

Education

- Oct. 2016 – Sept. 2020** **University of Oxford** – Oxford, United Kingdom
Dphil in Statistics under the supervision of Prof. Caron
Research: Bayesian Nonparametrics, Networks analysis, Models with power law, Privacy preserving methods.
- Sept. 2015 – June 2016** **Ecole Normale Supérieure** – Cachan, FRANCE
Master: *Mathématiques, vision et apprentissage (MVA)*,
Master degree in machine learning and applied Mathematics.
- Sept. 2015 – June 2016** **ENSAE (Paris Graduate School of Economics, Statistics and Finance)**
Master degree in statistics and economics,
Specialisation in Data Science.
- Sept. 2012 – June 2016** **Ecole Polytechnique ParisTech** – Palaiseau, FRANCE
Diplôme d'ingénieur (Master level),
Specialisation in Applied Mathematics.
- Aug. 2010 – July 2012** **Lycée Privé Sainte-Geneviève** – Versailles, FRANCE
Selective 2-year post high school studies (« classes prépa ») leading to a competitive nationwide entry examination to engineering schools.

Experience

- Sept. 2019 – Aug. 2020** **Research internship (Amazon research, AWS forecasting team) – Berlin**
Design and implement anomaly detection models at the intersection of Bayesian Machine Learning and Deep Learning.
Full time until Dec. 2019 then part time.
- Dec. 2016 – Feb. 2019** **Teaching assistant and Class tutor – Oxford**
Computational Statistics (SB1b) and *Statistical machine Learning (SB2b)*. Department of Statistics, University of Oxford.
- May 2016 – Oct 2016** **Research internship (AXA Global direct, R&D team) – Paris**
Designed and implemented a spatial smoothing model with penalised GP
Implemented an algorithm for stochastic optimisation of mixtures of smooth and non smooth functions.
- Apr. 2015 – July 2015** **Research internship – Oxford University, Department of Statistics**
Developed an algorithm to solve the tensor completion problem with application to image reconstruction.
- Sept. 2013 – Apr. 2015** **Data mining & Data compression (NellArmonia, medium-sized Business Intelligence company) – Paris**
Team project to research and implement effective compression algorithms for large databases and data mining tools: clustering, events detection and prevision.

Skills

- Languages** French, Arabic (Native speaker), English (proficient), Spanish (Interm.)
- Programming** Python, Julia, Matlab, Java, Caml.

Scholarships

- Clarendon scholarship: Awarded to the top 3% of graduate students across all disciplines at the University of Oxford, full funding for PhD studies.
- Eiffel scholarship program for excellence (French Ministry of Foreign Affairs): Awarded to foreign students with outstanding academic performance, full funding for engineering studies
- « Bourse d'excellence Major » (French government): Awarded to foreign students with outstanding academic performance, full funding for « prépa » studies.

Papers

- 2020 F. Ayed, M. Battiston, F. Camerlenghi, **An Information Theoretic approach to Post Randomization Methods under Differential Privacy**, *Statistics and Computing* (to appear).
- 2020 F. Ayed, L. Stella, T. Januschowski, J. Gasthaus, **Anomaly Detection at scale: the case for deep distributional time series models**, *under conference review*.
- 2020 F. Ayed, M. Battiston, G. Di Benedetto, **DP²: Dirichlet Processes for Differential Privacy**, *under conference review*.
- 2019 F. Ayed, J. Lee, F. Caron, **Beyond the Chinese restaurant and Pitman-Yor processes: Statistical models with double power-law behavior**, *ICML 2019*, long oral presentation.
- 2019 F. Ayed, F. Caron, **Nonnegative Bayesian nonparametric factor models with completely random measures for community detection**, *under journal review*.
- 2019 F. Ayed, M. Battiston, F. Camerlenghi, S. Favaro, **Consistent estimation of the missing mass for feature models**, *under journal review*.
- 2019 F. Ayed, M. Battiston, F. Camerlenghi, S. Favaro, **On consistent and rate optimal estimation of the missing mass**, *under journal review*.
- 2018 F. Ayed, M. Battiston, F. Camerlenghi, S. Favaro, **A Good-Turing estimator for feature models**, *Electronic Journal of Statistics* 2019.

Conferences

- June 2019 **Double power-law models with completely random measures**, Contributed Talk, *12th conference on Bayesian nonparametrics*, Oxford.
- Dec. 2018 **Nonnegative Bayesian nonparametric factor models with completely random measures**, Invited Talk, *11th International Conference of the ERCIM WG on Computational and Methodological Statistics*, Pisa
- June 2018 **Bayesian Nonparametric Poisson factorization**, Poster presentation, *ISBA world meeting*, Edimburgh

References

Available upon request