LUCA GANASSALI

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Postdoctoral researcher, Chair of Business Analytics (BAN), EPFL

RESEARCH EXPERIENCE

Postdoctoral Researcher   Oct. 2022 -
EPFL   *Lausanne, Switzerland*

Chair of Business Analytics (BAN), led by Pr. Negar Kiyavash

Ph.D. in Machine Learning and Statistics   Oct. 2019 - Sept. 2022
Inria, DI/ENS, PSL Research University   *Paris, France*

The graph alignment problem: fundamental limits and efficient algorithms. Advisors: Pr. Laurent Massoulié,
Pr. Marc Lelarge. Funded by Prairie Institute.

Research Intern   Apr. - Aug. 2019
Inria, DI/ENS, PSL Research University   *Paris, France*

Spectral alignment of correlated Gaussian matrices. Advisors: Pr. Laurent Massoulié, Pr. Marc Lelarge.

Research Intern   Apr. - Aug.2018
CMAP, École Polytechnique   *Palaiseau, France*

Mathematical modelling of leucopoiesis, study of mutations and application to myeloid leukemia. Advisors: Pr.
Sylvie Méléard, Pr. Amandine Véber.

EDUCATION

MsC Probability and Statistics   2018-2019
Université Paris-Sud   *Orsay, France*

Inference on graphs, random walks and graphs, stochastic calculus and brownian motion, concentration of mea-
sure. Mention 'Très Bien' (summa cum laude).

École Polytechnique   2015-2019
Engineer degree   *Palaiseau, France*

Applied mathematics (probability, statistics), computer science, physics, economics. Overall GPA: 3.92/4.

Preparatory classes, MPSI/MP*   2013-2015
Lycée Henri IV   *Paris, France*

Admitted to École Polytechnique after nationwide exam.

TEACHING

TA, Statistics and Probability   2021-2022
Université de Paris   *Paris, France*

· Spring 2022, Spring 2021: *Statistics (MA1BY020)*, master's degree (1st year).
· Fall 2021: *Probability (MT15Y030)*, bachelor's degree (3rd year).
· Spring 2021: *Statistics and numerical simulations (MA16Y020)*, bachelor's degree (3rd year).

Tutoring, Ecole Polytechnique   2020
École Polytechnique   *Palaiseau, France*

Tutoring for the probability course (MAP361) at Ecole Polytechnique.

Oral examiner 2018-2019
Lycée Henri IV *Paris, France*
Oral examiner in mathematics, preparatory school for the French "Grandes Écoles".

PUBLICATIONS

L. Ganassali, L. Massoulié, G. Semerjian. Statistical limits of correlation detection in trees, 2022, *submitted*.

E. Daoud, L. Ganassali, M. Lelarge, F. Reyal. SiMCa: Sinkhorn Matrix Factorization with Capacity Constraints, 2021, *preprint*.

L. Ganassali, M. Lelarge, L. Massoulié. Correlation detection in trees for partial graph alignment, 2021, *extended abstract at Innovations in Theoretical Computer Science (ITCS 2022)*.

L. Ganassali, M. Lelarge, L. Massoulié. Impossibility of Partial Recovery in the Graph Alignment Problem, 2021, in *Proceedings of Thirty Fourth Conference on Learning Theory (COLT 2021)*.

L. Ganassali. Sharp threshold for alignment of graph databases with Gaussian weights, 2020, *Mathematical and Scientific Machine Learning (MSML21)*.

M. Akian, L. Ganassali, S. Gaubert, L. Massoulié. Probabilistic and mean-field model of COVID-19 epidemics with user mobility and contact tracing, 2020, *preprint*.

L. Ganassali, L. Massoulié. From tree matching to sparse graph alignment, 2020, in *Proceedings of Thirty Third Conference on Learning Theory (COLT 2020)*.

L. Ganassali, M. Lelarge, L. Massoulié. Spectral alignment of correlated Gaussian random matrices, 2019, in *Advances in Applied Probability*.

TALKS, SEMINARS AND WORKSHOPS

– May 23-27, 2022. *Theoretical Computer Science Spring School: Machine Learning*, CIRM, Marseille (poster).

– Mar. 17, 2022. *CDM Seminar*, EPFL (talk).

– Feb. 28-Mar. 1, 2022. *DACO Seminar*, ETH Zürich (talk).

– Jan. 31-Feb. 3, 2022. *Innovations in Theoretical Computer Science (ITCS)*, Berkeley (talk).

– Dec. 9, 2021. *Stochastics Seminar*, Georgia Tech (talk).

– Nov. 10, 2021: *Prairie Workshop*, Paris (poster).

– Oct. 25 – 29, 2021: *Colloquium "Jeunes Probabilistes et Statisticiens"*, St-Pierre d'Oléron (talk).

– Sept. 27 – Oct. 1, 2021: *Workshop "On Future Synergies for Stochastic and Learning Algorithms"*, Marseille (poster).

– Sept. 6 – 10, 2021: *Junior conference "Random networks and interacting particle systems"*, virtual (talk).

– Aug. 16 – 19, 2021: *Mathematical and Scientific Machine Learning (MSML)*, EPFL (talk).

– Aug. 15 – 19, 2021: *Conference on Learning Theory (COLT)*, Boulder (talk + poster).

– July 9 – 12, 2020: *Conference on Learning Theory (COLT)*, virtual (talk).

– June 25, 2020: *Dyogene team seminar*, Inria, Paris (talk).

– January 13-17, 2020: *Workshop "Spectra, Algorithms and Random Walks on Random Networks"*, Marseille.

– Oct. 23, 2019: *Networking days*, Orsay (talk).

SERVICE

2020-2022: Organizer of the team's seminar.

Reviewing: Conferences: ISIT 2021, COLT 2022, MSML 2022. Journals: Journal of Machine Learning Research, Annals of Statistics.

AWARDS

Prix de la chaire Modélisation et Biodiversité, 2018: Research Internship award from the chair 'Mathematical modelling and Biodiversity' (Ecole Polytechnique).

LANGUAGES

French (native), **English** (fluent, TOEIC : 990/990), **Italian** (fluent).