

# Jaouad Mourtada

*Assistant professor in Statistics*

## Positions

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

## Education

- 2016–2020 **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”. Defended June 8th, 2020.  
2012 – 2016 **Student at École Normale Supérieure, Paris**, Department of Mathematics and Applications (DMA), with minors 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

10T rue Lecuirot – 75014 Paris, France

☎ +33 6 14 47 58 93 • ✉ jaouad.mourtada@ensae.fr  
📄 jaouadmourtada.github.io/

- 2021 **Distribution-free robust linear regression**, J. Mourtada, T. Vaškevičius, N. Zhivotovskiy, To appear in *Mathematical Statistics and Learning*, arXiv:2102.12919. [arXiv](#).
- 2021 **Regularized ERM on random subspaces**, A. Della Vecchia, J. Mourtada, E. De Vito, L. Rosasco, *Proceedings of the 24th international conference on Artificial Intelligence and Statistics*, PMLR 130:4006–4014. [Link arXiv](#).
- 2021 **Asymptotics of ridge(less) regression under general source condition**, D. Richards, J. Mourtada, L. Rosasco, *Proceedings of the 24th international conference on Artificial Intelligence and Statistics*, PMLR 130:3889–3897. [Link arXiv](#).
- 2019 **An improper estimator with optimal excess risk in misspecified density estimation and logistic regression**, J. Mourtada, S. Gaïffas, Under minor revision in *Journal of Machine Learning Research*, arXiv:1912.10784. [arXiv](#).
- 2019 **Exact minimax risk for linear least squares, and the lower tail of sample covariance matrices**, J. Mourtada, Under major revision in *Annals of Statistics*, arXiv:1912.10754. [arXiv](#).
- 2021 **AMF: Aggregated Mondrian forests for online learning**, J. Mourtada, S. Gaïffas, E. Scornet, *Journal of the Royal Statistical Society (B)*, 83(3):505–533. [Link arXiv](#).
- 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. [Link arXiv](#).
- 2020 **Minimax optimal rates for Mondrian trees and forests**, J. Mourtada, S. Gaïffas, E. Scornet, *Annals of Statistics*, 48(4):2253–2276. [Link arXiv](#).
- 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. [Link arXiv](#).
- 2017 **Efficient tracking of a growing number of experts**, J. Mourtada, O.-A. Mailard, *Proceedings of the 28th conference on Algorithmic Learning Theory (ALT)*, Proceedings of Machine Learning Research 76:517–539. [Link arXiv](#).

## Talks

- Jun 2021 **LCSL seminar**, *University of Genova*, Genova.
- May 2021 **Workshop “New trends in statistical learning”**, *Porquerolles*.
- Apr 2021 **Séminaire de Probabilités et Statistique**, *LJAD, Université de Nice*.
- Mar 2021 **Seminar**, *University of Toronto*.
- Mar 2021 **Séminaire Palaisien**, *IP Paris*, Palaiseau.
- Mar 2021 **MIA seminar**, *AgroParisTech, INRAE*, Paris.
- Nov 2020 **LPSM seminar**, *Université Paris Diderot & Sorbonne Université*, Paris.
- Sep 2020 **Statistics seminar**, *CREST-ENSAE*, Palaiseau.
- May 2020 **LCSL seminar**, *University of Genova*, Genova.
- Jan 2020 **Séminaire Parisien de Statistique**, *Institut Henri Poincaré*, Paris.
- Sep 2019 **StatMathAppli 2019**, *Fréjus*.
- Jun 2019 **Journées de Statistiques (JdS 2019)**, *Nancy*.

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Apr 2019 **PhD students seminar**, *École polytechnique*.  
 Dec 2018 **CMStatistics 2018**, *University of Pisa*.  
 Sep 2018 **Young Mathematicians Symposium of the Greater Region**, *Nancy*.  
 May 2018 **Journées de Statistiques (JdS 2018)**, *EDF Lab Paris Saclay*.  
 May 2018 **Young probabilists and statisticians**, *Oléron*.  
 Oct 2017 **ALT 2017**, *Kyoto*.  
 Feb 2017 **Sequel seminar**, *INRIA Lille*.

## Awards

2020 **Jacques Neveu prize 2020**, *for a French Ph.D in probability and statistics*.

## Service

Reviewer Annals of Statistics, Bernoulli, Electronic Journal of Statistics, Journal of Machine Learning Research, SIAM Journal on Mathematics of Data Science, NeurIPS, ICML, AISTATS, *Reviewer award, NeurIPS 2018-2019, ICML 2019*.

## Teaching

fall 2020 **Statistical learning theory**, *Master 2 Data Science, École polytechnique & ENSAE 3rd year*.  
 fall 2020 **Probability theory**, *2e année directe, ENSAE*.  
 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)