

Mohammad Zbeeb

+961 (81) 534 672 - mbz02@mail.aub.edu - LinkedIn [Here](#) - GitHub [Here](#) - Scholar [Here](#)

EDUCATION

American University of Beirut

Computer and Communication Engineering

Beirut, Lebanon

2022 – 2026

RESEARCH

Exploring the Landscape for Generative Sequence Models for Specialized Data Synthesis: [\[Paper\]](#) [\[Code\]](#)

Optimizing Deep Neural Networks via Safety-Guided Self Compression: [\[Paper\]](#) [\[Code\]](#)

Julearn1: An ongoing machine learning prototyping library built atop Julia, prioritizing flexibility for ML researchers. [\[Code\]](#)

Ensembling LeNet with LSTM for Time Series Predictions: [\[Code\]](#)

TEACHING

Co-Instructor, Introduction to Machine Learning

American University of Beirut, Beirut, Lebanon

Jan 2025 – Present

- Conducting revision sessions, paper reading sessions, assignments, and quizzes for the Machine Learning class at AUB.

PROFESSIONAL EXPERIENCE

Research Assistant - Data Science

American University of Beirut Medical Center, Beirut, Lebanon

July 2024 – Nov 2024

- Conducted research on identifying repeatable features within eye maps to advance diagnostic tools in ophthalmology.

Research Assistant - Machine Learning - Computer Vision, Intern

GeoAI Group, Beirut, Lebanon

May 2024 – July 2024

- Researched and refined building detection methods from aerial images using CNNs, GNNs, and GANs.
- Leveraged TensorFlow for model development, boosting detection accuracy and efficiency.

Optimization Engineer - Differentiable Optimizers

Ubilite - Low Power Wifi, Beirut, Lebanon

Jan 2024 – May 2024

- Developed automated optimization solutions for SOC Wireless Transceivers (RF: 2.5 – 7 GHz).
- Skills: Scripting, Analog Design, Optimization Algorithms, Research

Software Engineer

Cloud Gate Consulting, Beirut, Lebanon

May 2023 – Jan 2024

- Implemented and designed websites using Flask, enhancing user experience and functionality.
- Communicated project updates to clients and team members in a team of 50.

Research Assistant - Network Intrusion Detection System Models

American University of Beirut, Beirut, Lebanon

Oct 2023 – Jan 2024

- Created datasets of various Cyber DDoS attacks for modeling intrusion detection systems.
- Contributed to the implementation of intrusion detection models.

TECHNICAL SKILLS

- **Languages:** Python, and C++.
- **Skills:** Git, Linux, APIs, Problem Solving, Data Structures and Algorithms, Flask, FastAPI.
- **Machine Learning:** Good in supervised learning with a strong theoretical foundation. Specifically in deep learning and familiar with geometric and representation learning techniques.
- **Mathematics and Statistics:** Strong background in linear algebra, statistical inference, and statistical learning.
- **Computer Vision:** Knowledgeable in principles of projective geometry, camera models, image formation and representation, image processing techniques, and machine learning for computer vision.
- **NLP:** Ngrams, transformers, and generally sequence models
- [Recommendation Letter in the field of Machine Learning \(Professor\).](#)

COLLABORATIONS AND COMMUNITY

Amazon Industry Program 2.0

AUB, AWS, Beirut, Lebanon

Jan 2023 – Sept 2023

- Collaborated in a team of 3 to build a carpooling web application for our university.
- Achieved second place award for exemplary project contributions.
- Received a recommendation letter from my manager, available [Here](#).

AI Journey at AUB

Co-Lead

Beirut, Lebanon

2023 – Present

- Co-led an AI-focused educational roadmap at AUB, offering hands-on sessions on AI and data.
- Organized bootcamps in collaboration with IEEE to support student engagement and AI literacy.
- Instagram ([@ai.journey.aub](#)) and a [YouTube playlist](#) for event promotions and recorded workshops.