Marc Boëlle

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Education

Master MVA (Mathematics, Vision, Learning) *Sept 2024 – Present*
ENS Paris-Saclay

- Master's specializing in advanced techniques in machine learning, computer vision, and statistical analysis.
- Courses including object recognition, probabilistic graphical models and deep generative models, graph and text deep learning, optimal transport, time series, geometric data analysis and reinforcement learning.

Cycle ingénieur *2021 – 2024*
Ecole polytechnique

- One of France's top-ranking master's-level engineering schools. Specialized in applied mathematics with courses among Operations Research, Optimization and Control, Statistics, Stochastic Models in Finance, Algorithm Design and Analysis, Random Processes and Algorithms for Data Analysis in C++.
- Deep learning courses with image classification challenge on a weakly-supervised dataset, and study of papers with code reimplementation (fairness with Wasserstein barycenters, accelerated gossip using Jacoby Polynomials).
- GPA : 3.91/4.0 , ranked 23rd out of 443 on graduation.

Classe préparatoire : mathematics and physics *2019 - 2021*
Lycée Louis Le Grand, Paris

- Two-year high-level scientific program to prepare for the competitive entrance exams to top French engineering schools.

Professional and related experience

Research Affiliate *Berkeley, USA*
Grid Integration Group, Lawrence Berkeley National Laboratory *March - August 2024*

- Developed optimization algorithms to set competitive prices for long-term energy storage systems, focusing on the Unit Commitment problem and transmission constraints between states.
- Analysed results for the U.S. Department of Energy (DoE) to provide insights to decision-makers, helping them make informed choices about storage investments for a decarbonized energy future by 2050.

Data Scientist Intern *Neuchâtel, Switzerland*
Digital Energy Solutions, CSEM *June – Aug 2023*

- Designed Machine and Deep Learning algorithms for solar energy production prediction
- Implemented recurrent convolutional neural networks (RCNN) for predicting cloud positions from satellite images and the physical equations governing the atmosphere
- Used graphical neural networks (GNN) to extract spatio-temporal correlations in the Swiss photovoltaic network.

Skills

Languages: French (native), English (proficient), German (working knowledge), Arabic (beginner)

Programming languages: Python, Java, C++.

Frameworks & Libraries: PyTorch, Git, LaTeX

Hobbies

Piano : 12 years at the music academy, Handball : member of the school team, Badminton : regional level competitions for 10 years.