LOUIS GRENIOUX

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EXPERIENCE

PhD Candidate in Applied Mathematics
CMAP - École Polytechnique

📅 April. 2022 – Current   📍 Palaiseau, France

- Under the supervision of Marylou Gabrié and Éric Moulines (CMAP, École Polytechnique)
- Created new algorithms mixing deep generative models and energy-based models
- Papers on MCMC assisted by Normalizing Flows accepted at **ICML 2023** [1], [2]
- **Research interests** : Deep learning, Normalizing Flows, Energy-Based Models, Diffusion Models, Stochastic Interpolants, Stochastic Localization

Full Stack Data Scientist
Freelance

📅 Jan. 2021 – Jun. 2021   📍 Paris, France

- Developed web platforms to use internal AI tools
- Scaled proof of concepts for production usage

Research Engineer
Linagora (intership)

📅 Jun. 2020 – Aug. 2020   📍 Paris, France

- Created AI tools for legal audits automation
- Developed a data pipeline from scratch (data engineering, modeling, data visualization, model evaluation)
- Matching the state of the art performance

Software Engineer
YU Televentures (part-time)

📅 Oct. 2014 – May. 2015   📍 Gurgaon, India

- Developed the Android 6.0 production OS
- Developed open-source tools for the community

EDUCATION

MSc. in Data Science
École Polytechnique | IP Paris

📅 2021-2022   📍 Palaiseau, France

- Deep Learning, Reinforcement Learning, Computer Vision, Natural Langage Processing, Generative Models, MCMC, Optimal Transport, Optimization

MSc. in Statistics and Computer Science
Télécom SudParis

📅 2019-2022   📍 Évry, France

- Statistics, Data Analysis, Data Mining, Bayesian Inference, Stochastic Processes
- Java, C, Unix, Web Fronted/Backend, SQL

PROJECTS

Hi!ckathon March 2022 - Team Hi!Gency
Hi!Paris

◎ AI for climate   ▦ Computer Vision

- 🏆 1st place on innovation
- 🎖 2nd place on business opportunity
- 🎖 2nd place on scientific approach

2nd edition of Hi!Paris's high-level hackathon

Generative Modelling for Financial Losses
BNP Paribas / École Polytechnique

🏆 1st place / 60 teams   ▦ Adversarial Networks

AI competition aiming at improving financial stress test methods with deep learning

AI towards Trading - Project leader
Cassiopée 2020-2021 ⌨

🏆 1st place / 88 teams   ▦ Sequential Monte-Carlo

Unique real-time trading bot without neural networks

Android ROMs development
Developed sustainable opensource tools for Android community helping thousands of users

- 💼 2019-2021 | Xiaomi SDM439 ⌨
- 💼 2016-2020 | Tinno MSM8937 ⌨
- 💼 2015-2017 | AOSParadox ⌨

SKILLS

`C` `C++` `Java` `Python` `SQL` `LaTeX`
`OCaml` `Flask` `HTML` `CSS` `PHP`

`tensorflow` `jax` `pytorch` `keras` `numpy`
`scikit-learn` `pandas` `seaborn` `fasttext`

LANGUAGES

- French, English (fluent)
- Spanish, Chinese (intermediate)

PUBLICATIONS

- L. Grenioux, E. Moulines, and M. Gabrié, "Balanced training of energy-based models with adaptive flow sampling," in *ICML 2023 SPIGM Workshop*, 2023.
- L. Grenioux, A. Oliviero Durmus, E. Moulines, and M. Gabrié, "On sampling with approximate transport maps," in *Proceedings of the 40th International Conference on Machine Learning*, 2023.