgium**
Internship *May - August 2019*

Hyperspectral imaging sensor test and calibration engineer intern within the integrated imaging and vision solutions technical team.

EDUCATION

Master 2: Computational Neurosciences and Neuroengineering **Université Paris-Saclay**
Orsay, France, *2020 – 2021*

Subjects: Physiological basis of neuroscience, Neural basis of perception, Dynamical systems and computational neuroscience, Closed-loop neuroscience, Methods for measuring and stimulating neuronal activity, Machine learning.

Optical Engineering Degree **Insitut d'Optique Graduate School**
Palaiseau, France, *2017 – 2020*

Subjects: signal and image processing, X / UV rays and applications, electromagnetism, motion and 3D images, biophotonics, physical and instrumental optics, optical systems design.

Biomedical studies **IFSBM**
Villejuif, France, *2017 – 2020*

Double degree to provide in-depth knowledge of the hospital environment and bio-industries.

Intensive studies in Maths and Physics **Lycée Pothier**
Orléans, France, *2015 – 2017*

2-year intensive programme to enter renowned Engineering schools focusing mainly on mathematics and physics.

PUBLICATIONS

A reusable benchmark of brain-age prediction from M/EEG resting-state signals
Denis A. Engemann, Apolline Mellot, Richard Höchenberger, Hubert Banville, David Sabbagh, Lukas

Gemein, Tonio Ball, Alexandre Gramfort,
NeuroImage, Volume 262, 2022, 119521, ISSN 1053-8119,
`https://doi.org/10.1016/j.neuroimage.2022.119521`.

Novel SPD matrix representations considering cross-frequency coupling for EEG classification using Riemannian geometry
Maria Sayu Yamamoto, Apolline Mellot, Sylvain Chevallier, Fabien Lotte,
31st European Signal Processing Conference (EUSIPCO), 2023
`https://hal.science/hal-04131609/`.

Harmonizing and aligning M/EEG datasets with covariance-based techniques to enhance predictive regression modeling
Apolline Mellot, Antoine Collas, Pedro L. C. Rodrigues, Denis Engemann, Alexandre Gramfort,
Submitted to Imaging Neuroscience, 2023
`https://doi.org/10.1101/2023.04.27.538550`.

COMPETENCES

- **French:** Native speaker.
- **English:** Proficient.
- **Spanish:** Elementary proficiency.
- **Computer languages:** Python, MATLAB, R, C, C++.
- **Software:** scikit-learn, MNE, pyRiemann, Illustrator.

HOBBIES

- **Music:** Piano and music theory.
- **Sport:** Tennis, dance.