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*
Under Review

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 - (NeurIPS2023)

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 (ACML2022)

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 Degree Seminars

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

RESEARCH INTERNSHIPS

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

- Part-Time Research internship on generation of Advbersarial 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 Chevaleyre, 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.