

Nikita Lagrange

3rd year PhD Student

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Research Interests

I am interested in the development of new machine learning methods, in particular causal discovery algorithms, from the perspective of their application to biomedical data

Education

Since Oct. 2022 **PhD Computer Science,**

CNRS, Sorbonne University, Institut Curie, Paris, France,

Thesis title : **Modelling hidden causes in disease progression**

Director : Dr. Hervé Isambert (Research Director at CNRS)

Co-supervisor : Dr. Barbara Bravi (Lecturer at Imperial College London)

Since 2018, *Sorbonne University, Paris, France,*

2020-2022 **M.Sc. Bioinformatics & Modelling,**

Grade : with high honours

Rank : 1/10

Research internship : **ksub : k-mer substraction for molecular portraits**

Supervisor : Pr. Daniel Gautheret (I2BC, Paris-Saclay University)

Courses in machine learning, sequence bioinformatics, structural bioinformatics, biological networks, computational neuroscience, biomathematics, graph theory

2018-2020 **B.Sc. Sciences of Life,**

Grade : with high honours

Interdisciplinary courses ranging from the fundamentals of biology to biomathematics and bioinformatics

Teaching and consulting

Since 2024 **Consultant,** *Sorbonne University, Paris, France,*

Analysis of data from student satisfaction surveys in the context of a new pedagogy using an exploratory analysis

2022-2023 **Teaching Assistant,** *Sorbonne University, Paris, France,*

Teaching Python and C programming to undergraduates and biological network inference to masters students

Research Publications

1. SELLA, N. *et al.* Preserving information while respecting privacy through an information theoretic framework for synthetic health data generation. *npj Digital Medicine* **8**, 1-16. <https://www.nature.com/articles/s41746-025-01431-6> (2025).
2. SIMON, F. *et al.* CausalXtract, a flexible pipeline to extract causal effects from live-cell time-lapse imaging data. *eLife* **13**. <https://doi.org/10.7554/eLife.95485> (2025).
3. LAGRANGE, N. & ISAMBERT, H. *An efficient search-and-score algorithm for ancestral graphs using multivariate information scores* arXiv [cs]. 2024. <http://arxiv.org/abs/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 on EDITE doctoral school board**, Paris, France,
Participation in the doctoral school board and decision-making processes
- Oct. 2024 **Reviewer for the NeurIPS BDU Workshop 2024**,
Review of two submissions for the NeurIPS 2024 Workshop on Bayesian Decision-making and Uncertainty

Skills & Languages

Computer

Languages  ,  : Advanced
 ,  , Shell : Intermediary
Mathematica, MATLAB,
 , HTML : Basic

Tools  Cluster computing - PBS

Languages

French native

English fluent