

KHALED AMMOURA

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EDUCATION

AMERICAN UNIVERSITY OF BEIRUT (AUB)

Beirut, Lebanon

Bachelor of Engineering, Computer Science and Engineering, GPA: 3.73/4.0

Sep 2022 – Expected Dec 2027

Bachelor of Physics, GPA: 4.0/4.0

Sep 2022 – Expected Dec 2027

- Minor in Mathematics, **GPA: 3.75/4.0**
- Scholarships and Awards: ULYP Scholarship, Dean's Honor list

IMAN HIGH SCHOOL

Saida, Lebanon

Lebanese Baccalaureate, General Sciences

Sep 2019 – May 2022

3rd on South Lebanon, 7th on Lebanon

PROFESSIONAL EXPERIENCE

MODEL ARAB LEAGUE (MAL)

Beirut, Lebanon

Delegate

JAN 2018

- Acted as the representative for Mauritania, proficiently advocating its stance on refugee education
- Delivered speeches to articulate my country's position
- Collaborated seamlessly with fellow delegates to draft and refine resolutions
- Ensured that the resolution was in complete alignment with Mauritania's strategic interests and policies

CLASH OF BRAINS (CoB)

Saida, Lebanon

Contestant

JAN 2017

- Conducted in-depth research to provide accurate answers to a comprehensive set of over 100 questions, covering diverse topics such as History of countries, Science, and Sports.
- Demonstrated exceptional memory skills by successfully retaining all researched information.
- Advanced to the semi-final round, facing an additional 40-50 challenging questions.
- Secured a position in the final stage, ultimately achieving 2nd place.

EXTRACURRICULAR ACTIVITIES

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

Beirut, Lebanon *Member at Large*

Oct 2022-May 2023

- Actively engaged in numerous events, including Hackathons, Bitcoin discussions, and CAK seminars
- Exhibited exceptional communication skills while providing support at informational stands
- Demonstrated strong leadership qualities by taking initiative in organizing and coordinating team efforts to ensure seamless operation of the stands
- Proactively collaborated with team members to enhance the overall effectiveness of the informational stands, fostering an environment of mutual respect and shared goals
- Assisted in the registration process by entering member information and facilitating the creation of individual IEEE accounts

Beirut, Lebanon *Event Officer*

Oct 2023-May 2024

- Organized the 'Gathering' event, including preparing event materials, creating and vetting technical questions, and ensuring smooth event execution.
- Participated in the university's open day, promoting IEEE's initiatives and engaging with prospective students.
- Collaborated with the webmasters team to provide event summaries, posts, and multimedia content for timely updates on the IEEE website.
- Assisted in organizing and conducting a revision session for EECE 230 (Python programming course), offering guidance and resources to students.
- Assisted in the registration process by entering member information and facilitating the creation of individual IEEE accounts

Beirut, Lebanon *Event Officer*

Oct 2024-May 2025

ONGOING PROJECTS

MACHINE LEARNING PROJECT

Oct 2024-Expected May 2025

- Title: **AI-Assisted Mental Health Diagnostic System for Therapist Offices**
- Objective: Developing an AI system to assist therapists by analyzing patient behavior in real-time during therapy sessions. The system uses computer vision, voice tone analysis, and natural language processing to detect key indicators of mental health conditions, improving diagnostic accuracy while preserving human interaction.
- Skills to be gained:
 - Machine Learning & AI: Experience in developing AI algorithms for behavior analysis, including computer vision and voice recognition.
 - Natural Language Processing (NLP): Applying NLP techniques to analyze verbal content and storytelling for detecting emotional cues.
 - Data Science & Model Training: Working with mental health datasets to train machine learning models for diagnosing mental health conditions.
 - Computer Vision: Implementing computer vision algorithms for analyzing facial expressions and body movements.
 - Real-Time Systems Development: Building systems that provide real-time feedback based on behavioral analysis.
 - Ethical AI Development: Ensuring that AI systems comply with ethical standards, including data privacy, anonymization, and confidentiality.

QUANTUM COMPUTING PROJECT

Oct 2024- Expected May 2025

- Title: **Quantum-enhanced Machine Learning for Simulating Quantum Phase Transitions in Condensed Matter Physics**
- Objective: Developing a hybrid quantum-classical machine learning model to simulate and predict quantum phase transitions in condensed matter systems. Focused on studying transitions driven by quantum fluctuations at zero temperature.
- Skills to be gained:
 - Quantum Computing: Working with quantum circuits, qubits, and quantum algorithms.
 - Machine Learning: Classical ML models (neural networks, SVMs) and their integration with quantum computing.
 - Condensed Matter Physics: Understanding quantum phase transitions, quantum fluctuations, and their simulation.
 - Tools: Qiskit, PennyLane, TensorFlow, PyTorch, IBM Quantum Experience.
 - Programming: Python for quantum and machine learning development.

DATABASE PROJECT

Oct 2024- Expected Jan 2025

- Title: **Online and Physical Retail Store**
- Objective: Developing a database system to manage and integrate both online and physical retail store operations. The system streamlined inventory management, customer data handling, order processing, and financial reporting.
- Skills to be gained:
 - Database Design & Development: ER diagrams, normalization, relational database modeling.
 - SQL Programming: Writing queries, stored procedures, triggers, and functions.
 - Database Management Systems (DBMS): MySQL, PostgreSQL, or other SQL-based DBMS.
 - Data Integration & Synchronization: Handling real-time inventory updates across multiple stores.
 - Backend Development: Interfacing with database using technologies such as Python, PHP, or Java.
 - Data Security & Integrity: Role-based access control, encryption, and data backups.
 - Version Control: Git or other version control systems for collaboration and project management.

SKILLS & PERSONAL

Interests: Quantum Computing, Quantum Mechanics, Quantum Machine Learning, Machine Learning, Astrophysics, Coding, Football

Languages: Arabic (Native), English (Fluent)

Computer Literacy: Python, C++, Java, C, SML, HTML, CSS, JavaScript, Microsoft Office Excel, PowerPoint, Word