

Clément Bonet

Curriculum Vitae

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Education

- 2020 — 2023 **Laboratoire de Mathématiques de Bretagne Atlantique (LMBA), PHD**, Université Bretagne Sud, Vannes, Bretagne, France
Bridging the Gap between Stochastic Methods and Deep Learning.
Supervisors: François Septier, Nicolas Courty and Lucas Drumetz.
- 2019 — 2020 **Ecole Normale Supérieure Paris-Saclay, Master 2 MVA (Mathematics, Machine Learning and Computer Vision)**, Cachan, France.
Convex Optimization, Computational Statistic, Probabilistic Graphical Model, Deep Learning, Kernel Methods, Bayesian Machine Learning. High Honors.
- 2017 — 2020 **Télécom Paris**, Paris, France
Majors: Data Science, Random Modelization and Scientific Computing.

Professional Experiences

Teaching Assistant

- 2023 **Regression Model (L3)**, Université Bretagne Sud, Vannes, France
- 2022 **Linear Regression and Simulation Methods (L3)**, Université Bretagne Sud, Vannes, France
- 2021 **Mathematic Statistics (L3)**, Université Bretagne Sud, Vannes, France

Internships

- 2020 **Research Internship**, MAP5, Paris, France
Supervisors: Raphaël Lachière-Rey, Pierre Latouche and Antoine Marchina.
Study of a subsampling algorithm using Gaussian Random Fields (<https://github.com/clbonet/Internship-MVA>).
- 2019 **Data Analyst Internship**, Sodexo Benefits & Rewards Services, Ixelles, Bruxelles
Establishment analysis of VISA and MasterCard reimbursement data as part of the replacement affiliate scholarship.
- 2018 **Web Development Internship**, ZenyWay, Paris, France
I developed the frontend interface of ZenyPass, a password manager.

Publications

- [1] Clément Bonet, Paul Berg, Nicolas Courty, François Septier, Lucas Drumetz, and Minh-Tan Pham. "Spherical Sliced-Wasserstein". In: *International Conference on Learning Representations*. 2023.

- [2] Clément Bonet, Laetitia Chapel, Lucas Drumetz, and Nicolas Courty. "Hyperbolic Sliced-Wasserstein via Geodesic and Horospherical Projections". In: *2nd Annual Workshop on Topology, Algebra and Geometry in Machine Learning (TAG-ML) at the 40 th International Conference on Machine Learning*. PMLR. **2023**.
- [3] Clément Bonet, Benoît Malézieux, Alain Rakotomamonjy, Lucas Drumetz, Thomas Moreau, Matthieu Kowalski, and Nicolas Courty. "Sliced-Wasserstein on Symmetric Positive Definite Matrices for M/EEG Signals". In: *International Conference on Machine Learning*. PMLR. **2023**, pp. 2777–2805.
- [4] Guillaume Mahey, Laetitia Chapel, Gilles Gasso, Clément Bonet, and Nicolas Courty. "Fast Optimal Transport through Sliced Wasserstein Generalized Geodesics". In: *Advances in Neural Information Processing Systems*. **2023**.
- [5] Clément Bonet, Nicolas Courty, François Septier, and Lucas Drumetz. "Efficient Gradient Flows in Sliced-Wasserstein Space". In: *Transactions on Machine Learning Research* (**2022**).
- [6] Clément Bonet, Titouan Vayer, Nicolas Courty, François Septier, and Lucas Drumetz. "Subspace Detours Meet Gromov–Wasserstein". In: *Algorithms* 14.12 (**2021**), p. 366.

Preprints

- [7] Thibault Séjourné, Clément Bonet, Kilian Fatras, Kimia Nadjahi, and Nicolas Courty. *Unbalanced Optimal Transport meets Sliced-Wasserstein*. **2023**.

Other Research Experiences

Reviews I have reviewed at different conferences: AISTATS2022,2023, ICML2022 (Out-standing Reviewer), ICML2023, Neurips2022, 2023.

Open source Contributor to the Python Optimal Transport library: <https://pythonot.github.io>: I implemented the algorithm to solve the Wasserstein distance on the circle along with the Spherical Sliced-Wasserstein distance.

Talks

03/07/2023 Spherical Sliced-Wasserstein. CAp 2023.

13/12/2021 Subspace Detours Meet Gromov-Wasserstein. Spotlight poster at the Neurips Workshop OTML2021.

18/11/2021 Sliced-Wasserstein Gradient Flows. GDR ISIS OTML.

Languages

French Native Speaker

★★★★★

English 623/677 TOEFL ITP (January 2019)

★★★★☆

German Abitur in 2015

★★★☆☆

Skills

Programming Python ★★★★★, LaTeX ★★★★★

Basic R, Java, C, C++, SQL, HTML, CSS, Javascript.

Data Science Scikit-learn, Pytorch

Tools Git

Program Version Control and Program Repositories.

