MATHILDE JAY

PhD student – *Machine Learning, Energy, Distributed Systems*

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Google Scholar **Github** **Gitlab**

PUBLICATIONS

An Experimental Comparison of software-based power meters

M. Jay, V. Ostapenco, L. Lefevre, D. Trystram, A. -C. Orgerie and B. Fichel, "An experimental comparison of software-based power meters: focus on CPU and GPU," 2023 IEEE/ACM 23rd International Symposium on Cluster, Cloud and Internet Computing (CCGrid), Bangalore, India, 2023, pp. 106-118, doi: 10.1109/CCGrid57682.2023.00020.

Utility Maximisation in the Coordinator-Less IOTA Tangle

M. Jay, A. Mollard, Y. Sun, R. Zheng, I. Amigo, A. Reiffers-Masson, S. Rincón. International Symposium on Ubiquitous Networking, 2021, archive. **Best paper award**.

EXPERIENCE

Oct. 2021 - Oct. 2024

PhD - at Université Grenoble Alpes, MIAI, INRIA

Investigating the **Energy** Consumption of Distributed **Edge-Cloud Machine Learning** workloads. **Expected graduation date: October 2024.**

June - September 2021

Software Engineering Internship - At Google, Cloud Computing Platform predictive autoscaling team

Developed a platform to simulate traffic on GCE to study the impact of the **CPU utilization** on the client latency.

October 2020 - March 2021

Research Internship - At IMT Atlantique (Math&Net) - Distributed ledger

Convergence analysis of a **Distributed Gradient Descent** algorithm for a distributed ledger (IOTA).

March - July 2020

Internship in Site Reliability Engineering - At Google, Zürich, Switzerland

Worked on a detail of Google's RCS (Rich Communication Services) infrastructure. Investigated and developed in Python methods that compute **optimal keep-alive intervals** for TCP connections to be utilized by the **mobile phone**.

July - December 2019

Master thesis in Deep Learning Research - At Quantum Surgical, Montpellier, France

Developed cutting-edge deep learning models for medical **Image Segmentation** (Liver lesions) using Tensorflow & Keras.

EDUCATION

2017 - 2021

IMT Atlantique – Brest (Télécom Bretagne degree, M2)

Software engineering, **Mathematics** and signal processing, Telecommunications.

2018 - 2021

EURECOM – Sophia-Antipolis (Double diploma, M1)

Advanced software engineering courses in **Machine Learning** and Data Science.

2015 - 2017

Preparatory classes for the Grandes Écoles d'ingénieur - Lycée du Parc, Lyon, France

Intensive mathematics and physics courses.

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COMMUNICATIONS

- **« Energy consumption evaluation methodology of ML workloads»**
  - AI&Ecology, April 23
  - GreenDays, March 23
- **« Experimental comparison of software-based power meters »**
  - CCGRID, May 23

TEACHING

- Practical courses in **Advanced Algorithmic Programming**. ENSIMAG (Master 1, Apprentices). 2021-2023.

SKILLS

- **Software Engineering: Python**, SQL, Git, Bash
- **Data Science**: Pandas, Tensorflow, PyTorch, Keras, Scikit-learn
- **Languages**: French (Mother Tongue), English (C1-Fluent), German (B2)

HOBBIES

- Rock Climbing, Hiking & Mountaineering, Skiing & Trekking
- **Music**: Studied and played transverse flute, Wind orchestra, concerts