



Lorenzo Dall'Amico

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📅 24 March 1994

👤 Italian mother-tongue, fluent in English and French

🇮🇹 Italian nationality

🏠 [Website](#)

🐙 [Github](#)

🎓 [Scholar](#)

CURRENT POSITION

November 2021 – present

Postdoctoral fellow

ISI Foundation

I am a Postdoctoral fellow in the “Data Science for Social Impact and Philantropy” and I am an active member of the SocioPatterns project focused on the measurement and analysis of human proximity contacts.

EDUCATION

September 2018 – October 2021

PhD student

GIPSA lab, Université Grenoble Alpes

Supervisors: Romain Couillet and Nicolas Tremblay

Title: Spectral methods for graph clustering

During my PhD we studied the problem of spectral clustering on sparse graphs using techniques at the crossroads between statistical physics, random matrix theory and graph signal processing. We proposed and analyzed novel algorithms and showed that the state-of-the-art methods are particular, sub-optimal cases of our proposed algorithms.

September 2017 – July 2018

Master M2 in Physics of complex systems

Université Paris Sud (XI)

Supervisor: Michael Benzaquen

Thesis title: A mechanism for the latent liquidity revealing into the limit order book

September 2016 – July 2018

Master degree in Physics of complex systems

Politecnico di Torino

Final grade: 110/110 cum laude

Average exams evaluation: 29.7/30

International program held between Politecnico di Torino, SISSA and ICTP in Trieste and Université Paris VI, VII, XI

September 2013 – July 2016

Bachelor degree in Physics engineering

Politecnico di Torino

Final grade: 109/110

Average exams evaluation: 28/30

September 2008 – July 2013

High school diploma

Liceo scientifico Giuseppe Peano, Cuneo

Final grade: 100/100

ADVANCED COURSES

August 2020

Summer Workshop on Statistical Physics and Machine Learning

École de Physique des Houches

October 2019

PRAIRE artificial intelligence summer school

INRIA, Paris

April 2019 **Random Matrices and Random Graphs**
CIRM, Luminy, Marseille

June 2018 **The Oxford summer school in economic networks**
Oxford University

February 2018 – March 2018 **Spring college on the Physics of complex systems**
ICTP, Trieste

INVITED TALKS

October 2022 **Conference**
Conference on Complex Systems (CCS), Palma de Mallorca

March 2022 **Conference**
Recent advances in graph machine learning, Paris

May 2021 **Seminar**
SIAM Conference on Applied Linear Algebra, New Orleans (videoconference)

February 2021 **Seminar**
INRIA, Paris (videoconference)

February 2021 **Seminar**
École Normale Supérieure, Lyon (videoconference)

December 2020 **Conference**
Neural Information Processing Systems 2020 (NeurIPS), Vancouver (videoconference)

May 2020 **Conference**
IEEE International Conference on Acoustics, Speech and Signal Processing 2020 (ICASSP), Barcelona (videoconference)

February 2020 **Seminar**
LiPhy, Grenoble

December 2019 **Conference**
Neural Information Processing Systems 2019 (NeurIPS), Vancouver

November 2019 **Seminar**
First French-German Meeting in Physics, Mathematics and Artificial Intelligence Theory, CEA, Paris

August 2019 **Conference**
XXVII Colloque GRETSI, Lille

May 2019 **Seminar**
École Normale Supérieure, Paris

May 2019 **Conference**
IEEE International Conference on Acoustics, Speech and Signal Processing 2019 (ICASSP), Brighton

December 2018 **Conference**
Market microstructure: confronting many viewpoints, Paris

AWARDS

December 2019

NeurIPS travel award

1 400 \$ award delivered on a competitive basis to the conference student participants

June 2018

Paris Saclay scholarship

10.000 € scholarship assigned on competitive merit basis to promising master students enrolled in Paris Saclay universities

July 2013

Master dei talenti neodiplomati

Summer work project in Ireland awarded to 8 students out of approximately 1 000, sponsored by Cassa di risparmio di Torino (CRT)

TEACHING ACTIVITY

Master course on Complex networks (MAT0049) at Università degli studi di Torino (2023–2024)

REVIEWING ACTIVITY

I served as a reviewer for IEEE Transactions on Systems, Man and Cybernetics, IEEE Transactions on Information Theory, NeurIPS, LoG conference, Applied Network Science, Random Matrices: Theory and Applications, EPJ Data science, Journal of American statistical association, Nature Scientific Data, Physical Review E, WWW conference, Plos Global Pulich Health.

PUBLICATIONS

Journal articles

1. LD, R. Couillet, N. Tremblay: Nishimori meets Bethe: a spectral method for node classification in sparse weighted graphs, in Journal of statistical mechanics
2. LD, R. Couillet, N. Tremblay: A unified framework for spectral clustering in sparse graphs, in Journal of Machine Learning Research
3. LD, A. Fosset, J. Bouchaud, M. Benzaquen: How does latent liquidity get revealed in the limit order book, in Journal of statistical mechanics

Conference proceedings

1. LD, R. Couillet, N. Tremblay: Community detection in sparse time-evolving graphs with a dynamical Bethe-Hessian, in NeurIPS 2020
2. LD, R. Couillet, N. Tremblay: Optimal Laplacian Regularization for Sparse Spectral Community Detection, in ICASSP 2020
3. LD, R. Couillet, N. Tremblay: Revisiting the Bethe-Hessian: Improved Community Detection in Sparse Heterogeneous Graphs, in NeurIPS 2019
4. LD, R. Couillet, N. Tremblay: Community Detection in Sparse Realistic Graphs: Improving the Bethe Hessian, in ICASSP 2019

Pre-prints

1. LD, and E. M. Belliardo: Efficient distributed representations beyond negative sampling
2. J. Kleynhans, SA-S-HTS Group, LD, L. Gauvin, M. Tizzoni, L. Maloma, S. Walaza, N. Martinson, A. von Gottberg, N. Wolter, M. Makhasi, C. Cohen, C. Cattuto, S. Tempia: Association of close-range contact patterns with SARS-CoV-2: a household transmission study
3. LD, J. Kleynhans, L. Gauvin, M. Tizzoni, L. Ozella, M. Makhasi, N. Wolter, R. G. Wagner, C. Cohen, S. Tempia, C. Cattuto: Estimating household contact matrices structure from easily collectable metadata