Vivien Cabannes

https://viviencabannes.github.io
vivien.cabannes@gmail.com

Throughout my schooling, I have developed a strong interest in the rigorous knowledge offered by science, as well as its real-world applications. I find motivation in learning, collaborating with bright individuals, and tackling complex challenges. Currently, I am interested in understanding and improving large-scale neural networks, particularly to enhance their and our reasoning abilities.

Curriculum

09/2022-Current | **Meta AI**, Postdoctoral Researcher, New York
Deep learning theory, active and self-supervised learning.
Advisor: *Léon Bottou*.

09/2019-08/2022 | **Ph.D. in Machine Learning**, INRIA & ENS Paris
Statistical aspects of weakly supervised learning.
Advisors: *Francis Bach*, *Alessandro Rudi.*

06/2019-08/2019
01/2018-08/2018 | **Quantitative Research Intern**, Cubist Systematic Strategies, New York
Portfolio Manager: *Cyril Deremble*. Permanent Return Offer.

09/2014-08/2019 | **Ecole Normale Supérieure**, Graduate Student in Mathematics
M.S. in Applied Mathematics (MVA, 2017) with highest honors (top 2%).
B.S. in Mathematics (2015), B.S. in Computer Science (2015).

Extra Curricular

Code Packages : klap; mepf; loan; time-monitoring.
Reviewing : ICML, NeurIPS, ICLR, JMLR, ACHA, SIMODS, ACM Comput. Surv., Mach. Learn.
Past Activities : Refugees & social monitoring, student representative, oral examiner in prépa (maths & physics), board member of the *Cercle du Comitium*, think tank analyst for *Le Grand Continent*, district youth board member, scouting.

Selected Publications

Learning theory

V.C., B. Simşek and A. Bietti (2024). Learning associative memories with gradient descent. *In Preparation*.
V.C., E. Dohmatob, and A. Bietti (2024). Scaling laws for associative memory. *ICLR (Spotlight)*.
A. Bietti, **V.C.**, D. Bouchacourt, H. Jegou, and L. Bottou (2023). Birth of a transformer: a memory viewpoint. *NeurIPS (Spotlight)*.
V.C. and S. Vigogna (2023). How many samples are needed to leverage smoothness? *NeurIPS*.
V.C. and S. Vigogna (2023). A case of exponential convergence rates for SVM. *AISTATS*.

Active and representation learning

C. Arnal*, **V.C.*** and V. Perchet (2024). Mode estimation with partial feedback. *Preprint*.
V.C. and F. Bach (2024). The Galerkin method beats graph-based approaches for spectral algorithms. *AISTATS*.
V.C., L. Bottou, Y. LeCun and R. Balestriero (2023). Active self-supervised learning: a few low-cost relationships are all you need. *ICCV*. *Large scale follow-up in preparation*.
V.C. (2022). From weakly supervised learning to active labeling. *PhD thesis*.

Signature

Date: February 21, 2024