Ahmad Rammal

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EDUCATION

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

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

Relevant Coursework:

- Introduction to AGI Safety
- Theoretical foundations of Deep Learning
- Advanced learning for text and graph data
- Foundations of Distributed and Large Scale Computing Optimization
- Introduction to Probabilistic Graphical Models and Deep Generative Models

ECOLE POLYTECHNIQUE - Ingénieur Polytechnicien 2020 – 2023

High Distinction, GPA: 3.91/4

Specialization in Applied Mathematics.

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

Ranked among top 1% in the faculty of engineering.

RESEARCH EXPERIENCE

King Abdullah University of Science and Technology Thuwal, Saudi Arabia

Researcher in the group of Peter Richtàrik April 2023 – October 2023

Contributed to two research papers for *AISTATS 2024*:

- *Communication Compression for Byzantine Robust Learning:*
  - Led the research effort as the primary author.
  - Paper available on arXiv: *arXiv:2310.09804*
- *Correlated Quantization for Faster Non-convex Distributed Optimization:*
  - Anticipated publication soon.

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 capable of scraping and analysing data in order to evaluate a company's ESG score 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

SCAFFOLD algorithm extension September 2022 – December 2022

- Integrating Byzantine-robustness to SCAFFOLD (Karimireddy et al.) using variance reduction.
- Studying and visualizing the bounded gradient assumption.

Gram-Schmidt Model June 2022 – September 2022

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

Image Classification and Segmentation October 2022 – November 2022

Second prize winner in Mckinsey's Quantum Black Hackathon at Ecole polytechnique.

SKILLS AND HOBBIES

- **Programming –** Python, , *Java, SQL,* Pytorch*, Scikit-Learn, Flask, GitHub*
- **Languages -** English fluent, French fluent, Arabic native, German beginner.
- **Extracurricular –** Board member of the students' council at Institut Polytechnique de Paris.
- **Hobbies –** Calisthenics, guitar, cycling, reading.