Lucas Lévy

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Education

- **École Normale Supérieure Paris-Saclay** *2025 – 2026*
  Master Mathématiques, Vision, Apprentissage (MVA)
  - Relevant coursework: *Convex Optimization*, *Computational Statistics*, *Learning for Time Series*, *Optimal Transport*, and *Foundations of Deep Learning*
  - Upcoming coursework: *Sequential Learning*, *Reinforcement Learning*, *Representation Learning*
- **École Polytechnique** *2022 – 2026*
  Cycle ingénieur polytechnicien (X2022)
  - French top-ranking engineering school, delivering a Master-level French Engineer's degree
  - Specialization in Applied Mathematics
  - GPA: 3.90/4.00
  - Relevant coursework includes *Foundations of ML*, *Statistics*, *Deep Learning*, *Optimization*, and *Algorithmics*
- **Université Paris-Nanterre** *2023 – 2024*
  Bachelor's degree, History
  - Bachelor's degree obtained in parallel with my curriculum at École Polytechnique
- **Lycée Louis-le-Grand** *2020 – 2022*
  *CPGE MPSI-MP**
  - Intensive scientific preparation for Polytechnique entrance examination

Experience

- **University of Oxford** *03 – 08/2025*
  Visting Research Student Oxford, United Kingdom
  - Department of Statistics – Supervisors: Dr. Arya Akhavan and Prof. Patrick Rebeschini
  - Conducting research on online linear optimization under bandit feedback, developing a novel algorithm combining self-concordant barriers properties and perturbation-based regularization
  - Establishing regret and computational complexity guarantees, showing that the proposed method achieves optimal performances under some assumptions
  - Performing rigorous theoretical analysis using tools from optimization, statistics, and stochastic process theory
  - Results published as an *arXiv* preprint and currently being prepared for submission to COLT 2026
  - Research distinguished with *congratulations from the jury* of Polytechnique ($< 5\%$ of research internships)
- **Wandercraft** *06 – 08/2024*
  R&D Machine Learning Intern Paris, France
  - Applying machine learning and time-series analysis for online fault detection in a self-stabilized exoskeleton
  - Mastering tools and techniques in operational ML such as python libraries PyTorch and Scikit-learn

Project work

- **Implementation Project** *01 – 03/2025*
  École Polytechnique
  - Project in Deep Learning course on *Attention Rollout and Flow for Explainability in Vision Transformers*
  - Exploring methods for quantifying the flow of information through self-attention in neural networks
  - Implementing and simulating these methods using PyTorch

- **Team Research Project** *09 – 12/2024*
  EA Recherche, École Polytechnique
  - *Online Optimization of a Battery Profitability with Reserve Commitment*, under the guidance of Prof. Frédéric Meunier
  - Developing and analyzing online optimization algorithms for battery energy storage in electricity markets
  - Applying competitive analysis and dynamic programming to ensure robust performance under uncertainty

Publications

- **Lévy, L.**, Valeau, J.-L., Akhavan, A., and Rebeschini, P. (2025). Self-concordant perturbations for linear bandits. *arXiv preprint arXiv:2510.24187*.

Referees

- Prof. Patrick Rebeschini, Department of Statistics, University of Oxford, patrick.rebeschini@stats.ox.ac.uk
- Dr. Arya Akhavan, Department of Statistics, University of Oxford, arya.akhavan@stats.ox.ac.uk

Additional Skills

- **Languages**: French (Native), English (Fluent, *Linguaskill Certification C1+ Level*)
- **Programming skills:**
  - Python, C++, Java
  - Python libraries for ML and data analysis: PyTorch, Scikit-learn, pandas, numpy