Luca Ziviani

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Google Scholar:	google scholar

About me

I am a researcher in Applied Mathematics, currently finalizing a PhD in Kinetic Theory and high-dimensional modeling. Expert in translating complex theoretical frameworks and PDEs into efficient, scalable code. Proven track record of developing Python and C++ tools for numeric simulation, seeking to leverage advanced analytical skills in AI and Software Engineering.

Work Experience

2022 - Present; **Reseacher in Applied Mathematics**
Supervisor: Emeric Bouin
Laboratory: CEREMADE, Université Paris-Dauphine PSL.

2022 - 2026; **Teaching Assistant**
Establishment: MIDO, Université Paris-Dauphine PSL.
- Analysis 1, Bachelor's Degree in Applies Mathematics, 1st year.
- Analysis 2, Bachelor's Degree in Applies Mathematics, 1st year.
- Game Theory, Bachelor's Degree in Applies Mathematics, 3rd year.

Technical skills

Languages: Python (Numpy, PyTorch, OpenCV, SciPy, ...), C++, Matlab, HTML/CSS

Mathematics: Mathematical Analysis, Linear Algebra, Numerical Analysis, Optimization, Probability, Statistic, Game Theory

Tools: OOP, Data Structures, Algorihms, GitHub, LaTex

Education

2022 - Present; **PhD, Mathematics**, Université Paris-Dauphine PSL (Paris).
Supervisor: Emeric Bouin
Laboratory: (CEREMADE) Centre de recherche en mathématiques de la décision.

2020 - 2022; **Master degree, Mathematics**, MAPPA double degree program operated by
- University of Padova (Italy)
- University Paris Sciences & Lettres (France)

Title: Kinetic Theory and Hypocoercivity.
Supervisor: Emeric Bouin; *Co-supervisor*: Daniela Tonon.
Final grade: 110/110 cum laude.

2017 - 2020; **Bachelor degree, Mathematics**, Università di Padova, Italy.
Title: Rademacher and Whitney's Theorems
Supervisor: Davide Vittone
Final grade: 110/110 cum laude

2013 - 2017; **High school degree**, Liceo scientifico Copernico-Pasoli, Verona, Italy.

Publications

- E. Bouin, J. Dolbeault, L. Ziviani, *L^2 Hypocoercivity methods for kinetic Fokker-Planck equations with factorised Gibbs states*, Kolmogorov Operators and Their Applications, Springer, 2024. arxiv
- E. Bouin, J. Evans, L. Ziviani, *Sub-exponential tails in biased run and tumble equations with unbounded velocities*, 2025. arxiv
- E. Bouin, L. Ziviani, *Convergence to a non-explicit steady state in non-factorized kinetic Fokker-Planck equations with (very) weak velocity confinements*, 2025. arxiv