

Reem Osseily

❖ reimoss11@gmail.com ❖ (+961) 81 527-418 ❖ Lebanon

WORK EXPERIENCE

Data Engineering Intern

Jan. 2025 – Apr. 2025

MacroVision Agency

Remote

- **AI & LLMs:** Built a chatbot assistant using AWS Lambda, LangChain/LangGraph, and OpenAI to interpret user input and respond contextually with chat history and permission logic.
- **ETL & Data Pipelines:** Designed a serverless ETL workflow using S3, SQS, AWS Transcribe, and Athena to process and query video transcripts.
- **IaC & CI/CD:** Managed infrastructure with Terraform and automated deployments with GitHub Actions and Docker.
- **Testing & Agile:** Wrote automated Python tests for Lambda functions, participated in Scrum ceremonies, and handled GitHub PRs and reviews in a fast-paced dev cycle.

Full-Stack Development Intern

August. 2024

CodeAlpha

Remote

- Developed a basic e-commerce store with product management and cart functionalities using HTML, CSS, JavaScript, Express.js, and MongoDB.
- Created a basic social media platform focused on nature enthusiasts, allowing users to post, like, comment, and share nature-related content.
- Developed a project management tool that facilitates task organization, progress tracking, and team collaboration, enhancing productivity.

Freelance Front-End Web Developer and SEO Manager

Jan. 2017 – June 2019

Freelance

Medina Munawara, KSA

- Developed and maintained responsive front-end web solutions for clients, ensuring optimal user experience
- Implemented SEO strategies that significantly improved website visibility and search engine rankings
- Conducted website testing for functionality and bug identification

Wordpress Website and Affiliate Marketing

Oct. 2017 – June 2019

Founder & Manager

Medina Munawara, KSA

- Managed and administered a self-hosted Wordpress website, including back-end maintenance
- Conducted regular updates, content management, and plugin configuration to enhance website functionality
- Implemented FTP management for file transfer and server-side operations
- Implemented affiliate marketing strategies, contributing to revenue growth and user engagement

PROJECT EXPERIENCE

Beacon: Adaptive SLAM-Based Indoor Navigation System for the Visually Impaired

M.Sc. Thesis Project

- Developed a smartphone-based indoor navigation system integrating Visual SLAM, ArUco marker room identification, YOLOv11 object detection, and Vosk offline speech recognition on the Android platform.
- Designed and implemented a probabilistic occupancy grid mapping pipeline using ARCore depth sensing, log-odds Bayesian updates, and RANSAC-based wall extraction for real-time environmental modeling.
- Built a multi-room navigation system with trajectory-based doorway extraction, A* path planning, and spoken turn-by-turn guidance through a custom PathFollower engine.
- Implemented cross-session map persistence and relocalization using a tracking offset transform to align ARCore's session-dependent coordinate systems with saved map data.
- Developed a stereo vision subsystem using two ESP32-CAM modules with a fixed baseline, including

camera calibration, disparity-based depth estimation, and real-time obstacle distance measurement.

- Integrated a dual-mode voice interaction architecture with wake-word detection and grammar-constrained command recognition for hands-free operation by visually impaired users.
- Deployed YOLOv11 and YOLOv8 models via TensorFlow Lite with GPU acceleration for real-time object and door detection, combined with multi-strategy depth estimation and Kalman filter tracking.
- Built the complete Android application in Java (~60 classes), integrating ARCore, OpenCV, TensorFlow Lite, Vosk, and SQLite into a modular, offline-capable system.

Municipality System with Sensor Integration

B.Sc. Senior Project

- Developed a municipality system integrating sensors for garbage, streetlight, and waterflow monitoring.
- Designed and implemented data transmission protocols for sensor data to the corresponding mobile application.
- Implemented an Android mobile application to receive real-time sensor data and display processed information.
- Collaborated with a team to ensure project success, meeting all milestones and deadlines.

Hotel Management System

Database Project

- Designed and implemented a comprehensive database system for hotel management, including modules for guest bookings, room allocation, and staff management.
- Developed SQL queries and stored procedures to efficiently retrieve and manipulate data.
- Ensured data integrity and security measures were implemented to protect sensitive information.
- Conducted thorough testing to validate system functionality and performance.

EDUCATION

Lebanese International University

M.Sc, Computer and Communication Engineering

June 2026

Beirut, Lebanon

Lebanese International University

B.Sc, Computer Engineering

June 2024

Tyre, Lebanon

- Distinguished Status; 3.84/4.0 GPA
- Dean's Honor List

Al-Aqeeq International School

High School Diploma

April 2019

Medina Munawara, KSA

- Honor List; 4.0/4.0 GPA
- Two-time finalist in Volleyball School Championship; Completed 30+ hours of Community Service

SKILLS & INTERESTS

Skills:

- o Problem solving and analytical skills
- o Project management
- o High-level languages (Java, Python, C, C++, HTML, CSS, XML, PHP, JavaScript, Bash, Octave)
- o Low-level languages (Assembly, VHDL)
- o Frameworks: Node.js, React.js, Express.js, WordPress, LangChain, LangGraph
- o Infrastructure as Code Terraform
- o DevOps: Docker, Github Actions
- o Serverless & Cloud Technologies: AWS Lambda, Amazon S3, Amazon Athena, Amazon SQS, Amazon Transcribe, DynamoDB
- o Operating systems (Microsoft Windows, Linux, macOS)

- o Microcontroller Boards (Arduino, Raspberry Pi, NodeMCU)
- o Databases: SQL, NoSQL (MongoDB), Vector Databases (Pinecone)
- o Hardware design and troubleshooting
- o Networking
- o Search Engine Optimization
- o Affiliate Marketing
- o Software development
- o Web and Mobile App development
- o Version Control Systems (Git, Github)
- o Bi-lingual (English, Arabic)

- **Interests:**

- Astrophysics; Guitar; Reading