

Fatima Haj Hassan

Beirut, Lebanon | +961-81-956908

Fhh17@mail.aub.edu | **LinkedIn:** [Fatima Haj Hassan](#)

EDUCATION

From 09/2022 to 07/2026	American University of Beirut Bachelor's in Electrical and Computer Engineering	Beirut, Lebanon
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EXPERIENCE

From Fall 2024-Present	IT Department Assistant –American University of Beirut • Provide technical support to students and staff, including software installations and authentication assistance • Handle some IT service tickets and perform setup for faculty desktop computers • Assist in day-to day IT operations and troubleshooting	Beirut, Lebanon
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PROJECTS ACCOMPLISHED

Fall 2024-2025	EECE 460- Modeling and Control of a Ball-and-Beam System • Derived a mathematical model of the controlled plant • Designed controllers that satisfy technical requirements • Analyzed controller performance against technical design requirements	
Fall 2024-2025	EECE 490- AI Farming Companion • Developed an end-to-end AI web app combining plant leaf disease classification, water-body segmentation from satellite imagery, and a farmer support chatbot • Built and served ML inference through a Flask backend, packaging the pipeline for reproducible runs (Docker/env configuration) • Evaluated model outputs using clear metrics/visualizations and documented deployment steps for users	
Spring 2024-2025	EECE 433- Real Estate Database Management System • Requirements analysis and conceptual design • Relational Schema Design • SQL Queries	
Spring 2024-2025	EECE 430-Medical Scheduling System • Developed a medical appointment platform with intelligent scheduling real-time doctor availability, and user-specific features for patients and doctors • Implemented key features: appointment booking, rescheduling, workload-based recommendations • Built using Flask(backend), Flutter(frontend)	
Fall 2025-2026	EECE 693- Trust Verification Score: Multicultural Herbal-Medicine LLM Safety Evaluation • Developed an evaluation framework to score LLM responses on trustworthiness/safety-related dimensions for herbal-medicine claims • Ran structured experiments (prompting + scoring) and analyzed results to identify failure modes (e.g., unsafe advice, overconfidence) • Documented methodology and findings for reproducible evaluation and future model comparisons	
Spring 2025-2026	EECE 461- Smart Doormat Entrance Monitoring System • Developed an ESP32-based smart doormat system integrating multiple sensors for presence detection, user identification, environmental monitoring, and package detection • Implemented sensor interfacing and embedded logic for RFID-based access recognition, footprint direction sensing using FSRs, calibrated LDR-based light measurement, and load-cell package monitoring	

- Designed real-time control features including automatic lamp activation, OLED status display, Bluetooth reporting, and people-count tracking through multi-sensor decision logic

Spring 2025-2026 EECE 502- Final Year Project – AgroVision AI: Autonomous Deep Learning for Agrophotovoltaic Farm Management

- Designed, trained, and evaluated five deep learning architectures, including LSTM, BiLSTM, CNN-LSTM, Attention-based, and Transformer models, using real agricultural sensor data
- Developed a dual-output forecasting model to predict photovoltaic power and crop photosynthetically active radiation over a 60-minute horizon at 5-minute resolution
- Built an automated end-to-end pipeline using PyTorch, FastAPI, APScheduler, and SQLite for scheduled inference and real-time prediction delivery through REST and WebSocket APIs

SUMMARY SKILLS

HARD SKILLS: Python, C++, Wireshark, PsPice, Vivado, Django, Trello, LabVIEW, GitHub, HTML, Flask, Scikit-learn, TensorFlow, Figma, Pandas, Matplotlib, Verilog, Visual Studio, MS Word, Excel, PowerPoint

LANGUAGES: Fluent in English, Arabic (writing, reading, and speaking)

Workshops and Certificates

- 1- Amazon Certificate of Participation of 3-day ML workshop with WIE
- 2- Completed Network Basics course with CISCO Networking Academy
- 3- Completed Introduction to Data Science course with CISCO Networking Academy
- 4- Completed the advanced track of techsplore Program 2023 with All Girls Code