Meyer Scetbon

Curriculum Vitae

Center for Research in Economics and Statistics
ENSAE, Institut Polytechnique de Paris
+33 1 70 26 67 00
meyer.scetbon@ensae.fr
https://meyerscetbon.github.io

Research Interests

I am interested in optimal transport for machine learning, with a focus on causal inference related problems.

Education

2019– **Ph.D. Candidate, Applied Mathematics**, *Center for Research in Economics and Statistics, Paris.*

- Dissertation Topic: *Causal Inference through Optimal Transport.*
- Advisor: Marco Cuturi.

2017–2018 **M.Sc. in Applied Mathematics**, *École Normale Supérieure Paris-Saclay, Paris.*

- Major in Mathematics, Vision and Learning. Highest honors: 16.88/20.

2015–2019 **École Normale Supérieure Paris-Saclay**, Paris.

- One of France's leading school in mathematical sciences.

Papers

Published

Deep K-SVD Denoising, Meyer Scetbon, Michael Elad, Peyman Milanfar, in *IEEE Transactions on Image Processing (**TIP**),* 2021.

Low-Rank Sinkhorn Factorization, Meyer Scetbon, Marco Cuturi, Gabriel Peyré, in *Proceedings of the* 38^{th} *International Conference on Machine Learning (**ICML**),* 2021.

Mixed Nash Equilibria in the Adversarial Examples Game, Laurent Meunier*, Meyer Scetbon*, Rafael Pinot, Jamal Atif, Yann Chevaleyre, in *Proceedings of the* 38^{th} *International Conference on Machine Learning (**ICML**),* 2021.

A Spectral Analysis of Dot-product Kernels, Meyer Scetbon, Zaid Harchaoui, in *Proceedings of the* 24^{th} *International Conference on Artificial Intelligence and Statistics (**AISTATS**),* 2021.

Equitable and Optimal Transport with Multiple Agents, Meyer Scetbon*, Laurent Meunier*, Jamal Atif, Marco Cuturi, in *Proceedings of the* 24^{th} *International Conference on Artificial Intelligence and Statistics (**AISTATS**),* 2021.

Linear Time Sinkhorn Divergences using Positive Features, Meyer Scetbon, Marco Cuturi, in *Advances in Neural Information Processing Systems* 33 *(**NeurIPS**)*, 2020.

Harmonic Decompositions of Convolutional Networks , Meyer Scetbon, Zaid Harchaoui, in *Proceedings of the* 37^{th} *International Conference on Machine Learning (**ICML**)*, 2020.

Comparing distributions: l1 geometry improves kernel two-sample testing, Meyer Scetbon, Gaël Varoquaux, **Spotlight** in *Advances in Neural Information Processing Systems* 32 *(**NeurIPS**)*, 2019.

Working papers

Linear-Time Gromov Wasserstein Distances using Low Rank Couplings and Costs, Meyer Scetbon, Gabriel Peyré, Marco Cuturi, *Manuscript available at arXiv:2106.01128,* 2021.

Software

2020 **LOT**, Main contributor, `https://github.com/meyerscetbon/LOT`.

2020 **LinearSinkhorn**, Main contributor, `https://github.com/meyerscetbon/LinearSinkhorn`.

2020 **Deep KSVD**, Main contributor, `https://github.com/meyerscetbon/Deep-K-SVD`.

2019 **l1 two sample test**, Main contributor, `https://github.com/meyerscetbon/l1_two_sample_test`.

Teaching Assistant

Spring 2021 **Optimal Transport: theory, computations, statistics and ML**, *ENSAE*, Paris.
Introduction to the theory of optimal transport and its various recent tools developed for applications in machine learning. 40 students.

2020–2021 **Optimization**, *ENSAE*, Paris.
Presentation of the processes for formalising an optimization problem and its useful techniques for econometrics, statistics and machine learning. 25 students.

2020–2021 **Probability Theory**, *ENSAE*, Paris.
Introduction to the fundamental concepts in the probability calculus. Conditional and convergence laws are studied in detail. 25 students.

Automn 2020 **Introduction to stochastic processes**, *ENSAE*, Paris.
This course is an introduction to discrete-time martingales and Markov chains and their applications in statistics. 25 students.

Academic service

Conference Reviewer Neural Information Processing Systems (NeurIPS) 2020-2021, International Conference on Machine Learning (ICML) 2021, International Conference on Artificial Intelligence and Statistics (AISTATS) 2021.

Journal Reviewer	Journal of Machine Learning Research, Bernoulli Journal, IEEE Transactions on Pattern Analysis and Machine Intelligence.