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.

Image Classification and Segmentation   October 2022 – November 2022
Second prize winner in Mckinsey's Quantum Black Hackathon at Ecole polytechnique.

Gram-Schmidt Model   June 2022 – September 2022
A semi-supervised approach applied on binary classification based on the theory of orthonormal spaces.

Forest Cover Type Prediction   October 2021 – January 2022
Using machine learning techniques to classify forest cover types based on a set of features.

EXTRACURRICULAR

Institut Polytechnique de Paris Students' Council   Palaiseau, France

Off Campus Event Officer   October 2023 – Present
- Organize and coordinate off-campus events to enhance student engagement and community building.
- Collaborate with external partners and local businesses to secure venues and sponsorships for events.

XPROJETS - The junior enterprise of Ecole Polytechnique.   Palaiseau, France

Vice President   October 2021 – December 2022
- Built XProjets' global strategy in collaboration with each member of the enterprise.
- Organizing "Congrès Régional du Printemps 2022" in collaboration with four junior enterprises.
- Negotiating with the school's administration to obtain the national student entrepreneur status for the members of XProjets.

Project Manager   April 2021 – December 2022
- In charge of managing clients, recruiting qualified students to carry out assignments, and establishing the enterprise's proposal.
- Signed two missions of a strategic and digital nature

Quality Manager   April 2021 – October 2021
- Developed written and formalized processes for the enterprise's commercial development.
- Launched a data-driven study on the enterprise's missions.
- Summarized results and presented a commercial strategy to senior members.

X-LIBAN - The association of Lebanese students at Ecole Polytechnique   Palaiseau, France

President   November 2021 – March 2023
- Managing the relation with the school's administration, the alumni association and the Lebanese associations in other schools.
- Raised a fundraising for the Lebanese students after Lebanon's financial crisis.
- Organized Lebanese themed events for Ecole polytechnique's students.
- Expanded the association size by including the Masters and Bachelors of the school.

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, meditation, reading.