Clément Berenfeld | CV

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Experience

Postdoctoral Researcher at the University of Potsdam, topics in unsupervised learning. **Potsdam**
Under the supervision of Prof. A. Carpentier. *2022–today*

Research Engineer at Signactif. **Bagneux**
Machine Learning applied to crowd motion and user preferences prediction. *2017*

Education

PhD. thesis, *Statistical inference on unknown manifolds.* Defended on 20th September, 2022. **Paris**
Under the supervision of Prof. M. Hoffmann, CEREMADE, Université Paris-Dauphine. *2019–2022*

Master at Université Paris-Saclay, *Statistics and Machine Learning*. Highest Honor. **Orsay**
Research internship under the supervision of Prof. E. Arias-Castro at UCSD, San Diego. *2017–2018*

École Normale Supérieure, rue d'Ulm. **Paris**
Bachelor thesis: *Complex Multiplication Theory*, under the direction of Prof. J. Nekovar. *2014–2019*

Baccalauréat S, Highest Honor. **Ussel**
Lycée Bernart-de-Ventadour. *2012*

Honors & Awards

Marie-Jeanne Laurent-Duhamel Award **French Statistical Society**
Best PhD in theoretical statistics between 2019 and 2022 *2023*

Humboldt Fellowship (declined) **Humboldt Fundation**
For a project in active learning with application to chemical kinetics *2023*

Articles & Preprints

- **Optimal Stratification Learning: Clustering-by-dimensionality with reconstruction** (2024), with E. Aamari. *In preparation*.
- **Minimax spectral estimation of weighted Laplace-Beltrami operators** (2024), with Y. Chaubet and V. Divol. *In preparation*.
- **Computational seriation of Toeplitz matrices** (2024), with A. Carpentier and N. Verzelen. *In preparation*.
- **Theoretical Foundations of Ordinal Multidimensional Scaling, Including Internal and External Unfolding** (2023), with E. Arias-Castro and D. Kane. *In revision*.
- **Optimal Reach Estimation and Metric Learning** (2023), with E. Aamari and C. Levrard. *Annals of Statistics*.
- **Bayesian Density Estimation on an Unknown Submanifold with Dirichlet Process Mixtures** (2022), with P. Rosa, J. Rousseau. *In revision*.
- **From Graph Centrality to Data Depth** (2021), with E. Aamari and E. Arias-Castro. *In revision*.
- **Estimating the Reach of a Manifold via its Convex Defect Function** (2021), with J. Harvey, M. Hoffmann and K. Shankar. *Discrete and Computational Geometry*.
- **Density Estimation on an Unknown Submanifold** (2021), with M. Hoffmann. *Electronic Journal of Statistics*.
- **Some Random Paths with Angle Constraints** (2021), with E Arias-Castro. *AIHP Probability & Statistics*.

Technical and Personal skills

Programming skills : Python, R.
Spoken languages : French (mother tongue), English (fluent), German (beginner).

Other interests

Brazilian Jiu-Jitsu, Rock climbing, Music production