Solenne Gaucher

Ph.D. Candidate in Statistics

✉ *solenne.gaucher@math.u-psud.fr*
solennegaucher.github.io

I will complete my Ph.D. early 2022, and I am looking for a position in R&D in machine learning to start in Spring 2022.

Education

2018 – March 2022 (expected) **Ph.D. in Statistics**, *Université Paris-Saclay*, France.
Ph.D. in Statistics on active and non-active link prediction on graphs, under the supervision of Christophe Giraud and Olga Klopp.
Main field of expertise : bandit algorithms, network analysis, high dimensional statistics.

2017 – 2018 **Master of Science in Mathematics**, *Université Paris-Saclay*, France.
Probability and Statistics track.

2014 – 2018 **Bachelor of Science**, *École Polytechnique*, France.
Multidisciplinary B.S. – with a focus on Applied Mathematics and Computer Science (Data Science track).

Work Experience

Sept. 2020 to Feb. 2021 **Research Engineer**, *Électricité de France*, France.
Developed a transfer learning method for adaptively forecasting electricity load during the first covid lockdown. Improved existing methods for wind power prediction.

Sept. 2018 to June 2020 **Teaching Assistant**, *École Nationale de la Statistique et de l'Administration Économique*, France.
Lead problem sessions and designed problem sets for the courses "Refresher on Statistics", "Refresher on Machine Learning", "Statistics", and "Introduction to Machine Learning" (at Master's level).

April to July 2018 **Research Intern**, *École Nationale de la Statistique et de l'Administration Économique*, France.
Established minimax optimality of the maximum likelihood estimator in sparse network with missing observation, under the supervision of Olga Klopp.

April to July 2017 **Research Intern**, *Department of Statistics, Oxford University*, United Kingdom.
Developed a multi-scale, Bayesian, non-parametric approach for testing for dependance, under the supervision of Chris Holmes and Sarah Filippi.

June to August 2016 **Sofware Development Trainee**, *Médiactif*, France.
Analysed trajectories of pedestrians obtained from geolocalisation data in order to improve a crowd motion simulator (using Python and C++).

Skills

Computer **R**, **Python**, **Matlab**, knowledge of **C++**, **Git**, **SQL**.

Languages **English** (IELTS 8), **French** (native), **German** (intermediate, french-german high school diploma).

Publications

2021 **Outliers Detection in Networks with Missing Links**, S. Gaucher, O. Klopp, and G. Robin, *Computational Statistics & Data Analysis*.

2021 **Maximum Likelihood Estimation of Sparse Networks with Missing Observations**, S. Gaucher and O. Klopp, *Journal of Statistical Planning and Inference*.

2020 **Finite Continuum-Armed Bandits**, S. Gaucher, *NeuRIPs 2020*.

Software

R package **gsbm**, Robust link prediction and outlier detection in the Generalized Stochastic Block Model, S. Gaucher and G. Robin.

Talks and Posters

July 2021 **DSSV-ECDA**, Conference, *Outlier Detection in Networks with Missing Links*.

June 2021 **Séminaire Palaisien**, Université Paris-Saclay and Institut Polytechnique de Paris joint seminar on Statistics and Machine Learning, *Continuum-armed bandits : from the classical setting to the finite setting*.

March 2021 **École Nationale de la Statistique et de l'Administration Économique**, Statistics and Machine Learning Seminar, *Introduction to Stochastic Bandits*.

Dec. 2020 **NeurIPS 2020**, Poster Session, *Finite Continuum-Armed Bandits*.

Oct. 2019 **Network Days III - Institut des Hautes Études Scientifiques**, Workshop, *Robust Link Prediction in the Stochastic Block Model*.

April 2019 **Huitièmes rencontres des Jeunes Statisticiens**, Conference, *Maximum Likelihood Estimation of Sparse Networks with Missing Observations*.

Oct. 2019 **Network Days II - Laboratoire de Mathématiques d'Orsay**, Workshop, *Sparse Network Estimation*.

Fellowship and Awards

2018-2021 **PhD scholarship**, Ministerial allowance.

2017 **Research Internship Award**, Congratulations of the CMAP (Center for Applied Mathematics, École polytechnique).