

Zeinab Mounir Abo Hamdan

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Professional Summary

Senior Computer Science graduate from the American University of Beirut (AUB) with strong foundations in full-stack development, data science, and applied machine learning. Proven track record building end-to-end platforms, integrating AI features, and leading community-driven initiatives. USAID scholarship recipient and Honor List awardee motivated to deliver scalable, impactful technology solutions.

Education

American University of Beirut, Beirut, Lebanon

Aug 2023 – Spring 2026

Bachelor of Science in Computer Science — With Distinction

- USAID (HES) Scholarship Recipient
- Dean's Honor List — multiple semesters

Internship Experience

Mobile Application Developer (Academic Intern) – Ministry of Youth and Sports (Lebanon) 2026 – Present

- Collaborating with a student development team to design, implement, and test features for an official government mobile application.
- Contributing to application functionality, UX design, and system integration in a real-world governmental environment.
- Applying skills in mobile development, software engineering, and cross-functional teamwork.

Volunteer Intern – Al-Jalil Welfare Association (Lebanon)

June – August 2024

- Supported community events and children's engagement programs.
- Contributed to the development of a Monitoring & Evaluation website for NGO reporting.
- Designed technical presentations and documentation for organizational use.

Project Experience

Volunteering Platform (Final Year Project) – Full-Stack & Data-Oriented System 2025 – 2026

- Designed and developed a full-featured web platform supporting volunteer registration, activity coordination, and NGO management.
- Focused on system architecture, data modeling, and accessibility for community organizations.

CampusLink — University Clubs Platform

2024

- Built a full-stack platform for club discovery, registration, and event management using React, Node.js, and MySQL.
- Delivered responsive UI components and RESTful APIs; collaborated in Agile sprints with GitHub code reviews.

CVision — AI Resume Critique Tool

2024

- Built a Streamlit interface for an LLM-powered resume evaluation tool with structured scoring and visual feedback dashboards.
- Contributed to PDF parsing, testing, and GitHub documentation.

Brain Tumor Segmentation – Machine Learning

2025

- Developed an end-to-end MRI brain tumor segmentation pipeline using CNN-based U-Net architecture.
- Evaluated model performance with Dice score and IoU metrics.

Alzheimer's Disease Early Detection – Data Science & ML

2025

- Built a machine learning model for early-stage Alzheimer's detection using EEG/biomedical data.
- Performed data preprocessing, feature extraction, EDA, and evaluated using accuracy, precision, recall, and ROC curves.

Emotion Detection Mobile App – AI & Mobile Development

2026

- Designed and developed a mobile application detecting human emotions via AI analysis of voice, facial, or text input.
- Built the end-to-end app including UI, backend integration, and real-time prediction features.

Operating Systems (xv6) — Kernel Extensions

2024

- Implemented a sysinfo system call and UNIX-like utilities; developed kernel threads with an MLFQ scheduler.

Hospital Management Database

2024

- Designed a normalized relational database for hospital operations covering patients, appointments, departments, and medical records.
- Implemented SQL queries, constraints, and relationships ensuring data integrity and efficient reporting.

Technical Skills

Languages: Python, Java, C, C++, JavaScript, TypeScript
Frontend: HTML, CSS, JavaScript, Tailwind CSS, React.js, Next.js
Backend: Node.js, Express.js, NestJS, RESTful APIs, MySQL, Streamlit
AI & LLMs: LLM integration (chatbots, AI features), OpenAI/Gemini APIs, LLM APIs
Machine Learning & Data Science: CNNs, Image Segmentation, Model Evaluation, data analysis, machine learning models, Python (pandas, NumPy, scikit-learn)
Databases: SQL for relational databases, MongoDB for NoSQL databases, Relational Design, ER Modeling, Data Integrity
Systems: Linux, xv6, Kernel Threads, MLFQ Scheduling
UI/Design: Figma, UI/UX implementation, AI designing tools
Version Control: Git, GitHub
DevOps & CI/CD: GitHub Actions / GitLab CI/CD, Deployment (Render, Vercel), Docker
Soft Skills: Leadership, fast learner, problem-solving, time management, teamwork, communication, adaptability, ability to meet tight deadlines

Volunteer & Leadership

Team Leader — Community Service Project (CSP) – AUB (Beirut) 2022 – 2026
• Led and coordinated a scholarship-required community service team; organized tasks, facilitated communication, and ensured timely delivery of community-focused projects.

Semester Volunteer — Various NGOs Fall 2022 – Present
• Completed 30+ volunteer hours per semester across health, education, refugee support, and community development initiatives.
• Assisted in tutoring, event logistics, and community program coordination.

Awards & Certifications

- Entrepreneurship and Job Readiness Certificate (2025)
- Environmental Awareness Workshop Certificate (2025)
- Social Media Bootcamp — DOT Lebanon (2024)
- USAID Workshops: Human Rights, Stress Management, E-Portfolio, Taxes (2023–2024)
- AUB Workshops: Health, Environment, Psychology, Women in Data Science

Languages

Arabic: Native **English:** Fluent