

# ELIAS EL KHOURY

Computer and Communication  
Engineer

## CONTACT

- +961 76 970 849
- elias.khoury.leb@gmail.com
- Beirut, Lebanon
- [LinkedIn](#)
- [E-Portfolio](#)
- [Github](#)

## EDUCATION

2021 - 2026

AMERICAN UNIVERSITY OF BEIRUT

- Computer and Communication Engineering BE | GPA: 4.0
- Awards: \* **Dean's Honor List Award** for all semesters

\* Recipient of the **USAID**

Higher Education Scholarship

2007 - 2021

COLLÈGE DES SAINTS COEURS

- High School Diploma in General Sciences Maths & Physics | GPA: 4.0
- Award: **Nationally Ranked 5th** on Lebanese Baccalaureate Exam

## SKILLS

- C++ & C# Programming
- Python Programming
- React js
- RISC-V Assembly Language
- Unity
- Leadership
- Team Collaboration
- Adaptability
- Analytical & Critical Thinking
- Problem Solving

## LANGUAGES

- Arabic (Native)
- English (Highly Proficient)**
- French (Highly Proficient)

## HOBBIES

- Singing: performed at school events including graduation, and USAID events at AUB
- Sports: swimming, hiking, basketball, tennis, padel

## ABOUT ME

A **determined** Computer and Communication Engineering student at the American University of Beirut, proficient in multiple software programming languages as well as hardware, networking, and communication. Demonstrates **strong teamwork, analytical thinking, and problem-solving skills**. Keen to pursue a career in software engineering. **Committed** to working as a **collaborative and positive team member**, striving to leverage my knowledge and expertise to achieve optimal engineering results.

## EXPERIENCE

Research Assistant, Beirut

JAN 2024 - PRESENT

*under supervision of Dr. Ayman Kayssi*

Contributing to a Vertically Integrated Project with a focus on '**AI in Neuroradiology**,' researching and developing AI algorithms to detect new lesions in multiple sclerosis patients.

- Used **Machine Learning** to predict heart attacks and brain strokes.
- Prepared & presented reports **summarizing research findings**.
- Collaborated with researchers to develop techniques to estimate brain volumes using **Neural Data Science in Python**.

## PROJECTS

### Reliable Chatting Application Development

- Developed** a robust chat application using Python, ensuring reliable message delivery under reliable and unreliable network conditions.
- Implemented** solutions to guarantee message ordering, duplication checks, error handling using **UDP**, & file sharing using **TCP protocols**.
- Tested via **emulation** of unreliable network conditions with **Linux Ubuntu's netem** on a virtual machine.

### AUB Marketplace Website Development (3rd Place Winner)

- Designed** and **developed** a platform for AUB students to buy, sell, and manage lost IDs, using **React**
- Architected** a **DynamoDB noSQL** schema to support multiple access patterns, ensuring efficient data retrieval and storage.
- Utilized** a wide range of **AWS services** (Lambda, S3, API Gateway, SNS, etc.) to create a scalable, secure, and serverless backend architecture.

### Counter Speech & Speaker Recognition (DL & NN Models)

- Developed** a real-time system to counter speech and speaker recognition using adversarial techniques.
- Fine-tuned** Thin-ResNet-34 architecture with **MFCC-based feature extraction**, achieving 88.89% baseline accuracy.
- Applied** frequency-domain perturbations with targeted Gaussian noise and subharmonics, achieving countering accuracy to 94.44%.

### RPG *Diablo* 3D Game Development Project (Unity)

- Created** a comprehensive 3D RPG game inspired by *Diablo*.
- Designed** 8 player states (idle, walk, attacks, etc.) and 5 enemy states using NavMesh for **AI-driven behavior**.
- Created** a save/load system with **JSON serialization** for game persistence and PlayerPrefs for settings storage.
- Programmed** an inventory system with **Scriptable Objects** and developed UI for item and settings management.

## EXTRA CURRICULARS

- Launched my Community Service Project** (CSP), funded by USAID on the water pollution and soil contamination in Batroun (2024)
- Member of **IEEE Club** (2023-2024)
- Operations Manager** at Albert Nassar Foundation (2022-2024)
- Active Volunteer Member of Safety Team** at AUB Outdoors (2024)
- Volunteer at Youth Association of the Blind (YAB) (2024)