

Baptiste Ferrere

Ph.D. Student in Applied Mathematics

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Research Interests

My research focuses on uncertainty quantification and explainability in ML, with a particular interest in developing theoretical tools to better understand complex and deep models.

Education

2024–2027 **Ph.D. in Applied Mathematics**, *Université de Toulouse*, Toulouse, France

○ Uncertainty Quantification, Sensitivity Analysis, Explainability in ML

○ Advisors: Fabrice Gamboa, Jean-Michel Loubes, Nicolas Bousquet, Joseph Muré

2023–2024 **M.Sc. in Statistical Learning**, *Institut Polytechnique de Paris*, Palaiseau, France

Major in Statistics, Learning Theory and Concentration Inequalities

2021–2024 **Engineering Degree**, *ENSAE Paris*, Palaiseau, France

Major in Statistics, Probability and Machine Learning

2019–2021 **MPSI-MP**, *Lycée Privé Sainte Geneviève*, Versailles, France

Preparatory classes for selective higher-education institution with a competitive entrance examination, in mathematics and physics

Work Experiences

2024–2027 **Ph.D. CIFRE Researcher**, *EDF R&D*, Chatou, France

Research on generalized Hoeffding decomposition for ML model explainability and uncertainty quantification in an industrial context.

2024 **Research Intern**, *EDF R&D*, Chatou, France

Work on functional ANOVA for uncertainty quantification of black box models.

2023 **Research Intern**, *CREST*, Palaiseau, France

Research on restless linear bandits and exploration strategies with mixing properties, supervised by Azadeh Khaleghi.

2022 **Data Scientist Intern**, *Department of Public Finances*, Evry, France

Analyzed public spending by sector, produced forecasts, and positioned the department's situation at the national scale.

Languages and Skills

Languages French (native), English (C1)

Programming Python, \LaTeX