Jaouad Mourtada

Assistant professor in statistics

▬▬ Positions

sep. 2020 – ⋯	**Assistant Professor**, *ENSAE/CREST*, Department of Statistics.
nov. 2019 – aug. 2020	**Research Fellow**, *under the supervision of Lorenzo Rosasco*, Laboratory for Computational and Statistical Learning, MaLGa center, University of Genova.

▬▬ Education

2016–2019	**Ph.D. in Applied Mathematics**, *under the supervision of Stéphane Gaïffas and Erwan Scornet*, Centre de Mathématiques Appliquées (CMAP), École Polytechnique. Thesis: "Contributions to statistical learning: density estimation, expert aggregation and random forests".
2012 – 2016	**Student at École Normale Supérieure (Paris)**, Department of Mathematics and Applications (DMA), also followed classes in economics and physics.
2016	**Master 2 in Mathematics**, *Université Pierre et Marie Curie (Paris VI)*, Major "Probabilités et Modèles Aléatoires" (Probability and Random Models), Mention bien (with honors).
2015	**Master 2 in Mathematics**, *Université Pierre et Marie Curie (Paris VI)*, Major "Mathématiques fondamentales" (Fundamental Mathematics), Mention très bien (with highest honors).
2013	**B.S. in Mathematics**, *École Normale Supérieure & Université Pierre et Marie Curie (Paris VI)*, Mention très bien (with highest honors).
2010 – 2012	**Classes préparatoires**, *Lycée Louis-le-Grand*, Paris.

▬▬ Internships

summer 2016	**Master 2 research internship**, *supervised by Odalric-ambrym Maillard*, Sequential prediction through expert aggregation, INRIA Saclay.
summer 2015	**Research internship**, *supervised by Olivier Commowick and Christian Barillot*, Interpolation of multi-compartment models in brain imaging, INRIA/IRISA Rennes.
spring 2015	**Master 2 research internship**, *supervised by Frédéric Le Roux*, Morphisms between diffeomorphism groups of manifolds, Paris VI.

▬▬ Publications

2020	**Regularized ERM on random subspaces**, A. Della Vecchia, J. Mourtada, E. De Vito, L. Rosasco, *arXiv preprint*, arXiv:2006.10016.

2020	**Asymptotics of Ridge(less) Regression under General Source Condition**, D. Richards, J. Mourtada, L. Rosasco, *arXiv preprint*, arXiv:2006.06386.
2019	**An improper estimator with optimal excess risk in misspecified density estimation and logistic regression**, J. Mourtada, S. Gaïffas, *arXiv preprint*, arXiv:1912.10784.
2019	**Exact minimax risk for linear least squares, and the lower tail of sample covariance matrices**, J. Mourtada, *arXiv preprint*, arXiv:1912.10754.
2019	**AMF: Aggregated Mondrian Forests for Online Learning**, J. Mourtada, S. Gaïffas, E. Scornet, Under revision in *Journal of the Royal Statistical Society (B)*, arXiv:1906.10529.
2019	**On the optimality of the Hedge algorithm in the stochastic regime**, J. Mourtada, S. Gaïffas, *Journal of Machine Learning Research*, 20(83):1–28.
2020	**Minimax optimal rates for Mondrian trees and forests**, J. Mourtada, S. Gaïffas, E. Scornet, *Annals of Statistics*, 8(4):2253-2276.
2017	**Universal consistency and minimax rates for online Mondrian Forests**, J. Mourtada, S. Gaïffas, E. Scornet, *Advances in Neural Information Processing Systems 30 (NeurIPS)*, pp. 3758–3767, Curran Associates, Inc.
2017	**Efficient tracking of a growing number of experts**, J. Mourtada, O.-A. Maillard, *Proceedings of the 28th conference on Algorithmic Learning Theory (ALT)*, Proceedings of Machine Learning Research 76:517–539.

Talks

Sep 2020	**Statistical leverage in prediction: from least squares to logistic regression**, *Séminaire de statistique*, CREST, ENSAE.
Jan 2020	**Misspecified density estimation, logistic regression and least-squares regression**, *Séminaire Parisien de Statistique*, Institut Henri Poincaré, Paris.
Sep 2019	**An improper estimator with optimal excess risk in misspecified density estimation and logistic regression**, *StatMathAppli 2019*, Fréjus.
Jun 2019	**Asymptotically minimax excess risk bounds for misspecified density estimation and logistic regression**, *Journées de Statistiques (JdS 2019)*, Nancy.
Apr 2019	**Statistical learning, density estimation and logistic regression**, *PhD students seminar*, École polytechnique.
Dec 2018	**On the optimality of anytime Hedge in the stochastic regime**, *CMStatistics 2018*, University of Pisa.
Sep 2018	**Online prediction without stochastic assumptions: expert aggregation and optimization**, *Young Mathematicians Symposium of the Greater Region*, Nancy.
May 2018	**Mondrian forests: minimax rates and online implementation**, *Journées de Statistiques (JdS 2018)*, EDF Lab Paris Saclay.
	Also presented in May 2018 at the "Jeunes probabilistes et statisticiens" colloquium, Oléron
Oct 2017	**Efficient tracking of a growing number of experts**, *ALT 2017*, Kyoto.
Feb 2017	**Streaming aggregation of a growing number of experts**, *SequeL seminar*, INRIA Lille.

Service

Referee	**Annals of Statistics, Bernoulli, Electronic Journal of Statistics (EJS), Journal of Machine Learning Research (JMLR), SIAM Journal on Mathematics of Data Science (SIMODS), NeurIPS, ICML**, *Reviewer awards at NeurIPS and ICML*.

Teaching

fall 2018	**Teaching assistant, "Probability Refresher" (MAP 534)**, *T. Rebafka, T. Mastrolia*, "Data Science for Business" Master program (Polytechnique–HEC).
spring 2018	**Teaching assistant, "Statistics in Action with R" (MAP 546)**, *M. Lavielle*, "Data Science for Business" Master program (Polytechnique–HEC).
spring 2018 & 2019	**Teaching assistant, "Python for Probability" (MAP 311-312)**, *F. Benaych-Georges*, École Polytechnique (first year).
fall 2017 & 2018	**Teaching assistant, "Machine Learning: from theory to practice"**, *F. d'Alché-Buc and E. Le Pennec*, Master 2 Data Science, Université Paris-Saclay.
fall 2018 & 2019	**Teaching assistant, "Statistical inference" (MAP 433)**, *E. Moulines*, École Polytechnique (second year).
summer 2017	**Contributed to lecture notes for the "Statistical inference" class (MAP 433)**, *taught by E. Moulines, with G. Fort, M. Lerasle, E. Moulines*, École polytechnique.
fall 2016	**Teaching assistant, "Optimization for Machine Learning"**, *A. Gramfort, S. Gaïffas*, Master 2 Data Science, Université Paris-Saclay.

Miscellaneous

Programming	Python, Matlab, OCaml
Languages	French (mother tongue), English (fluent), Spanish (intermediate), Italian (beginner)