

Grégoire Mialon

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Job experience

- 2022 - *Now* **Facebook AI Research (Paris, France)** - Postdoctoral researcher
- Main focus: self-supervised learning and applications.
- Manager: **Pr. Yann Le Cun.**
- 2018 - 2022 **Inria & École Normale Supérieure (Paris, France)** - PhD student
- Member of Sierra team and Thoth team (machine learning).
- Main focus: machine learning in data constrained settings.
- Advisors: **Pr. Julien Mairal, Pr. Alexandre d'Aspremont.**
- 2017 - 2018 **eXplain (Paris, France)** - Data Scientist, Natural Language Processing (NLP)
- eXplain (ex-Liegey Muller Pons) is a company focusing on electoral campaign technology.
- Developed and sold an automated press analysis product relying on NLP.
- Managers: **Pr. Vincent Pons, Arthur Muller (founders).**
- 2016 (5 months) **Massachussets Institute of Technology (Cambridge, MA)** - Research Intern
- Nuclear Science and Engineering, Offshore Floating Nuclear Plant group.
- Built a fast model for predicting damage resulting from ship collisions using finite elements software and high performance computing.
- Advisors: **Pr. Neil Todreas, Pr. Koroush Shirvan.**

Education

- 2017 - 2018 **ENS Paris-Saclay (France)** - Msc. Mathematics, Vision and Learning (MVA)
- Founded in 1996, it is the oldest and most prestigious Master's program in machine learning in France.
- Statistical Learning Theory, Deep Learning, NLP.
- 2013 - 2017 **École polytechnique (Palaiseau, France)** - Graduate Student
- Founded in 1794, the École polytechnique is the most prestigious Science and Engineering university in France, with a strong focus on Applied Mathematics.
- Majored in Theoretical Physics.
- Minored in Economics and Business Studies.

Other experience

- 2019 (1 month) **Athling (Paris, France)** - Consultant
Evaluating the impact of machine learning on commerce and distribution in a report commissioned by the french Prospective Observatory for Trade.
- 2015 (3 months) **Ministry for Foreign Affairs (Paris, France)** - Civil Servant Intern
- Drafted notes on terrorism for diplomats and political leaders on a mission.
- Manager: **Emmanuel Cocher.**

Teaching

- 2018 - 2020 **Université Paris-Dauphine (France)** - Teacher (M2 MASH)
Python for Data Science and Machine Learning.
- 2016 - 2017 **Lycée Saint-Louis (Paris, France)** - Teaching Assistant in Preparatory Classes
Tutored and tested weekly students in physics for nationwide examination.

Publications

- C. Arnal, G. Mialon. L'oeil d'Apple dans nos iPhones ?
- G. Mialon, G. Ronteix. Le logiciel libre : soft power et lutte contre le Covid-19. (entretien avec Alexandre Gramfort).
- G. Mialon, D. Chen, M. Selosse and J. Mairal. GraphiT: Encoding Graph Structure in Transformers (*arXiv*). Paper.
- G. Mialon D. Chen, A. d'Aspremont and J. Mairal. A Trainable Optimal Transport Embedding for Feature Aggregation and its Relationship to Attention (*ICLR 2021*). Paper.
- G. Mialon, A. d'Aspremont and J. Mairal. Screening Data Points for Empirical Risk Minimization via Ellipsoidal Regions and Safe Loss Functions (*AISTATS 2020*). Paper.
- A. Bietti, G. Mialon, D. Chen and J. Mairal. A Kernel Perspective for Regularizing Deep Neural Networks (*ICML 2019*). Paper.

Talks

- Inria Paris, 2022. *On Inductive Biases for Machine Learning in Data Constrained Settings (PhD Defense)*.
- NYU/Inria Willow, Virtual, 2021. *GraphiT: Encoding Graph Structure in Transformers*.
- DeepMind, FAIR, MILA, Virtual, 2021. *Designing Transformers with Kernel Methods*.
- Paris NLP Meetup, Virtual, 2021. *How Natural Language Processing is reshaping Machine Learning*.
- Gatsby Unit, UCL, 2019. *Screening Data Points for Empirical Risk Minimization via Ellipsoidal Regions and Safe Loss Functions*.

Services

- Organized a reading group on Causal Inference for Inria.
- Reviewing: NeurIPS 2020 (Pre-registration experiment), NeurIPS 2021, ICLR 2022, AISTATS 2022.

Past projects

- Data Challenge: Predicting cancer from DNA for Stéphane Mallat's Curse of Dimensionality course 2018 (ranked first decile).
- Built a Tweet normalizer and a Parser for Emmanuel Dupoux's NLP course.
- Data Challenge: Paris RAMP Drug Test Challenge 2017 (ranked first decile).

Awards and Fellowships

- 2016 **EDF Énergies nouvelles Fellowship** - for pursuing research at MIT.
- 2016 **École polytechnique Outstanding Investment** - for involvement in the campus life and in a microfinance non-profit organization.