

Mariam Salman

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EDUCATION

American University of Beirut

B.S. in Computer and Communication Engineering

GPA: 3.7/4.0

Beirut, Lebanon

2022 – 2026

Al Batoul High School

High School Diploma

Lebanese Baccalaureate with High Distinction, Math Emphasis (4.0/4.0)

Beirut, Lebanon

2021

RESEARCH

Exploring the Landscape for Generative Sequence Models for Specialized Data Synthesis

- Contributed to the design and evaluation of generative sequence models—RNNs, Transformers, and GANs—aimed at synthesizing malicious network traffic by converting numerical data into symbolic text. Demonstrated that RNNs and Transformers produced more statistically accurate synthetic data than GANs, enhancing data generation techniques for cybersecurity.

Optimizing Deep Neural Networks using Safety-Guided Self Compression

- Contributed to the development of a safety-driven quantization framework that prunes and quantizes neural network weights using preservation sets, achieving significant model size reduction without compromising accuracy. Evaluated the framework on CNNs and Transformer models, demonstrating improvements in generalization and the retention of critical model features over traditional quantization methods.

PROFESSIONAL EXPERIENCE

Research Assistant - AI Agents Interaction Study

American University of Beirut

Beirut, Lebanon

Sep 2024 – Present

- Studying the unpredictable evolution of interactions between multiple AI agents to understand their dynamics and implications in complex systems.

Software Engineer - UI, UX, and Customer Relationships' Management

American University of Beirut, Accelerator Program

Beirut, Lebanon

Oct 2023 – Dec 2023

- Participated in a university accelerator initiative that provided extensive support for startup ideas, including direct mentorship from professors and engineers, enhancing the entrepreneurial journey.
- Collaborated closely with seasoned entrepreneurs, utilizing their expertise to refine and advance a carpooling concept, gaining valuable insights into business strategy and innovation.
- Developed key entrepreneurial skills such as business planning, market analysis, and strategic decision-making, which were instrumental in progressing the startup idea.

Dev Team Leader, Amazon Mentorship Program II

AWS - American University of Beirut

Beirut, Lebanon

Jan 2024 – May 2024

- Participated in an AWS mentorship program, where I gained deep insights into web development, covering APIs, backend, and frontend technologies.
- Collaborated closely with Amazon engineers to develop and optimize a carpooling website, significantly enhancing user experience through innovative solutions.
- Applied learned skills in real-time, focusing on improving web performance and user interface design, resulting in a more efficient and user-friendly platform.

TECHNICAL SKILLS

- Languages:** Python, C++, Java
- Skills:** Git, Linux, Problem Solving, Data Structures and Algorithms
- Machine Learning:** Fine Tuning, Supervised Learning, TensorFlow, PyTorch