

ACADEMIC APPOINTMENTS

Visiting Assistant Professor at Cornell University Department of Statistics and Datascience	Ithaca, United States Since Aug. 2024
Visiting Researcher at Harvard University Invited by Tracy Ke. Working on topic models and time series.	Cambridge, United States April-May 2023
Visiting Researcher at Cornell University Invited by Florentina Bunea. Working on topic models and optimal transport.	Ithaca, United States May 2023
Graduate Researcher at CREST Under the supervision of Cristina Butucea.	Palaiseau, France Jan. 2021 –Aug. 2021

EDUCATION

Institut Polytechnique de Paris: PhD in Mathematical Statistics PhD in the department of Statistics of CREST, supervised by Pr. Cristina Butucea. Title: <i>Matrix-valued time series in high dimension</i> . Jury: Alexandre Tsybakov (President), Florentina Bunea & Maxim Panov (Reviewers), Christophe Pouet, Catherine Matias & Farida Enikeeva (Examiners).	2017-2020
ENSAE IP Paris: M.Sc Statistics and Learning	2017-2020
Ecole Polytechnique M.Sc Data Science	2019 –2020
Institution Aux Lazaristes: Intensive Preparation for nationwide competitive exams	2014–2017

PUBLICATIONS

1. N. Bettache, C. Butucea, “Two-sided Matrix Regression”, *Arxiv preprint 2303.04694*, (2023)
2. N. Bettache, C. Butucea, M.Sorba, “Fast nonasymptotic testing and support recovery for large sparse Toeplitz covariance matrices”, *Journal of Multivariate Analysis*, vol 190, pp 104883, DOI: 10.1016/j.jmva.2021.104883 (2022)

TEACHING

Founder of <u>Nayel Prépa</u> Linear Algebra, PDEs, Algebraic structures, Topology. Founding a company democratising access to high-quality mathematics education. Pioneering online live teaching sessions for 15+ undergraduate students at a time. Publishing 78 videos, garnered 6k subscribers and amassed over 200k views on <u>YouTube</u> . Training successfully 100+ students with a stellar 100% 5-star rating on <u>Trustpilot</u> .	Online Sep. 2021 –Aug 2024
Teaching Assistant: ENSAE IP PARIS Measure Theory, Probability Theory, Convex Optimization, Statistical Learning. Honored in the top 1% of teachers for exceptional pedagogical quality.	Palaiseau, France Jan. 2021 –May 2024
Mathematics Oral Examiner: Lycée Michelet Linear Algebra, PDEs, Algebraic structures, Topology. Providing weekly examinations to undergraduate students. Preparing students for nationwide competitive exams.	Vanves, France Sep. 2018 –Apr. 2020

GRANTS

Junior Scientific Visibility Fondation Mathématique Jacques Hadamard (2300€)	2023
PhD Grant GENES (70k€)	2021-2024

TALKS

Two-sided Matrix Regression European Meeting of Statistician	Warsaw, Poland Jul. 2023
Two-sided Matrix Regression Harvard Stat300 Seminar	Cambridge, USA May 2023
Two-sided Matrix Regression PhD Student Day	Palaiseau, France Mar. 2023
Stationary Time Series: Testing and Lag Selection procedures PhD Student Day	Palaiseau, France Mar. 2022

CONFERENCES

Statistics and Learning Theory in the Era of Artificial Intelligence	Oberwolfach, Germany Jun. 2024
Meeting in Mathematical Statistics	Luminy, France Dec. 2023
European Meeting of Statisticians	Warsaw, Poland Jul.2023
Jianqing Fan's 60th Birthday Celebration	Princeton, USA May 2023
Meeting in Mathematical Statistics	Luminy, France Dec. 2022
IMS Meeting	London, UK Jun. 2022

INTERNSHIPS

BNP PARIBAS CIB: Quantitative Research Intern Under the supervision of Philippe Amzelek. Grade: 18.5/20. Knowledge Graph Embedding: Query2box implementation with Pytorch Lightning.	London, United Kingdom Jul.2020 –Dec. 2020
ADVESTIS: Quantitative Research Intern Under the supervision of Christophe Geissler. Grade: 18/20. Machine Learning for Cross-Asset Portfolio Optimisation.	Paris, France Jun. 2019 –Oct. 2019
CREST: Research Intern Under the supervision of Cristina Butucea. Grade: 17/20. LASSO Procedures for High-Dimensional Regression under Sparsity Assumptions.	Palaiseau, France Jun. 2018 –Sep. 2018