Yassine Kaddami

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EDUCATION

ENS Paris Saclay — Paris, France
MSc MVA (Mathematics Vision and Learning) — *September 2024 - September 2025*

Courses: Reinforcement Learning, Theoretical foundations of Deep Learning, Convex optimization and application in Machine Learning, 3D Computer Vision, Algorithms for speech and natural language processing, Large Random Matrices and Application to Machine Learning, Generative Models for images, Deep Learning and signal processing introduction and industrial application, algorithms for optimization and networks management

IMT Atlantique — Brest, France
Generalist Engineering Diploma — *August 2021 - September 2024*

Major: Mathematical ad computational engineering — **Minor:** Collaborative Software Development
Courses: Stochastic Modelling, Numerical Methods, Introduction to Machine Learning, Deep Learning, Natural Language Processing and Text Mining, Probability and Statistics, Advanced Methods for Software Development and Programming, Software Development Engineering, Robotic Systems Programming

Lycée Charlemagne — Paris, France
Intensive Preparatory Courses — *September 2019 - July 2021*

Two-year program for competitive entrance exams to top engineering schools in France
Track 2nd Year: Intensive advanced mathematics and physics track reserved for 1st year top-performing students (MP*)
Track 1st Year: Intensive mathematics, physics, and engineering sciences track (MPSI)

EXPERIENCE

Data Scientist Intern at Cdiscount — Bordeaux, France
Generative AI R&D — *April 2024 - Sep 2024*

- **Automation of high-quality SEO content Generation**: Researching and innovating advanced techniques to automate the generation of high-quality marketing content using open-source Large Language Models (LLMs) while adhering to legal constraints.
- **AI content control and evaluation**: Implementing a model to detect harmful content and defining metrics for evaluating the generated content.
- **Skills**: LLM fine-tuning, Knowledge Distillation, RAG, Quantization, Parallel Computing, Snowflake, Ceph, SQL, literature review of state-of-the-art articles, Natural Language Processing (NLP)

Python Development Internship at Exail — Lannion, France
Object Oriented Programming — *April 2023 - August 2024*

- **Python app Development**: Improving the conception of production steps of a fiber in Exail by developing a Python app for Exail technicians using object oriented programming and following agile methodology.
- **Skills**: external communication (direct communication with the clients, definition of their needs and continuous adaptation to them), internal communication (weekly presentation to the tutors), initiatives taking, autonomy, rapid adaptation to new contexts.
- **Tools**: Jira, Git, BitBucket, MySQL, PyQt, Figma, SQL, class diagrams, design patterns

RESEARCH PROJECT

- **Hyperparameter Transfer for Large Neural Networks: Limiting behavior of Neural Networks**: In progress
  - **Research Paper**: Demonstrated the unique properties of the µParametrization by studying the limit behavior of large multi-layer perceptrons. Demonstrating these properties on Transformer based architectures.
  - **Skills**: Linear Algebra, Random Matrix Theory, Probability

PROJECTS

- **Big Data and Cloud Computing project**: Applying certain statistical methods and linear regression models to Big Data on the Google Cloud Platform using BigQuery.

- **Image Segmentation with Transformers**: Understanding TransUNet model and code, and experimenting it on new applications. Skills: Complex technical articles and codes comprehension, Adapting state-of-the-art Deep Learning models to new applications.

- **Closed Chatbot using RAG**: Implementing a chatbot responding to covid 19 scientific questions using open source corpus and models.

VOLUNTEER EXPERIENCE

Sports Office (BDS) IMT Atlantique
Part of the International Pole: Organized sports events to integrate international students.

Casablanca Heritage Day Guide Morocco
Attended courses on Casablanca's heritage and history and served as a guide at various historic sites during Heritage Day.