

Ahmad Rammal

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EDUCATION

MVA (Mathématiques, Vision, Apprentissage) - Master 2 2023 - 2024

Highest Honors, GPA: 4/4

Highly competitive renowned program in the field of mathematical modelling and machine learning

Relevant Coursework:

- Reinforcement Learning
- Advanced learning for text and graph data
- Introduction to AGI Safety
- Foundations of Distributed and Large Scale Computing Optimization

ECOLE POLYTECHNIQUE - Ingénieur Polytechnicien 2020 - 2023

High Distinction, GPA: 3.91/4

- Merit scholarship for my 3rd -year academic performance (**Year GPA: 3.96/4**)
- Specialization in Applied Mathematics

SAINT JOSEPH UNIVERSITY - French preparatory classes MP* 2018 - 2020

Ranked among top 1% in the faculty of engineering.

RESEARCH EXPERIENCE

JPMorgan Chase & co

Paris, France

AI Researcher

April 2024 - Present

- Research on Mathematical Reasoning in LLMs:
 - Outstanding paper award at [NeurIPS 2024 Workshop MATH-AI \(top 4%\)](#). Available on [arXiv:2410.16973](#).
 - Evaluated the impact of synthetic data on improving mathematical problem-solving abilities.
 - Enhanced LLM architecture for better performance in math tasks.

King Abdullah University of Science and Technology

Thuwal, Saudi Arabia

Researcher in the group of Peter Richtárik

April 2023 - October 2023

Nominated by Ecole Polytechnique for the best internship award.

Contributed to two research papers:

- *Communication Compression for Byzantine Robust Learning*:
 - Paper accepted at [AISTATS 2024](#) and available on arXiv: [arXiv:2310.09804](#)
 - Led the research effort as first author.
- *Correlated Quantization for Faster Non-convex Distributed Optimization*:
 - Submitted to [AISTATS 2025](#) and available on arXiv: [arXiv:2401.05518](#)

Surf-Metrics

Paris, France

Research Intern

June 2022 - September 2022

- Research on the state of the art in the area of sentiment analysis.
- Designed a semi-supervised NLP model based on the theory of orthonormal spaces.
- Created a pipeline from scratch to scrape and analyse data in order to evaluate companies on Twitter.

SAINT JOSEPH UNIVERSITY

Beirut, Lebanon

Teaching assistant in Mathematics

September 2020 - January 2021

- Prepared students for Ecole Polytechnique's entrance exam.
- Taught classes, prepared supervised homework, corrected students' papers, and graded oral exams.

SIDE PROJECTS

Gram-Schmidt Model

June 2022 - September 2022

A semi-supervised approach applied on binary classification based on the theory of orthonormal spaces.

SKILLS AND HOBBIES

- **Programming** - Python, Pytorch, *Scikit-Learn*, *Flask*, *Git*, *Aws*
- **Languages** - English fluent, French fluent, Arabic native, German beginner.
- **Hobbies** - Calisthenics, guitar, cycling, reading.