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Professional Experience

2024/12 – present Applied ML Undergraduate Researcher

Zewail City Computing Society

• Worked on research papers to implement machine learning models.

2024/08 - 2024/10 Computer Vision Engineer Intern

Cellula Technologies

- **Developed CNN models** (ResNet, VGG) for image classification, achieving 98% accuracy.
- Implemented U-Net for segmentation, achieving 95% accuracy.
- Optimized models using TensorFlow and PyTorch reduced training time by 15%.

2024/08 - 2024/10 Machine Learning Engineer Intern

Technocolabs Softwares

- **Trained ML models** for classification and regression with 99% accuracy without overfitting.
- Dealing with sparse data (80%+ null%) and using PCA to prioritize feature

2023/06 - 2023/08

Alexandria, Egypt

Machine Learning and AI Trainee

We

- **Machine Learning:** Learnt machine learning principles and techniques. Obtained skills in data preprocessing, model building, and performance evaluation.
- **Deep Learning:** Studied neural networks. Mastered skills in designing, training, and optimizing models for image and text classification using TensorFlow and Keras.

Education

2020/10 - present Computer Engineering, AI minor

Alexandria, Egypt Faculty of Engineering, Alexandria University

Skills

Computer Vision Machine Learning

Data Science Agents

LLMs Model Fine-tuning

Artificial Intelligence Reinforcement Learning

EDA Python

TensorFlow PyTorch

C++ SQL

Flask Streamlit

Languages

Courses

2025	Fundamentals of AI Agents Hugging Face	
2024	Machine Learning Specialization DeepLearning.Al, (Andrew NG)	
2024	Machine Learning and AI Diploma AMIT Learning	
2024	Foundations of Project Management Google	
2023	The Fundamentals of Digital Marketing Google	
2023	Sales Training: Practical Sales Techniques Udemy, Chris Croft	

Projects

Arabic OCR

Finetuned Llama-3-11B and Qwen2 vision models on augmented KHATT dataset, used unsloth and LoRA for GPU and memory optimization.

Egyptain Guide Chatbot

Finetuned Qwen2, Mistral-7B, and blenderbot-400M-distill on web scraped data about Egyptian monuments and museums, to make a friendly tour guide chatbot.

Shop Lifting Detection

Developed a system to detect shoplifting incidents using computer vision techniques. Aiming to enhance security measures by accurately identifying suspicious behaviours achieving 98.75% accuracy, deployed using Django.

Teeth Classification

Built and deployed a dental image classification model with Streamlit, achieving 98.25% accuracy across 7 categories.

Water Segmentation

Engineered a solution for segmenting water bodies using 12-channel multispectral and optical data, achieving 95% accuracy and IoU of 0.8.

Laptop Price Predictor Website

Launched an ML model that predicts laptop prices (1300+ records) using Flask.

Malaria Detection

Identified malaria infections using clustering algorithms on medical data, improving the accuracy of early detection and achieving 93% accuracy.

Sudoko Solver using RL

Designed a Sudoku solver using reinforcement learning principles and constraint satisfaction problem (CSP) techniques to efficiently solve puzzles with 100% accuracy.