

Sari Itani

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Summary

AI Engineer with specialization in neuromorphic computing, statistical learning and computer vision. 3+ years of experience in research and freelance deploying efficient, real-time systems. Proficient in PyTorch, Tensorflow, Keras, C++ and Python in edge computing and embedded system design.

Education

Bachelor of Engineering in Computer Engineering

C++, Python, ML, DL, R&D, Engineering Design

GPA: 3.79/4.0 (Ranked 1st on Dean's Honor List, Fall 2024, SGPA 3.97/4.0)

Beirut Arab University

Sep 2021 - June 2025

Projects

X-Ray Classification on Edge Devices using Knowledge Distillation

June 2025 - July 2025

PyTorch, DenseNet121, MobileNetV2, Knowledge Distillation, Model Optimization, Edge AI

- Compressed a DenseNet121 teacher into a MobileNetV2 student model for chest X-ray classification.
- Distilled DenseNet121 into a lightweight MobileNetV2 with minimal accuracy loss -1.2% but is $7.5 \times$ faster at inference and has a 85% smaller model size, optimized for real-time chest X-ray images on edge hardware.

Real-Time Food Detection System on Raspberry Pi for SmartFridge

July 2025 - Present

Python, YOLO, Raspberry Pi, Bash, Flask, OpenCV, Embedded Deployment

- Led the full-stack development of an automated food tracking system in a team of three, from AI model selection to embedded hardware integration and backend development.
- Fine-tuned YOLOv8 models on food datasets, achieving 88% mAP50 for real-time food object detection, and deployed the model on a Raspberry Pi for continuous image capture and processing.

Experience

AI Research Assistant, American University of Beirut

July 2025 - Present

R&D, PyTorch, TensorFlow, Python, Research Methods, Medical Imaging, CNNs

- Indulged in 10+ team-based vertical research projects, currently on CNV detection with computer vision.
- Conducted weekly agenda-based tasks aligning with the mission and vision of the research team, aligning with potential publication venues.
- Focused on organizing literature readings, research findings, and code for vision models in an integrated team-based approach, ensuring that future iterations can further be developed across prospective verticals.

AI Research Assistant, Beirut Arab University

Sep 2022 - July 2025

R&D, PyTorch, TensorFlow, Python, REST APIs, OpenCV, System Integration, Scikit-Learn

- Conducted research on a variety of topics, focusing on Embedded AI and Neuromorphic Computing.
- Published seven research papers with more papers soon expected to be published in the AI field.

Freelance AI & Machine Learning Engineer

Aug 2022 - May 2025

Python, C++, PyTorch, TensorFlow, OpenCV, YOLO, AWS/GCP, Git, REST APIs, Linux, Bash

- Developed and deployed deep learning models for classification, object detection and segmentation tasks.
- Built and optimized end-to-end ML pipelines for various clients, focusing on accuracy and efficiency.
- Consulted business owners regarding dataset choice, system integration design, and optimization potential.

Publications

- BMC-DA: A Neuromorphic Computing Architecture for Data Driven AI Modeling (Under Review)
- RDDA: Rectified Discriminatory Delta-Adjust 8 Dec 2025
- Delta-Adjust: Minimum Distance Interpolation 6 Aug 2025
- Cropsync: AI-Powered Sustainable Crop Management 30 Dec 2024