

Alexandre Vérine

Ph.D Student in Machine Learning at Université Paris-Dauphine

Specializing in the expressivity of generative models, targeting job opportunities for September 2024.

Demonstrated expertise in Python and PyTorch, deep learning models, and working with computing clusters.

Valued for my pedagogical skills and ability to thrive in a research setting.

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PUBLICATIONS Exploring Precision and Recall to assess the quality and diversity of LLMs

Alexandre Vérine, Le Bronnec Florian, Negrevergne Benjamin, Chevaleyre Yann, Allauzen Alexandre

Proceedings of the 62nd Annual Meeting of the Association for Computational Linguistics, (ACL2024 Main)

Optimal Budgeted Rejection Sampling for Generative Models

Alexandre Vérine, Benjamin Negrevergne, Muni Sreenivas Pydi, Yann Chevaleyre

The 27th International Conference on Artificial Intelligence and Statistics (AISTATS 2024)

Precision-Recall Divergence Optimization for Generative Modeling with GANs and Normalizing Flows

Alexandre Vérine, Benjamin Negrevergne, Muni Sreenivas Pydi, Yann Chevaleyre

Thirty-seventh Conference on Neural Information Processing Systems - (NeurIPS 2023)

Training Normalizing Flows with the Precision-Recall Divergence

Alexandre Vérine, Benjamin Negrevergne, Muni Sreenivas Pydi, Yann Chevaleyre
Arxiv Preprint

On the expressivity of bi-Lipschitz normalizing flows

Alexandre Vérine, Benjamin Negrevergne, Fabrice Rossi, Yann Chevaleyre

The 14th Asian Conference on Machine Learning (ACML 2022)

On the expressivity of bi-Lipschitz normalizing flows

Alexandre Vérine, Benjamin Negrevergne, Fabrice Rossi, Yann Chevaleyre

ICML Workshop on Invertible Neural Networks, Normalizing Flows, and Explicit Likelihood Models (INNF+2021)

TEACHING

Introduction to Deep Learning 2023
Université Paris-Dauphine - Executive Master Lectures

Trustworthy AI via Data Science Projects 2022-2023
Université Paris-Dauphine - Executive Master Lectures

Machine Learning Projects 2022
Université Paris-Dauphine - IASD Master's Degree Lectures

Mathematics for Data Science 2020-2022
Université Paris-Dauphine - Master's Degree Lectures/Seminars

Advanced Machine Learning - Normalizing Flow 2021

Université Paris-Dauphine - IASD Master's Degreee Lecture

Artificial Intelligence 2021
Université Paris-Dauphine - Master's Degreee Seminars

Information System Engineering 2020
Université Paris-Dauphine - Bachelor's Degreee Lectures/Seminars

**RESEARCH
INTERNSHIPS**

LAMSADE September 2019 - June 2020
Université Paris-Dauphine Paris, France

- Part-Time Research internship on generation of Adversarial Attacks with Invertible Neural Networks.

Machine Learning & Data Lab April 2019 - August 2019
Wavestone Paris, France

- Master's degree research internship on Invertible Neural Networks as a defense against Adversarial Attacks.

Advanced Structures & Composites Center May 2018 - August 2018
University Of Maine Orono, Maine, USA

- Research internship on organic photovoltaics materials. Developed a portable characterizing device for photovoltaic wire. Designed military application for the photovoltaic wire woven fabric.

EDUCATION

PhD in Artificial Intelligence September 2020 - Present
Université Paris-Dauphine Paris, France

- 3 years contract with LAMSADE Laboratory.
- Subject: Precision and Recall for Generative Models.
- Advisors: Yann Chevalere, Fabrice Rossi, Benjamin Negrevergne.

M.S Quantitative Economics September 2019 - June 2020
Université Paris-Dauphine Paris, France

- Last year of ENS Paris-Saclay as a multi-disciplinary one year program.
- Related Courses: Microeconomics, Macroeconomics, Econometrics, Game theory, Industrial Organization.

M.S. MVA - Mathematics, Vision & Learning September 2018 – April 2019
École Normale Supérieure Paris-Saclay Cachan, France

- Related courses: Reinforcement Learning, Deep Learning, Statistical Learning, Kernel Methods, Natural Language Processing, Astrophysics data processing, Probabilistic Graphical Models.
- Awarded with very high honors.

M.S. Electrical Engineering September 2017 – May 2018
École Normale Supérieure Paris-Saclay Cachan, France

- Related courses: Probabilities, Computing, Energy Processing, Signal Processing, Telecommunication, Automation.
- Research project: Thermic modelisation of a solar powered, self commuted, variable reluctance motor and life expectancy estimation for the french company SAUREA SAS.
- Awarded with high honors. Rank: 3/24.

M.S. Fundamental physics September 2017 – September 2018
Université Paris-Sud Orsay, France

- One year programm as evening lectures.
- Related courses: Plasma physics, atoms and molecule structure, atomic nucleus and particles, optical physics, laser physics.
- Awarded with high honors.

B.S. General Engineering September 2016 – September 2017
École Normale Supérieure Paris-Saclay Cachan, France

- Related courses: Mathematics, Computing, Mechanics, Energies, Numerical Electronics, Biologic electricity.
- Team Project: Building and designing an electronic spinet able to play any recorded song.
- Awarded with high honors. Rank: 16/60.

B.S General Engineering September 2014 - July 2016
Lycée Chaptal Paris, France

- Intensive 2-years course in preparation to sit the national competitive examinations for admission to the French Grandes Ecoles of physics and engineering.
- Related courses: Mathematics, Physics, Chemistry, Engineering, Computing.
- Individual Project: Building and designing the software, the hardware and the mechanical structure of a reduced SegWay System.