

# Zaynab Hmede

Douweir, Nabatieh – Lebanon | zaynbhmede97@gmail.com | +961 78 836 080

## PROFILE SUMMARY

Fresh Graduate in Computer and Communications Engineering with a strong academic background and hands-on experience in web development and AI-based projects. Skilled in full-stack web technologies, machine learning, and medical image analysis using MRI data. Highly motivated to start a professional career, apply theoretical knowledge in real-world projects, and continuously develop technical and problem-solving skills within a dynamic engineering environment.

---

## EDUCATION

- ❖ Diploma in Communications and Information Networks Engineering – Islamic University of Lebanon  
2022 – 2025 (Completed)
  - ❖ Bachelor's Degree in Computer and Communications Engineering – Lebanese University, Faculty of Technology  
2019 – 2022
- 

## EXPERIENCE

- ❖ **Multiple Sclerosis Detection Using MRI (AI Project:Final Year Project) 2025**
  - Developed an AI-based system for early detection of Multiple Sclerosis (MS) using brain MRI images.
  - Applied MRI image preprocessing techniques (normalization, noise reduction) to enhance data quality.
  - Utilized Topological Data Analysis (TDA) to extract advanced features such as persistence diagrams, Betti curves, entropy, and amplitude.
  - Trained and evaluated machine learning classification models (Random Forest) for disease prediction and performance comparison.
  - Deployed the trained model using a Flask web application, enabling user interaction and result visualization.
  - Tools & Technologies: Python, NumPy, Scikit-learn, Flask, MRI Preprocessing, TDA

## ❖ **Lebanese University Solidarity Fund Website 2022**

- Designed and implemented a **full-stack web platform** connected to the Lebanese University Solidarity Fund.
- Developed **dynamic web pages** using *HTML and CSS* for structured and user-friendly interfaces.
- Implemented **server-side logic and database connectivity** using *PHP and Laravel*.
- Enabled **secure data handling** for requests and records related to financial and social assistance.
- Focused on **scalability, usability, and maintainability** of the system.
- **Technologies Used:** HTML, CSS, PHP, Laravel

## ❖ **Web Development Intern – Qualisone, Beirut (Jun 2022 – Jul 2022)**

- Designed and developed a **web-based platform for medicine donation** to support communities during the economic crisis.
- Implemented **responsive front-end interfaces** using *HTML, CSS, and JavaScript* to ensure accessibility across devices.
- Developed **back-end logic and database interactions** using *PHP and Laravel*. Integrated forms, validation, and CRUD operations for managing donation requests.
- Collaborated with team members to **improve usability, performance, and code structure** following best development practices.

---

## **TECHNICAL SKILLS**

- Programming: Python, C, C#, C++,Java
- Web: HTML, CSS, JavaScript, PHP, Laravel, Flask
- AI & Data: Machine Learning, MRI Analysis, TDA,U-net
- Databases: SQL
- Digital Systems: VHDL, FPGA
- Networking: WAN, LAN, WLAN

---

## **LANGUAGES**

- Arabic (Native)
- French (Upper-Intermediate)
- English (Intermediate)