

Hugo Lebeau

* 13 December 1997 (Amiens, France) • +33 624 687 985
✉ hugo.lebeau@inria.fr • hugolebeau.github.io • in hugo-lebeau
🌐 HugoLebeau • ID 0009-0001-8317-3876 • atRlpOIAAAAJ

Family and environmental considerations influence my career choices.

Education

Université Grenoble Alpes (MIAI) <i>PhD in Applied Mathematics</i> "Teaching in Higher Education" track.	Grenoble, France 2021–2024
ENS Paris-Saclay <i>Master MVA (MSc) — Mathematics and Machine Learning</i> With honors of the jury.	Gif-sur-Yvette, France 2020–2021
ENSTA Paris <i>Diplôme d'Ingénieur (MSc) — Applied Mathematics, Optimization and Data Science</i> Ranked in the top 5% among 150 students.	Palaiseau, France 2017–2021

PhD Thesis

Title: *Random Matrix and Tensor Models for Large Data Processing*
Supervisors: Romain Couillet, Florent Chatelain.
Jury: Philippe Loubaton, Rémi Bardenet, Mylène Maïda, Walid Hachem, Olivier Michel, Pierre Comon.

Experience

Research	
Inria, ENS Lyon (OCKHAM Team) <i>Postdoctoral Researcher</i> Theoretical study of compressive learning models.	Lyon, France Feb. 2025–Jan. 2026
Université Grenoble Alpes (LIG & GIPSA-lab) <i>Doctoral Researcher</i> Theoretical study of machine learning techniques with random matrix theory.	Grenoble, France Oct. 2021–Jan. 2025
Université Grenoble Alpes (GIPSA-lab) <i>Research Intern</i> Analysis of online learning with random matrix theory.	Grenoble, France Apr. 2021–Sep. 2021
CEA <i>Research Intern</i> Proximal algorithms to improve the quality of industrial neutron imaging.	Saclay, France Mar. 2020–Jul. 2020
Politecnico di Milano <i>Research Intern</i> Statistical and numerical methods for functional data on complex multidimensional domains.	Milan, Italy May 2019–Jun. 2019
Industry	
AXA Climate <i>Data Scientist Intern</i> Weather data modeling and risk assessment for parametric insurance pricing.	Paris, France Sep. 2019–Feb. 2020
Hotel Mikazuki <i>Intern</i> Daily bed-making.	Katsuura, Japan Aug. 2018

Teaching

Random Matrix Theory and Machine Learning

Teaching Assistant, 9h/year

ENS Paris-Saclay, Master MVA

Since spring 2022

Introduction to the theory of large random matrices and their applications to machine learning with practical applications.

Statistics

Teaching Assistant, 24h/year

ENS Lyon, M1

Since spring 2025

Advanced statistics topics around parametric estimation, maximum likelihood estimation, testing, regression, concentration of random variables.

Statistic and Probabilities (STA401)

Teaching Assistant, 18h/year

Université Grenoble Alpes, L2

Spring 2023–2024

Basics of probabilities, standard probability laws, descriptive statistics, estimation, hypothesis testing.

Introduction to Artificial Intelligence (INF103)

Teaching Assistant, 18h/year

Université Grenoble Alpes, L1

Fall 2021–2023

Introduction to basic concepts of machine learning: datasets, classifiers, training, performance evaluation, data processing.

Introduction to Machine Learning

Teaching Assistant, 18h/year

Grenoble INP, ENSE³, M2

Fall 2022

Overview of the main tools in machine learning: model assessment, discriminant analysis, PCA, GLM and penalization, clustering with EM and k -means, trees and random forests, deep learning.

Functional Programming

Teaching Assistant, 36h/year

Université Grenoble Alpes, L1

Spring 2022

Introduction to functional programming with OCAML.

Languages

French: Mother tongue

English: Professional

German: Intermediate

Technical skills

Programming languages

Proficient in: Python (Numpy, Scipy, Pytorch, Matplotlib)

Familiar with: R, Julia, MATLAB, C, C++, OCaml

Software

L^AT_EX, Git

Miscellaneous

○ I love road and trail running and the science behind it (physiology, nutrition, training).

○ I enjoy cycling and hiking.

○ I am interested in physics and philosophy.

○ I regularly read French literature.

Publications

Journals

○ H. Lebeau, F. Chatelain, and R. Couillet, *A Random Matrix Approach to Low-Multilinear-Rank Tensor Approximation*, Journal of Machine Learning Research, vol. 26, no. 7, pp. 1–64, 2025.

○ H. Lebeau, F. Chatelain, and R. Couillet, *Asymptotic Gaussian Fluctuations of Eigenvectors in Spectral Clustering*, IEEE Signal Processing Letters, vol. 31, pp. 1920–1924, 2024.

International Conferences

○ H. Lebeau, M. E. A. Seddik, and J. H. de M. Goulart, *Performance Gaps in Multi-view Clustering under the Nested Matrix-Tensor Model*, ICLR 2024.

○ H. Lebeau, R. Couillet, and F. Chatelain, *A Random Matrix Analysis of Data Stream Clustering: Coping With Limited Memory Resources*, ICML 2022.

National Conferences.....

- H. Lebeau, *Performance of Rank-One Tensor Approximation on Incomplete Data*, GRETSI 2025.
- H. Lebeau, R. Couillet, and F. Chatelain, *HOSVD Tronquée : Analyse d'une Approximation Tensorielle Rapide*, GRETSI 2023
- H. Lebeau, R. Couillet, and F. Chatelain, *Une analyse par matrices aléatoires de l'apprentissage en ligne : traiter des grandes données avec des ressources mémoire limitées*, GRETSI 2022.