Pierre Wolinski

Curriculum Vitæ

Themes: theory of deep learning, variational inference, initialization, pruning, Bayes.

Professional Experience

2021– **Post-doc**, *Statify Team, LJK, UGA, Inria Grenoble-Alpes*, Grenoble, France.
Themes: theory of deep learning, variational inference, optimization and generalization.
Supervisor: Julyan Arbel.

2020–2021 **Post-doc**, *Department of statistics, University of Oxford*, Oxford, UK.
Themes: Bayesian deep learning, variational inference, theory of deep learning.
Supervisor: Judith Rousseau.

Study

2016–2020 **PhD in Computer Science**, *TAO/Tau Team, LRI, Inria Saclay, Université Paris-Saclay*.
Title: *Structural Learning of Neural Networks*.
Supervisor: Guillaume Charpiat, Yann Ollivier.

2011–2016 **École Normale Supérieure (Mathematics)**, Paris, France.
2016 : Graduate, Math with option Physics.
2015 : Master in Math (Probability and Statistics), Université Paris-Sud, Orsay, France.
2015 : Master Thesis : *Consistency of RKHS Methods in the Case of Minimization of Convex Risk*,
supervised by Éric Moulines, Florence d'Alché-Buc and François Roueff, Télécom Paris, France.

2008–2011 **Classe Préparatoire aux Grandes Écoles (Physics and Chemistry)**, *Lycée Fénelon*, Paris, France.

2008 **Baccalauréat (S)**, *Lycée Marie-Curie*, Sceaux, France.

Teaching

2016–2020 **Lecturer in Math and Computer Science**, *IUT d'informatique*, Orsay, France.
Courses: Algebra; Probability and Stat.; Java et OOP; Graphs, Languages and Finite-state machines.

2012–2013 **Lecturer in CPGE (Math)**, *Lycée Saint-Louis*, Paris, France.

Works

o *Rethinking Gauss-Newton for learning over-parameterized models* (2023, submitted),
M. Arbel, R. Ménégaux*, **P. Wolinski***.

o *Gaussian Pre-Activations in Neural Networks: Myth or Reality?* (2022, submitted),
P. Wolinski, J. Arbel.

o *Interpreting a Penalty as the Influence of a Bayesian Prior* (2020, preprint),
P. Wolinski, G. Charpiat, Y. Ollivier.

o *Learning with Random Learning Rates* (2019, ECML PKDD), L. Blier*, **P. Wolinski***, Y. Ollivier.

o *Asymmetrical Scaling Layers for Stable Network Pruning* (2019, preprint),
P. Wolinski, G. Charpiat, Y. Ollivier.

* Equal contribution.

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Conferences

2022 **ISBA** – *An Equivalence between Bayesian Priors and Penalties in Variational Inference*
(oral presentation)

2022 **JdS** – *How to Impose Gaussian Pre-Activations in a Neural Network?*
(oral presentation)

2020 **CMStatistics** – *Interpreting a Penalty as the Influence of a Bayesian Prior*
(oral presentation)

2019 **ECML PKDD** – *Learning with Random Learning Rates*
(oral presentation + poster)

Skills

Languages

French, English (+ German).

Computer Science

- Languages: Python, C++ (+ Java, matlab).
- Libraries: PyTorch, matplotlib (+ pandas, Hydra).
- Software: git.
- Cluster: GPU, job scheduling (Slurm, OAR), environment management (conda, docker).
- Experience on the computation servers of the Idris (Jean Zay).

Code

- `https://github.com/p-wol/gaussian-preact`:
  reproducibility of *Gaussian Pre-Activations in Neural Networks: Myth or Reality?*
- `https://github.com/leonardblier/alrao`:
  implementation of the technique proposed in *Learning with Random Learning Rates*.

Experiences

- Paper reviewing for: NeurIPS, ICML, ICLR, AISTATS, JMLR.

Recommendations

- Julyan Arbel: supervisor, Inria Grenoble-Alpes.
- Florence Forbes: head of team, Inria Grenoble-Alpes.

Hobbies

- Activities: theater, dance (rock, waltz, tango).
- History/philosophy of science.