

MARIAM NAIM HAMID

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AI Engineer | Software Engineer | ML & Computer Vision
RAG | Fine-Tuning | YOLO | Python | TypeScript | Node.js

[LinkedIn](#) | [GitHub](#) | [Portfolio](#)

PROFESSIONAL SUMMARY

AI / Machine Learning Engineer with practical, project-driven experience across Machine Learning, Deep Learning, Computer Vision, and Generative AI. Skilled in Python, TensorFlow, PyTorch, and Scikit-learn, with a strong track record of building end-to-end pipelines for classification, object detection, anomaly detection, and (RAG). Backed by solid software engineering foundations in TypeScript, Node.js, and REST API design applying SOLID principles, database modeling, and automated testing to build maintainable, production-ready systems rather than one-off scripts. Comfortable taking projects from prototype to deployment with Docker and Git-based workflows. Currently advancing expertise in (LLMs) through intensive AI engineering programs.

CORE COMPETENCIES

- **AI & LLMs:** RAG, LLM fine-tuning, prompt engineering, embeddings, vector search, semantic retrieval, OpenAI API, Hugging Face
- **Machine Learning & CV:** PyTorch, TensorFlow, Scikit-learn, CNNs, transfer learning, feature engineering, YOLO, OpenCV, object detection, real-time inference
- **Software Engineering:** Python, TypeScript, JavaScript, Node.js, REST API design, OpenAPI, PostgreSQL, SOLID, OOP, unit testing (Jest)
- **Tools & Infra:** Docker, Git & GitHub, Jupyter, Google Colab, VS Code

PROJECTS

Real-Time Object Detection System

- Engineered a YOLO-based computer vision pipeline capable of live webcam inference, generating bounding boxes, class labels, and confidence scores with smooth real-time frame performance.
- Tuned the detection loop to sustain stable throughput under varying lighting and scene conditions, monitoring runtime performance with FPS-based metrics.

RAG-Powered Document Assistant

- Designed and implemented a complete Retrieval-Augmented Generation pipeline: document chunking, embedding generation, vector storage, and grounded LLM responses anchored in retrieved context.
- Reduced hallucination in model answers by strictly conditioning generations on retrieved evidence, producing a reliable, user-facing assistant for document search and summarization.

Appointment & Booking Management System

- Designed and built a single-operator booking system with a normalized relational schema, modeling clients, services, and appointments through deliberate 1:N relationships to enforce data integrity.
- Implemented the backend in TypeScript and Node.js following SOLID principles, with REST API endpoints for scheduling, availability checks, and booking management.

Chest X-Ray Disease Classification

- Developed a Convolutional Neural Network for multi-class respiratory disease classification from chest X-ray imagery, applying data augmentation and transfer learning to improve generalization.
- Combined biomedical domain knowledge with deep-learning techniques to build an interpretable, clinically-motivated diagnostic aid.

Credit Card Fraud Anomaly Detection

- Built an anomaly-detection model using Isolation Forests on highly imbalanced transaction data to surface suspicious activity with strong recall.
- Performed careful feature engineering and threshold tuning to balance false-positive and false-negative trade-offs in a realistic fraud-detection setting.

Titanic Survival Prediction

- Built a logistic regression model with custom feature engineering (titles, family size, fare binning) to predict passenger survival, emphasizing clean ML workflow and model evaluation.

Low-Cost Wireless Digital Stethoscope (Graduation Project)

- Designed and built a Bluetooth-enabled digital stethoscope able to capture, transmit, and store heart sounds, enabling remote auscultation at a fraction of commercial-device cost.

PROFESSIONAL EXPERIENCE

Computer Science Teacher

2021 – Present

Al Iman School, Beirut, Lebanon

- Deliver programming and computational-thinking instruction to middle-school students across Arduino, Small Basic, Python, HTML, and Introduction to AI.
- Design hands-on coding projects and project-based assessments that consistently drive strong student engagement and completion rates.

Biomedical Engineering Intern

Aug – Sep 2025

Makassed General Hospital, Beirut, Lebanon

- Performed maintenance, calibration, and troubleshooting on a wide range of biomedical devices in strict compliance with hospital safety standards.
- Supported the clinical engineering team with documentation, preventive-maintenance checks, and equipment audits.

EDUCATION

MBA in Artificial Intelligence

Dec 2024 – Aug 2025

Talal Abu Ghazaleh Global Digital University

- **Key coursework:** Artificial Intelligence, Machine Learning, Business Intelligence, Statistics, Managerial Economics, Project Management.

B.E. in Biomedical Engineering

Oct 2020 – Jan 2024

Lebanese International University

- **Key coursework:** Electronics, Medical Instrumentation, Medical Imaging, Signal Processing, Statistics, Engineering Mechanics.

CERTIFICATIONS & TRAINING

Roots of Software Engineering – SE2

Nov 2025 – Present

- JavaScript, web development, TypeScript, OOP, API

Certified AI Career Accelerator

Sep 2025 – Present

- Comprehensive track covering ML, Deep Learning, Computer Vision, MLOps, LLMs, Generative AI, VLMs, and applied AI workflows.

McKinsey Forward Program

Apr – Jul 2025

- Structured problem-solving, analytical reasoning, and data-driven decision-making.

Kubicle Diploma

Mar 2024

- 13 courses in Power BI, Excel, PowerPoint, dashboarding, and effective data communication.

Python:

- Beginner to Expert – Udemy (Jan 2022): Python fundamentals, data structures, OOP, file handling, and automation scripting.

LANGUAGES

Arabic (Native)

English (Professional Working Proficiency)