Clément Bonet

Curriculum Vitae

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clbonet

Positions

2023 – 2025

Postdoctoral researcher, *ENSAE, CREST*, Palaiseau, France
I am working with Anna Korba on Optimal Transport and sampling.

Education

2020 – 2023

Laboratoire de Mathématiques de Bretagne Atlantique (LMBA), PhD, *Université Bretagne Sud*, Vannes, Bretagne, France
Title: Leveraging Optimal Transport via Projections on Subspaces for Machine Learning Applications
Supervisors: François Septier (Université Bretagne Sud), Nicolas Courty (Université Bretagne Sud) and Lucas Drumetz (IMT Atlantique).
Reviewers: Gabriel Peyré (ENS), Gabriele Steidl (Technische Universität Berlin)
President of the jury: Julie Delon (Université Paris Cité)
Jury: Frank Nielsen (Sony), David Alvarez-Melis (Harvard), Rémi Flamary (Ecole Polytechnique)

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.

Publications

* denotes equal contribution

[1] Clément Bonet*, Christophe Vauthier*, and Anna Korba. "Flowing Datasets with Wasserstein over Wasserstein Gradient Flows". In: ***Oral*** *(∼ top 1%) in International Conference on Machine Learning (**ICML**)*. PMLR. **2025**.

[2] Jonathan Geuter, Clément Bonet, Anna Korba, and David Alvarez-Melis. "DDEQs: Distributional Deep Equilibrium Models through Wasserstein Gradient Flows". In: *International Conference on Artificial Intelligence and Statistics (**AISTATS**)*. **2025**.

[3] Clément Bonet, Lucas Drumetz, and Nicolas Courty. "Sliced-Wasserstein Distances and Flows on Cartan-Hadamard Manifolds". In: *Journal of Machine Learning Research (**JMLR**)* 26.32 (**2025**), pp. 1–76.

[4] Clément Bonet, Théo Uscidda, Adam David, Pierre-Cyril Aubin-Frankowski, and Anna Korba. "Mirror and Preconditioned Gradient Descent in Wasserstein Space". In: ***Spotlight*** *(∼ top 2%) in Advances in Neural Information Processing Systems (**NeurIPS**)*. **2024**.

[5] Clément Bonet*, Kimia Nadjahi*, Thibault Séjourné*, Kilian Fatras, and Nicolas Courty. "Slicing Unbalanced Optimal Transport". In: *Transactions on Machine Learning Research (**TMLR**)* (**2024**).

[6] Guillaume Mahey, Laetitia Chapel, Gilles Gasso, Clément Bonet, and Nicolas Courty. "Fast Optimal Transport through Sliced Wasserstein Generalized Geodesics". In: ***Spotlight*** *(∼ top 3%) in Advances in Neural Information Processing Systems (**NeurIPS**)*. **2023**.

[7] 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: *Proceedings of the 40th International Conference on Machine Learning (**ICML**)*. vol. 202. Proceedings of Machine Learning Research. PMLR, **2023**, pp. 2777–2805.

[8] Clément Bonet, Laetitia Chapel, Lucas Drumetz, and Nicolas Courty. "Hyperbolic Sliced-Wasserstein via Geodesic and Horospherical Projections". In: *Proceedings of 2nd Annual Workshop on Topology, Algebra, and Geometry in Machine Learning (**TAG-ML**)*. vol. 221. Proceedings of Machine Learning Research. PMLR, **2023**, pp. 334–370.

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

[10] Clément Bonet, Nicolas Courty, François Septier, and Lucas Drumetz. "Efficient Gradient Flows in Sliced-Wasserstein Space". In: *Transactions on Machine Learning Research (**TMLR**)* (**2022**).

[11] Clément Bonet, Titouan Vayer, Nicolas Courty, François Septier, and Lucas Drumetz. "Subspace Detours Meet Gromov–Wasserstein". In: *Algorithms* 14.12 (**2021**), p. 366.

Other Research Experiences

Reviews I have reviewed at different journals/conferences: AISTATS 2022, 2023, 2025, ICML 2022, 2023, 2024, 2025 (Outstanding Reviewer in 2022), Neurips 2022, 2023, 2024, ICLR 2024, 2025 (Notable Reviewer in 2025), TMLR since 2024, JMLR (2025), IEEE Transactions on Neural Networks and Learning Systems (since 2024), Journal of Mathematical Imaging and Vision (2024), SIAM Journal on Imaging Sciences (2024), Statistics and Computing (2025), Advances in Computational Mathematics (2025).

Open source Contributor to the Python Optimal Transport library: `https://pythonot.github.io`.

Talks

18/07/2025 Kantorovich Initiative Event: A small workshop in Optimal Transport, University of British Columbia (UBC).

15/07/2025 Oral ICML, Vancouver.

01/07/2025 Wasserstein Gradient Flows in Math and Machine Learning workshop, Banff.

18/04/2025 All About that... Stochastic Optimization, Jussieu, SCAI.

21/03/2025 SAMM Seminar, Universté Paris 1 Panthéon-Sorbonne.

20/03/2025 PEPR IA Days, Centrale Supélec.

20/02/2025 CSD Seminar, ENS.

10/02/2025 GT CalVa, Université Paris Dauphine.

17/01/2025 GdT Image, MAP5.

20/12/2024 Mokameeting, Inria Paris.

05/12/2024 NeurIPS in Paris.

03/12/2024 OCKHAM Seminar, Inria Lyon.

05/08/2024 Level Set meeting, UCLA.

28/02/2024 SIAM Conference on Uncertainty Quantification (UQ24).

22/01/2024 Groupe de Travail (GdT) OT-PDE-ML, Institut de Mathématique d'Orsay.

08/01/2024 CREST Seminar, ENSAE.

03/07/2023	Conférence sur l'Apprentissage Automatique (CAp) 2023, Strasbourg.
06/10/2022	Team Seminar, IRISA.
07/06/2022	Laboratory Seminar, LMBA.
13/12/2021	Spotlight poster at the Neurips Workshop Optimal Transport and Machine Learning (OTML).
19/11/2021	Team Seminar of Dynamical Systems, Probabilities and Statistics, LMBA.
18/11/2021	Groupement de Recherche (GDR), Information Signal Image Vision (ISIS), Optimal Transport and Machine Learning (OTML), Institut Henri Poincaré.
24/09/2021	Team seminar, IRISA.

Professional Experiences

Teaching Assistant

2024 2025 **Optimal Transport (M2)**, *ENSAE*, Palaiseau, France

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 Lachièze-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.

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, Jax	
Tools	Git	*Program Version Control and Program Repositories.*
OS	Linux	*Daily use.*