

Maxime Vono

Senior Research Scientist, Criteo AI Lab

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📄 <https://mvono.github.io>



Research interests

Bayesian inference, computational statistics, federated learning, privacy-preserving machine learning, Monte Carlo methods, recommender systems.

Work experience

- jan. 2022 - **Senior Research Scientist**, *Criteo AI Lab, Criteo, Paris.*
current Recommendation research team.
- nov. 2020 - **Research Scientist**, *Lagrange Research Center, Huawei, Paris.*
jan. 2022 Working with Eric Moulines (Polytechnique, member of the French Academy of Sciences) on distributed/federated Bayesian methods. Mentoring of 1 Ph.D. student and 4 M.Sc. interns. Publications at ICML (long talk) & AISTATS.
- sep. 2018 - **Data Science Consultant**, *Intermarché, Paris.*
sep. 2019 Consultancy missions for the Strategy, Commercial Performance and Data direction of Intermarché, an international supermarket chain (32 days).
Main missions: data strategy and sales/revenue forecasting.
- apr. 2017 - **Data Scientist Intern**, *Vekia, Lille.*
sep. 2017 Machine learning techniques (random forests, sparse representations, time series, ...) applied to sales forecasting issues and supply chain management.
Led 4 major projects in different sectors: clothing, home improvement, food and health/beauty.
- oct. 2016 - **Operations Research Consultant**, *Leroy Merlin France, Lille.*
sep. 2017 Dynamic pricing in clearance and promotional events (stochastic processes, robust control, Itô calculus). The derived pricing strategy was tested on real sales transactions and has been proposed to some French brick-and-mortar stores.

Selected publications

- M. Vono**, V. Plassier, A. Durmus, A. Dieuleveut and E. Moulines (2022), *QLSD: Quantised Langevin Stochastic Dynamics for Bayesian Federated Learning*, in [AISTATS](#).
- M. Vono**, D. Paulin, and A. Doucet (2022), *Efficient MCMC sampling with dimension-free convergence rate using ADMM-type splitting*, [Journal of Machine Learning Research](#).
- M. Vono**, N. Dobigeon, and P. Chainais (2022), *High-dimensional Gaussian sampling: A review and a unifying approach based on a stochastic proximal point algorithm*, [SIAM Review](#).
- V. Plassier*, **M. Vono***, A. Durmus* and E. Moulines (2021), *DG-LMC: a turn-key and scalable synchronous distributed MCMC algorithm via Langevin Monte Carlo within Gibbs*, in [ICML \(long talk, top 14%\)](#).
- M. Vono**, N. Dobigeon, and P. Chainais (2021), *Asymptotically exact data augmentation: models, properties and algorithms*, [Journal of Computational and Graphical Statistics](#).

Education

- 2017-2020 **Ph.D. in Statistics**, *University of Toulouse*, Toulouse.
Ph.D. advisors: Nicolas Dobigeon and Pierre Chainais.
Spring 2019: visiting scholar at the University of Oxford in Arnaud Doucet's research group.
- 2016-2017 **M.Sc. in Applied Mathematics**, *University of Lille*, Lille.
Major in **Probability & Statistics**: Itô calculus, statistics, stochastic processes. *Honours*.
- 2013-2017 **M.Sc. in Engineering**, *École Centrale de Lille*, Lille.
Major in **Data Analysis & Decision making (DAD)**: optimisation, statistics. *Rank: 1*.

Computer skills

Programming MATLAB, Python, PyTorch, R
Documents L^AT_EX, Microsoft Office

Languages

French Mother tongue
English Fluent
Spanish Fluent