

Nikita Lagrange

PhD in Computer Science

Paris, France

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Education

- 2022–2025 **Ph.D. in Computer Science**, Sorbonne University, Paris, France
Thesis: *Learning Ancestral Graphs via a Search-and-Score Approach*
Supervisor: Dr. Herve Isambert (Research Director, CNRS)
Funded by the Imperial–CNRS Joint PhD Programme on Digital Transformations and Global Challenges
- 2020–2022 **M.Sc. in Bioinformatics & Modelling**, Sorbonne University, Paris, France
Ranked 1st/10
Research internship: *ksub – k-mer subtraction for molecular portraits*
Supervisor: Prof. Daniel Gautheret (I2BC, Paris-Saclay)
- 2018–2020 **B.Sc. in Life Sciences**, Sorbonne University, Paris, France

Research Publications

Nikita Lagrange, Herve Isambert. *An Efficient Search-and-Score Algorithm for Ancestral Graphs using Multivariate Information Scores for Complex Non-linear and Categorical Data*. *Proceedings of the 42nd International Conference on Machine Learning (ICML)*, 2025

Pacome Delva, Paola Costa Cornejo, **Nikita Lagrange**, Laetitia Pereira. *Hybridation et pédagogie par projet : retour d'expérience*. *QPES 2025 Colloquium*, 2025

Nadir Sella, Florent Guinot, **Nikita Lagrange**, Laurent-Philippe Albou, Jonathan Desponds, Herve Isambert. *Preserving information while respecting privacy through an information theoretic framework for synthetic health data generation*. *npj Digital Medicine*, 2025

Franck Simon, Maria Colomba Comes, Tiziana Tocci, Louise Dupuis, Vincent Cabeli, **Nikita Lagrange**, Arianna Mencattini, Maria Carla Parrini, Eugenio Martinelli, Herve Isambert. *CausalXtract, a flexible pipeline to extract causal effects from live-cell time-lapse imaging data*. *eLife*, 2025

Patent

- 2024 **Nikita Lagrange**, Herve Isambert. *Clinical Data Analysis*.
European patent application EP24305127.3, filed January 22, 2024. Assigned to CNRS, rights transferred to F. Hoffmann-La Roche AG

Software Contributions

- 2022–2025 **MIIC: Multivariate Information-based Inductive Causation**
Contributed to the technical maintenance of the R package `miicTeam/miic.R.package` (R, C++), as well as the associated public webserver `miic.curie.fr` (PHP, HTML, JavaScript)
- 2024 **MIIC-Display**
Designed and implemented an interactive network visualization web page `miic.curie.fr/vis_NL.php` (PHP, HTML, JavaScript, D3.js, SQL)

Teaching and Consulting

- 2024–2025 **Data Analysis Consultant**, Sorbonne University, Paris, France
Analyzed student survey data to evaluate hybrid and project-based teaching programs, using statistical testing, dimensionality reduction, and clustering. Contributed to a publication at QPES 2025.
- 2022–2023 **Teaching Assistant**, Sorbonne University, Paris, France
Delivered 80+ hours of practical teaching in Python and C programming to undergraduate students and biological network analysis in R to master's students. Supervised master's student projects.

Presentations

- March 2025 **EDITE Doctoral Day**, Paris, France
3-minute thesis presentation: *In Search of Lost Causality in Data*
- Sept. 2024 **ADIC Young Researchers Retreat**, Prague, Czech Republic
Oral: *Reliable Causal Discovery from Information Theoretic Principles (State of the art & ongoing project)*
- Sept. 2023 **AI-DSCY Machine Learning Workshop**, Paris, France
Oral: *Improving Graphical Models Through Data Generative Approaches*

Academic Services

- 2025 **Reviewer**, *AISTATS 2026*
- Oct. 2024 **Reviewer**, *NeurIPS 2024 BDU Workshop*
- 2024-2025 **Doctoral Student Representative**, *EDITE Doctoral School Board*, Paris, France

Summer Schools

- Sept. 2025 **PRAIRIE/MIAI Artificial Intelligence Summer School (P.A.I.S.S.)**, Grenoble, France
Poster: *Efficient Ancestral Graph Learning for Complex Data*.
- July 2025 **Eastern European Machine Learning (EEML)**, Sarajevo, Bosnia and Herzegovina
Acceptance rate: $\sim 20\%$.
Poster: *Efficient Ancestral Graph Learning for Complex Data*.

Skills

- Programming Python, R, C/C++, Bash
- ML PyTorch, scikit-learn
- Computing Git, SLURM, PBS
- Web PHP, JavaScript, HTML
- Languages French (native) · English (fluent)