

Mathurin MASSIAS

Machine Learning PhD student at Inria Saclay (Parietal Team)

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SKILLS

MATHEMATICS: Convex optimisation, sparsity, proximal methods, high dimension
COMPUTER SCIENCE: Python (excellent), R (good), Matlab (good)
Github: <http://github.com/mathurinm>
StackOverflow: <https://stackoverflow.com/users/2902280/p-camilleri>
LANGUAGES: English (fluent, 5 months stay in India in 2013), Spanish (basics)

PROFESSIONAL EXPERIENCE

SEPT. 2016 - DEC. 2019 (3 YEARS)	INRIA (Université Paris-Saclay, France): PhD student in the Parietal team, supervised by A. Gramfort and J. Salmon High dimensional sparse regression, with coloured heteroscedastic noise Machine Learning: Convex and non-convex optimisation, Inverse problems, Sparsity, High dimension Technical framework: Python (Cython, numpy, sklearn) Publications: [1, 2, 3, 4, 5, 6]
FEB. 2019 - MAY 2019 (3 MONTHS)	U. of Tokyo/RIKEN (Japan), Deep Learning Theory team: intern, supervised by T. Suzuki Work on gradient Langevin dynamics for non-convex regression in RKHS Machine Learning: Stochastic differential equations, Markov chains, Ergodicity Publications: currently writing
JUNE 2015 - JUNE 2016 (1 YEAR)	CARDIOLOGS (Paris, France): Data scientist Design and implementation of automatic heart disease screening algorithms. Supervised learning on a dataset of 300,000 ECGs. Machine Learning: Convolutional neural networks, Recurrent neural networks Technical framework: Python (numpy), Tensorflow, Caffe, Theano/nolearn/lasagne
OCT. 2014 - MAR. 2015 (6 MONTHS)	DREEM-DEVICES (Paris, France): Part-time data scientist Classification and dimensionality reduction on EEG signals. Machine Learning: Signal processing, Clustering (K-Means, Meanshift, GMM, HMM) Technical framework: Python (numpy, sklearn)

EDUCATION

SEPT. 2016 - SEPT. 2019	Parietal Team, INRIA Saclay, Université Paris-Saclay (Saclay, France): PhD student Title: Sparse high dimensional regression in the presence of heteroscedastic noise Advisors: Alexandre Gramfort, Joseph Salmon
SEPT. 2014 - APR. 2015	ENS Cachan (Cachan, France): MSc in Machine Learning (MVA) Summa cum laude (average grade: 16.8/20)
SEPT. 2011 - APR. 2015	Ecole Centrale Paris (Paris, France): Engineering degree Major in Applied Mathematics and Data Science Average grade: 16.3/20
JAN. 2013 - MAY 2013	Indian Institute of Science (Bengalore, India): Exchange semester Pure Mathematics Department

INTERESTS

Modern history, Antic history (latin language)
Photography

PUBLICATIONS

- [1] P. Ablin, T. Moreau, **M. Massias**, and A. Gramfort. Learning step sizes for unfolded sparse coding. *Arxiv preprint arXiv:1905.11071*, 2019.
- [2] Q. Bertrand*, **M. Massias***, A. Gramfort, and J. Salmon. Concomitant Lasso with repetitions: beyond averaging multiple realizations of heteroscedastic noise. *Arxiv preprint arXiv:1902.02509*, 2019.
- [3] **M. Massias**, A. Gramfort, and J. Salmon. Celer: a fast solver for the Lasso with dual extrapolation. In *ICML*, 2018.
- [4] **M. Massias**, O. Fercoq, A. Gramfort, and J. Salmon. Heteroscedastic multitask concomitant Lasso for sparse multi-modal regression. In *AISTATS*, 2018.
- [5] **M. Massias**, J. Salmon, and A. Gramfort. Gap safe screening rules for faster complex-valued multi-task group Lasso. *SPARS*, 2017.
- [6] **M. Massias**, A. Gramfort, and J. Salmon. From safe screening rules to working sets for faster Lasso-type solvers. *Arxiv preprint arXiv:1703.07285*, 2017.