Mathieu Isoard

PhD | Data science

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Certifications

2024 – XCS224W Machine learning with graphs
Stanford Online

Technical Skills

Pandas, NumPy, Scikit-learn
PyTorch, PyTorch Geometrics, TensorFlow, Keras
Docker

Languages

French (C2)
English (C1)
German (B1)

PhD-trained physicist transitioning to data science, with hands-on experience in machine learning, deep learning, and deployment. I have applied advanced analytical methods to extract meaningful signals from noisy, high-dimensional data in both academic and applied research. This background equips me to tackle complex data problems from data analysis to deployment with rigor, creativity, and impact.

Experience

2025

Senior AI Researcher @ CRIION (Intelligent Oncology)

- Led the development of unsupervised ML methods (graph-based + Optimal Transport) to align heterogeneous single-cell datasets, significantly improving cell annotation accuracy.
- Translated research into production by building and deploying an end-to-end ML pipeline with a web app (Python, FastAPI, Next.js, Docker), enabling non-ML researchers to run analyses autonomously.

2022 - 2024

Post-doc @ LKB, Sorbonne Université – Quantum Computing Group

- Developed data analysis and deep learning methods to extract fundamental quantum properties from noisy experimental data.
- Designed a deep neural network capable of detecting a key quantum resource for quantum computing from only a few experimental measurements, vastly outperforming existing data-hungry and computationally expensive methods.

Education

2017 - 2020, **Paris-Saclay University**

PhD in theoretical Physics and applied Maths

My PhD focused on (i) uncovering quantum effects in hydrodynamic analog black holes using noisy experimental data, and (ii) solving and numerically simulating fundamental hydrodynamic equations, including shock-wave dynamics.

2013 - 2017, **ENS Paris-Saclay and ENS Ulm**

Bachelor (ENS Paris-Saclay) and Master degree (ENS Ulm, ICFP program)

Skills

What I do

- Project management
- Data analysis and visualisation
- AI integration & deployment
- Communication & talks

What I Use

- Python
- ML/DL libraries
- DevOps tools

Interests & Personal projects

- Sport (weightlifting and running) became a must in my life where I can apply my core beliefs to achieve success: motivation and self-discipline.

- My two current personal projects:
  - ★ Design a ready-to-use wellness platform for my family: www.equilibrecorpsesprit.com
  - ★ Design and deploy an AI-powered mobile app to track gym workout progress.