

Academic background

- Feb. 2022 - **Postdoctoral Researcher**, Aalto University, Probabilistic Machine Learning team, Helsinki
Supervised by Samuel Kaski, Markus Heinonen and Vikas Garg
- Oct. 2018 - **PhD in Computer Science**, *On learning mechanistic models from time series data with applications to personalised chronotherapies*, Inria Saclay, Institut Curie Saint-Cloud, École polytechnique
Feb. 2022
Supervised by François Fages and Annabelle Ballesta
- Apr.-Sept. 2018 **Summer Intern**, *Learning mechanistic models from time series data*, Inria Saclay, Lifeware Team
Supervised by François Fages
- 2017 – 2018 **Masters in Random Modelling, Finance and Data Science, M2MO**, *Data Science track*, Université de Paris
- May-July 2017 **Summer Intern**, *Random matrix theory, Application to community detection within networks*, Laboratoire MAP5, Université de Paris
Supervised by Manon Defosseux
- 2016 – 2017 **First year of Masters in Applied Mathematics**, Université de Paris
ranked 1st
- 2012 – 2015 **BSc. Mathematics**, Université de Paris

Publications

Publications

- 2022 **Accelerating metabolic models evaluation with statistical metamodels: application to Salmonella infection models**, Clémence Frioux, Sylvie Huet, Simon Labarthe, Julien Martinelli, Thibault Malou, David Sherman, Marie-Luce Taupin, Pablo Ugalde-Salas, *ESAIM Proceedings & Surveys*
- 2021 **A mathematical model of the circadian clock and drug pharmacology to optimize irinotecan administration timing in colorectal cancer**, Janina Hesse, Julien Martinelli, Ouda Aboumanify, Annabelle Ballesta and Angela Relógio, *Computational and Structural Biotechnology*
- 2021 **Model learning to identify systemic regulators of the peripheral circadian clock**, Julien Martinelli, Xiao-Mei Li, Sandrine Dulong, Sylvain Soliman, Francis Lévi, François Fages and Annabelle Ballesta, *Bioinformatics*

Proceedings

- 2023 **Multi-Fidelity Bayesian Optimization with Unreliable Information Sources**, Petrus Mikkola, Julien Martinelli, Louis Filstroff and Samuel Kaski, *Proceedings of The 26th International Conference on Artificial Intelligence and Statistics*, 7425-7454
- 2019 **On Inferring Reactions from Data Time Series by a Statistical Greedy Heuristics**, Julien Martinelli, Jeremy Grignard, Sylvain Soliman and François Fages, *Proceedings of the Seventeenth International Conference on Computational Methods in Systems Biology*, 352-355

Workshop Communications

- 2023 **Preferential Heteroscedastic Bayesian Optimization with Informative Noise Priors**, Marshal Sinaga, Julien Martinelli and Samuel Kaski, *NeurIPS 2023 Workshop on Adaptive Experimental Design and Active Learning in the Real World*
- 2023 **Learning relevant contextual variables within Bayesian optimization**, Julien Martinelli, Ayush Bharti, Armi Tiihonen, Louis Filstroff, S.T. John, Sabina J. Sloman, Patrick Rinke and Samuel Kaski, *NeurIPS 2023 Workshop on Adaptive Experimental Design and Active Learning in the Real World*
- 2023 **Leveraging expert feedback to align proxy and ground truth rewards in goal-oriented molecular generation**, Julien Martinelli, Yasmine Nahal, Duong Lê, Ola Engkvist and Samuel Kaski, *NeurIPS 2023 Workshop on New Frontiers of AI for Drug Discovery and Development*
- 2019 **A statistical unsupervised learning algorithm for inferring reaction networks from time series data**, Julien Martinelli, Jeremy Grignard, Sylvain Soliman and François Fages, *ICML 2019-Workshop on Computational Biology*
- Submitted
- 2023 **Learning relevant contextual variables within Bayesian optimization**, Julien Martinelli, Ayush Bharti, Armi Tiihonen, Louis Filstroff, S.T. John, Sabina Sloman, Patrick Rinke and Samuel Kaski, under review at *AISTATS 2024*
- 2022 **Reactmine: a search algorithm for inferring chemical reaction networks from time series data**, Julien Martinelli, Jeremy Grignard, Sylvain Soliman, Annabelle Ballesta and François Fages

Oral Communications

Invited Talks

- February 2023 **Biostatistics Seminar**, Bordeaux Population Health Center
- January 2023 **Public Seminar - CRiStAL team**, Université de Lille
- November 2022 **AI Day**, Helsinki
- July 2022 **Workshop on Hybrid models and methods in systems medicine**, Institut Curie, Paris

Talks

- November 2023 **Public Seminar - SISTM team**, Bordeaux Population Health Center
- May 2023 **Machine Learning Coffee Seminar**, Helsinki
- August 2022 **Finnish Center for Artificial Intelligence - Get together**, Helsinki
- August 2021 **CEMRACS - Data Assimilation and Reduced Modeling for High Dimensional Problems**, Luminy
- July 2021 **Twentieth European Conference on Computational Biology**, Remote
- June 2021 **Tenth biennial of the Society of Applied and Industrial Mathematics (SMAI)**, La Grande Motte
- May 2021 **Workshop Modelling Heterogeneous populations with applications in biology**, Remote
- April 2021 **Monthly seminar BIOS-IA**, Remote
- May 2019 **BIOS-IA Days**, Laboratoire d'Informatique Fondamentale d'Orléans
- December 2018 **BIOS-IA Days**, Pasteur Institute, Paris

Poster Sessions

- September 2023 **ELLIS Robust ML Workshop**, Helsinki

April 2023 **AISTATS 2023**, València
July 2021 **JOBIM 2021**, Remote
January 2021 **Winter school AI4Health**, Remote
June 2019 **Summer School Formal Modeling of Biological Regulatory Networks**, Porquerolles

Teaching

2022 – 2023 **Teaching Assistant**, MSc., Machine Learning: Advanced Probabilistic Methods, Aalto University
2019 – 2021 **Teaching Assistant**, 2nd year BSc., Analysis 4, Multivariate functions, Université de Paris
2018 – 2019 **Teaching Assistant**, 1st year BSc., Mathematics and Calculus 2, Université de Paris

Supervision and Advising

September 2023 – **Xinyu Zhang**, *Research Assistant*, 2nd year MSc. student, Probabilistic Neural Additive Models for Interpretable Machine Learning
Joint supervision with S.T. John
June 2023 – **Marshal Sinaga**, *PhD Student*, Bayesian Experimental Design
Advisor (Supervisor: Samuel Kaski)
June – August 2023 **Duong Le**, *Summer Intern*, 3rd year BSc. student, Benchmarking Human-In-The-Loop and active learning strategies for molecular generation
Joint supervision with Yasmine Nahal
June – August 2023 **Xinyu Zhang**, *Summer Intern*, 1st year MSc. student, Probabilistic Neural Additive Models for Interpretable Machine Learning
Joint supervision with S.T. John
June – August 2023 **Kaul Rajat**, *BSc Thesis supervision*, 3rd year BSc. student, Learning Biological ODE models from time series data

Programming skills

Programming Python, R, Matlab, L^AT_EX, Shell
Tools GitHub, Vim

Languages

Native French, fluent English