

# CLÉMENT BERENFELD

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## EXPERIENCES

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<b>Postdoctoral Researcher</b> - INRIA, PreMeDICAL team. In the team of Julie Josse. Topics: causal inference, survival analysis, application to medical data.	<i>Montpellier, France</i> 2025 - today
<b>Postdoctoral Researcher</b> - University of Potsdam. In the team of Alexandra Carpentier. Topics: unsupervised learning, manifold learning.	<i>Potsdam, Germany</i> 2022 - 2025
<b>PhD Candidate</b> - Université Paris-Dauphine. Under the supervision of Marc Hoffmann. Topics: manifold learning, nonparametric statistics.	<i>Paris, France</i> 2019 - 2022
<b>Research Intern</b> - University of California San Diego. Under the supervision of Ery Arias-Castro. Topics: random paths.	<i>San Diego, USA.</i> 2018
<b>Machine Learning Engineer</b> - Signatif. I developed Machine Learning algorithms to analysis and predict crowd motion (using Python).	<i>Bagneux, France</i> 2017

## TEACHING

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<b>Teaching Assistant</b> - University of Potsdam. · Statistical Data Analysis - Master course (Lecturer: Alexandra Carpentier).	<i>Potsdam, Germany</i> 1 <sup>st</sup> Semester 2024-2025
<b>Lecturer</b> - University of Potsdam. · Introduction to Manifold Learning - Master course.	<i>Potsdam, Germany</i> 2 <sup>nd</sup> Semester 2023-2024
<b>Teaching Assistant</b> - Université Paris-Dauphine. · Mathematical Statistics - L3 course (Lecturer: Vincent Rivoirard). · Statistical Learning - M1 course (Lecturer: Angelina Roche).	<i>Paris, France</i> 2 <sup>nd</sup> Semesters 2019-2021

## EDUCATION

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<b>Université Paris-Dauphine.</b> PhD in statistics.	<i>Paris, France</i> 2019 - 2022
<b>Université Paris-Saclay.</b> Graduate studies, Statistics and Machine Learning. Highest Honor.	<i>Orsay, France</i> 2017 - 2018
<b>École Normale Supérieure de Paris.</b> Undergraduate and graduate studies, Mathematics department. Highest Honor.	<i>Paris, France</i> 2014 - 2019
<b>Lycée Sainte Geneviève.</b> Preparatory school in mathematics and physics. Admitted by competitive examination to ENS Paris.	<i>Versailles, France</i> 2012 - 2014

## HONORS AND AWARDS

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<b>MJLD Award: Best PhD in statistics.</b> <i>Awarded every three years by the French Statistical Society.</i>	2023
<b>Humboldt research fellowship</b> (declined).	2023

## PUBLICATIONS AND PREPRINTS

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1. Causal survival analysis and estimation of the average treatment effect: practical recommendations (2025), with C. Voinot, I. Mayer, B. Sebastien and J. Josse. *In revision in Computo.*

2. Predictable recovery rates in near-surface materials after earthquake damage (2025), with L. Illien, J.M. Turowski, C. Sens-Schönfelder and N. Hovius. *Nature Communications*.
3. Learning with Hidden Factorial Structure (2024), with C. Arnal, S. Rosenberg and V. Cabannes. *In revision in ICML25*.
4. Seriation of Toeplitz and latent position matrices (2024), with A. Carpentier and N. Verzelen. *In revision in Bernoulli*.
5. A theory of stratification learning (2024), with E. Aamari. *In revision in Annals of Statistics*.
6. Estimating a density near an unknown manifold: a Bayesian nonparametric approach (2024), with P. Rosa and J. Rousseau. *Annals of Statistics*.
7. Theoretical Foundations of Ordinal Multidimensional Scaling, Including Internal and External Unfolding (2023), with E. Arias-Castro and D. Kane. *In revision in SIMODS*.
8. Optimal reach estimation and metric learning (2023), with E. Aamari and C. Levrard. *Annals of Statistics*.
9. From Graph Centrality to Data Depth (2021), with E. Aamari and E. Arias-Castro. *ALEA*.
10. Estimating the Reach of a Manifold via its Convexity Defect Function (2022), with J. Harvey, M. Hoffmann and K. Shankar. *Discrete & Computational Geometry*.
11. Density Estimation on an Unknown Submanifold (2021), with M. Hoffmann. *Electronic Journal of Statistics*.
12. Some Random Paths with Angle Constraints (2021), with E. Arias-Castro. *Annales de l'Institut Henri Poincaré, Probabilités et Statistiques*.

## TALKS

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**Research Seminar in Statistics**, WIAS, Berlin 26.06.2024 // **Statistics Seminar**, LMO, Orsay, 16.05.2024 // **Data Science Conference**, Institut für Mathematik, Heidelberg, 10.07.2023 // **Journée Des Statistiques**, Université de Bruxelles, Bruxelles, 3.07.2023 // **ASCAI Workshop**, TUM, Munich 28.03.2023 // **GESDA**, IHP, Paris, 4.10.2022 // **Statmathappli**, Fréjus, 29.08.2022 // **Stochastic models seminar**, LPSM, Paris, 2.06.2022 // **Statistics seminar**, Humboldt-Universität, Berlin, 19.11.2021 // **Séminaire Parisien de Statistique**, IHP, Paris, 18.10.2021 // **Meeting in Mathematical Statistics**, CIRM, Luminy, 6.01.2021 // **Datashape Seminar**, INRIA, Saclay, 21.01.2020 // **Applied Mathematics Seminar**, LMJL, Nantes, 14.11.2019.

## SKILLS

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<b>Programming Languages</b>	Python, R. French (native), English (fluent), German. (notions)
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## REFERENCES

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Available on demand.