

Raphaël Berthier

Curriculum Vitae

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Research

- Since 2018 **PhD in the SIERRA team (Paris ; INRIA, DI ENS, CNRS) under the supervision of Francis Bach and Pierre Gaillard.**
- Spring 2017 **Internship in Stanford University, under the supervision of Andrea Montanari, 4 months.**
Subject : Compressed Sensing and Approximate Message Passing algorithms.

Studies

- 2014-2018 **Studies at the Ecole Normale Supérieure Ulm (Paris).**
- 2016-2017 **Master 2 in probabilities and statistics, University Paris-Sud (Orsay).**
- 2015-2016 **Master 1 in fundamental mathematics, ENS Ulm.**
- Summer 2015 **Internship at Qucit (start-up in Bordeaux, France), 2 months.**
Subject : statistical inference of urban movements, in particular using databases of bicycle-sharing systems.
- 2014-2015 **Bachelor of Science in mathematics and in computer science, "Licence" in french, ENS Ulm.**
- July 2014 **Admitted to the Ecole Normale Supérieure (Paris), competitive exam, section mathematics - physics - computer science.**
- 2012-2014 **Preparation for the competitive exam of the ENS, Mathematics and physics section, Preparation school of the Lycée Marcelin Berthelot, Saint-Maur-des-Fossés.**
- 2012 **Baccalauréat (french high-school degree), Scientific and international english sections.**

Publications and preprints

- 2020 **R. Berthier, F. Bach and P. Gaillard, Tight Nonparametric Convergence Rates for Stochastic Gradient Descent under the Noiseless Linear Model, accepted for publication in Advances in Neural Information Processing Systems (NeurIPS).**
- 2020 **R. Berthier, F. Bach and P. Gaillard, Accelerated Gossip in Networks of Given Dimension using Jacobi Polynomial Iterations, SIAM Journal on Mathematics of Data Science.**
- 2018 **R. Berthier, A. Montanari and P.-M. Nguyen, State Evolution for Approximate Message Passing with Non-Separable Functions, Information and Inference : a Journal of the IMA.**

Research talks

- Août 2020 **Bernoulli-IMS One World Symposium 2020.**
- Août 2020 **Ecole d'été "physique statistique et machine learning",** *Les Houches, France.*
- Nov. 2019 **MIC group meeting,** *New York University.*
- Nov. 2017 **Golosino seminar,** *École Normale Supérieure, Paris.*
- Nov. 2017 **SMILE seminar,** *Institut Henri Poincaré, Paris.*
- Oct. 2017 **Seminar of the SIERRA team,** *INRIA Paris.*

Teaching

- 2019-2020 **Lecturer in linear algebra.**
Pluridisciplinary Cycle in Economics and Social sciences, PSL Research University, Paris
- 2019-2020 **Teaching assistant in statistical learning.**
Ecole Normale Supérieure, Paris
- 2014-2017 **Oral examinations in mathematics in "classe préparatoire" (equivalent to first and second year university students in mathematics).**
at the school Louis-le-Grand, in Paris,
at the school Marcelin Berthelot, in Saint-Maur-des-Fossés, France.