

ADEM MCHAREK

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Education

Long Island University Brooklyn

Sep 2021 – May 2025

Bachelor in Artificial Intelligence

Brooklyn, NY, USA

- Honors College Cumulative GPA: 3.88/4.00
- Relevant courses: Machine Learning, Deep Learning, Calculus II and III, Linear Algebra, Statistics, Physics I and II, Theory of Computation, Applicable Deep Learning, Cloud Computing, Natural Language Processing, Software Engineering, Modern Cryptography, Data Mining and Business Intelligence

Projects

AI Research Assistant | LIU Brooklyn, USA

November 2023– ongoing

- Orchestrated an AI Research Assistant using AUTOGEN's multi-agent system for real-time academic literature retrieval using RAG, transforming scholarly research and dialogue synthesis.
- Developed multiple multi-agent subprojects, incorporating web scraping, real-time file retrieval, and advanced mathematical computations, including an AI-enabled Research Navigator for automating the .

PyTorch CNN for MNIST | LIU Brooklyn, USA

2023

- Developed and implemented a Convolutional Neural Network (CNN) in PyTorch to classify handwritten digits, showcasing proficiency in deep learning and neural network architecture.
- Optimized hyperparameters, achieved competitive results in terms of accuracy.

Computer Vision using TensorFlow | LIU Brooklyn, USA

2022 – 2023

- Developed a hand gesture recognition system utilizing SSD MobileNet V2 FPNLite, achieving an 85% recall rate on a 200-image dataset, facilitating real-time detection for applications such as sign language translation. Applied the same technology in a team project to create a web app for real-time fruit detection, showcasing the practical utility of the application in agriculture and retail.

Honors/Awards

Secured bronze and silver medals in the International Youth Mathematical Olympiad | *online*

2019-2020

People's Choice Award at #hackathon4Justice by the UN | *the World Bank, Washington D.C.— USA*

2019

achieved 6th place in the NASA Space Apps Challenge held in Sfax | *Tunisia*

2019

Triumphed in securing the Bronze Medal at the Arabic Mathematical Olympiad | *Jeddah, Saudi Arabia*

2018

LEADERSHIP & VOLUNTEER EXPERIENCE

Founder and President of "AI Club" | LIU Brooklyn, USA

Nov 2023 – ongoing

- Launched the AI Club, swiftly escalating membership to over 50 enthusiasts fostering a vibrant community of AI enthusiast, honing collaborative skills to tackle complex, high-level projects.
- Directed innovative projects across AI disciplines significantly advancing members' hands-on experience and research capabilities.

Math Olympiad Participation | *Tunisia*

March 2018 - 2020

- Leveraged a majority of my high school break for rigorous, immersive participation in National Math Olympiads Camps.
- Enhanced problem-solving abilities and win over 20 victories in national and international math competitions, emphasizing my solid mathematical foundation.

Founder, mentor and member of AJST Zarzis | *Zarzis, Tunisia*

May 2015 – August 2021

- Initiated and cultivated AJST Zarzis, a scientific club that grew over 100 active participants where we developed projects utilizing Arduino and fostered learning in C and python for game development under the mentorship of local professors.
- As a math mentor, guided 15 members in math Olympiad concepts preparing them for Math Olympiad competitions.

Skills

Arabic: Native language **English:** Bilingual **French:** Fluent

Programming Languages: Python, MySQL, Pytorch, Tensorflow, Docker, C++, JavaScript, Node.js, Unity.

Hobbies

Fencing: D1 athlete (saber/foil) **tennis:** playing for over 10 years