Louis Tocquec

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LinkedIn

EDUCATION

PhD in applied mathematics **2024-present**
Laboratoire de mathématiques d'Orsay *Orsay, France*
- Thesis: *On some generalizations of Entropic Optimal Transport*
- Advisors: Luca Nenna (LMO) and Paul Pegon (CEREMADE)

M.sc. in applied mathematics: *Mathématiques, Vision, Apprentissage* **2023-2024**
École Normale Supérieure Paris-Saclay *Paris, France*
- **Relevant Coursework:** convex optimization, statistical learning, optimal transport, geometric data analysis, medical image analysis, probabilistic graphical models, kernel methods for machine learning, graph in machine learning, learning and generation by probability sampling, sequential learning

M.sc. in applied mathematics (1st year): *advanced mathematics track* **2022-2023**
Université Paris-Dauphine *Paris, France*
- **Relevant Coursework:** functional analysis, Brownian motion and contingent asset valuation, discrete processes, continuous processes, control of Markov chains, Monte-Carlo methods, optimization, non-parametric statistics, statistical learning, convex analysis
- **English track:** extra english class, tutorials in english

B.Sc. in applied mathematics: *advanced mathematics track* **2019-2022**
Université Paris-Dauphine *Paris, France*
- **Relevant Coursework:** probabilities, statistics, measure theory, functional analysis, differential equations, optimization and numerical methods, linear algebra, game theory, complex analysis, microeconomics, macroeconomics, finance

Scientific baccalauréat **2019**
Lycée Saint-Joseph *Concarneau, France*

EXPERIENCE

Research internship **2024**
Laboratoire de Mathématiques d'Orsay *Orsay, France*
- Thesis: *ODE characterization of entropic optimal transport*
- Advisors: Luca Nenna (LMO) and Paul Pegon (CEREMADE)
- In collaboration with INRIA team "MOKAPLAN"

PROJECTS

M2 thesis: *"ODE characterization of entropic optimal transport"* **2024**

M1 thesis: *"First passage percolation"* **2022-2023**
- Advisor: Pierre Cardaliaguet (CEREMADE)
- Joint work with P.Caillère

Geometric Data Analysis **2023**
- Review of the research paper "Wasserstein-based Graph Alignment"

Probabilistic Graphical Models **2023**
- Review of the research paper "Are Generative Classifiers More Robust to Adversarial Attacks?"
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Optimal Transport **2023**
- Review of the research paper "Entropic Optimal Transport between Unbalanced Gaussian Measures has a Closed Form"

Learning and Generation by Probability Sampling **2024**
- Data challenge ENS: "CorroSeg" by SLB
- Implementation of a model to predict pipe corrosion

Kernel Methods for Machine Learning 2024

- Implementation of a model which relies solely on kernel methods for image classification

SKILLS, ACTIVITIES & INTERESTS

Languages:

- French: native speaker
- English: fluent (TOEIC: 870)
- Spanish: beginner (High school)

Technical Skills:

- Python: good command
- LaTeX: good command
- R: basic knowledge

Software: Excel, Overleaf, Google Colab, RStudio, Anaconda

Activities: guitar, football, running, tennis