Nikita Lagrange

PhD Student

Paris, France

nikita.lagrange@tutanota.com

nikitalagrange.github.io

Research Interests

I am interested in developing new machine learning methods, particularly causal discovery algorithms, with a focus on their application to biomedical data

Education

Since Oct. 2022 **Ph.D. in Computer Science**, *CNRS, Sorbonne University, Institut Curie*, Paris, France
Thesis title : Modelling hidden causes in disease progression
Supervisor : Dr. Hervé Isambert (Research Director, CNRS)
Co-supervisor : Dr. Barbara Bravi (Lecturer, Imperial College London)
Expected defense : Fall 2025

2020 – 2022 **M.Sc. in Bioinformatics & Modelling**, *Sorbonne University*, Paris, France
Graduated with high honours (ranked 1st out of 10)
Research internship : ksub – k-mer subtraction for molecular portraits
Supervisor : Prof. Daniel Gautheret (I2BC, Paris-Saclay)
Courses : machine learning, sequence and structural bioinformatics, biological networks, biomathematics, graph theory, computational neuroscience

2018 – 2020 **B.Sc. in Life Sciences**, *Sorbonne University*, Paris, France
Graduated with high honours
Interdisciplinary training in biology, mathematics and computer science

Teaching and consulting

Since 2024 **Consultant**, *Sorbonne University*, Paris, France
Conducted exploratory data analysis on student satisfaction survey as part of the evaluation of a new pedagogy initiative

2022-2023 **Teaching Assistant**, *Sorbonne University*, Paris, France
Taught Python and C programming to undergraduate students, and biological network inference to master's students

Research Publications

[1] Nadir Sella et al. "Preserving information while respecting privacy through an information theoretic framework for synthetic health data generation". In : *npj Digital Medicine* (2025). DOI : 10.1038/s41746-025-01431-6.

[2] Franck Simon et al. "CausalXtract, a flexible pipeline to extract causal effects from live-cell time-lapse imaging data". In : *eLife* (2025). DOI : 10.7554/eLife.95485.

[3] Nikita Lagrange et Hervé Isambert. *An efficient search-and-score algorithm for ancestral graphs using multivariate information scores*. arXiv [cs]. 2024. DOI : 10.48550/arXiv.2412.17508.

Presentations

Sept. 2024 **ADIC Young Researchers Retreat**, Prague, Czech Republic
Oral presentation : *Reliable Causal Discovery from Information Theoretic Principles (State of the art & ongoing project)*

Sept. 2023 **AI-DSCY Machine Learning Workshop**, Paris, France
Oral presentation : *Improving Graphical Models Through Data Generative Approaches*

Academic Services

Since 2024 **Representative of doctoral students**, *EDITE Doctoral School Board*, Paris, France
Member of the doctoral school board ; attended general assemblies and voted on proposals

Oct. 2024 **Reviewer**, *NeurIPS 2024 BDU Workshop*
Reviewed two submissions for the NeurIPS 2024 Workshop on Bayesian Decision-making and Uncertainty

Skills and Languages

Technical skills

Programming
- **Advanced :** Python, R
- **Intermediate :** C, C++

Tools – Git, PBS, SLURM

Languages

French native

English fluent