

Ziad Hussien

Deep Learning Engineer, Computer Vision & NLP Specialist

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A certified TensorFlow Developer and results-driven Deep Learning Engineer specializing in the application of Computer Vision and NLP to solve complex challenges in healthcare, agriculture, and autonomous systems. Currently pursuing a Master's degree in AI, with hands-on experience in the end-to-end machine learning lifecycle—from data collection and preprocessing to model optimization and cross-platform deployment. Proven ability to lead research initiatives and a strong background in MLOps and scalable system architecture.

Technical Experiences

Deep Learning Engineer (Full-Time) | [LYNA Cam](#), Germany

Apr 2025 – Present

- Architected and deployed three core machine learning models for a women's health mobile application, focusing on advanced classification and personalized health recommendations.
- Engineered robust deployment pipelines for both Android (TensorFlow Lite) and iOS (CoreML), ensuring seamless model integration and high performance on-device.
- Led custom dataset collection and rigorous preprocessing to optimize model accuracy and generalization for diverse user data.
- Contributed to the optimization of the Software Development Life Cycle (SDLC) by implementing and maintaining CI/CD pipelines to automate build, test, and deployment processes.

Software Engineer (AI/NLP) (Part-Time) | [LinkedTrust](#), US

Mar 2025 – Present

- Achieved a 25% improvement in text extraction accuracy and efficiency for the "linked-claims-extractor," an AI-powered tool for decentralized trust systems.
- Engineered an end-to-end data processing pipeline using Python, NLTK, and advanced prompt engineering with Large Language Models (LLMs) to extract verifiable claims from unstructured sources like the Gates Foundation's annual reports.
- Significantly enhanced data output quality by integrating diverse text extraction modules and optimizing text splitting techniques for complex documents.

Contact: [Golda Valez](#)

Deep Learning Researcher (PhD Collaboration) | Freelance

Aug 2023 – Dec 2024 | [Paper](#)

- Conducted innovative research in deep learning for medical imaging, achieving a **2.5% accuracy improvement** over benchmark models for brain tumor segmentation.
- We developed different models for segmenting brain tumors from MRI images.
- Designed, implemented, and fine-tuned advanced architectures like **U-Net** and **U-Net++**, attaining **99.86% accuracy** on MRI datasets.
- We evaluated our model with different evaluation metrics (DOC, F1-score, ROC, etc.).

- Authored a research paper comparing the model's superior performance metrics (DOC, F1-score, ROC) against related works.

Contact: [CHAHBAR Fatma](#)

Backend Developer Intern | Aswan Heart Centre (Magdy Yacoub Foundation), Egypt

Jan 2021 – Jan 2023

- Developed and deployed a modular patient management system using the Sanic framework for the largest heart foundation in the Middle East and Africa.
- Designed and implemented user-friendly interfaces for patient registration and staff account management, improving administrative efficiency.
- Engineered an automated file tracking method that streamlined inter-departmental communication and reduced response time in emergency cases.

Contact: [Mohamed Bastawi](#)

Education

Master of Science in Computer Engineering (Specialization: Artificial Intelligence) (Excellent – 93%)

Aswan University, Aswan, Egypt | Expected Graduation: Dec 2026

- **Thesis Research:** Brain Tumor Segmentation using Deep Learning Methods with applying Optimization Techniques.
- **Relevant Coursework:** Artificial Neural Networks, Advanced Python Programming, Engineering Mathematics, Numerical Analysis, Probability.

Bachelor of Science in Computer Engineering (Very Good with Honors – 79.57%)

Aswan University, Aswan, Egypt | Sep 2018 – Jul 2023

Graduation Project:

Driver Monitoring System

Developed a system for monitoring the drivers to avoid drowsiness by detecting his/her state while driving using IR camera and different cutting edges.

- I joined as a deep learning engineer on this graduation project. We used different CNNs, LSTM, and GRU models to detect the driver's state.
- We reduced our large dataset to be appropriate for our computational resources and used online training.
- We performed well on the deployment of our models on different platforms, like the Jetson Nano and Android.
- We are working on a research paper that we will publish soon.
- Used Python, Pandas, TensorFlow, Matplotlib, MediaPipe, Dlib, CV2 and TF Quantization.

Projects

Web-Based Precision Agriculture Platform | [University IOT Project](#) (Scored: 100%)

Jul 2023

- Developed a full-stack system suggesting optimal crops and detecting diseases using ML models on sensor and camera data.
- Integrated Deep Learning, Arduino, and a web-based interface to provide farmers with 24/7 remote control over irrigation and pesticide deployment.

Smart Parking System | [University Project](#)

Feb 2023

The Smart Parking System was a project in our Interface college course.

- We used a Raspberry Pi with Pic and Arduino to detect cars existence on the gate and control entry and exit of the garage depending on sending signals between the components.
- The cars were assigned to the empty spots in the park automatically by using the ESP WiFi module.

Data Structure Visualizer | [University Project](#)

Mar 2022

- Visualization of Data Structure and Algorithms performance using Java.
- We visualized different Data Structure and Algorithms for educational purposes.
- We showed the difference in performance between the Data Structure and Algorithms.
- We used JavaFX for GUI.

Technical Skills

- **Languages:** Python, C++, Java, SQL, Bash
- **Deep Learning Frameworks:** TensorFlow, Keras, PyTorch
- **Computer Vision:** OpenCV, Dlib, MediaPipe, Pillow
- **NLP:** NLTK, Transformers (Hugging Face), LLMs
- **Data Science & ML:** Scikit-learn, Pandas, NumPy, Matplotlib, Seaborn
- **Deployment & MLOps:** TensorFlow Lite, CoreML, Docker, Git/GitHub, CI/CD, GCP
- **Hardware & Embedded:** NVIDIA Jetson Nano, Raspberry Pi, Arduino, CUDA
- **Databases:** PostgreSQL, SQL
- **Operating Systems:** Linux, Mac, Windows

Leadership & Activities

ML Instructor | Huawei + NTI - Aswan

2025

- Delivered the **HCIA-AI V4 curriculum**, providing over **80 hours of intensive training** and mentorship per group on advanced AI concepts and applications.
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ML Instructor & Mentor

2023 – 2024

- Provided training and mentorship to over **100 individuals** in various technical domains through partnerships with **Google Developer Groups (Aswan & Tripoli)** and the **Egyptian Engineers Syndicate**.

Google Developer Student Club (GDSC) at Aswan University

- **Team Leader** | Jul 2021 – Jul 2022
- **ML Instructor** | Jul 2020 – Jun 2022

Certifications

- **TensorFlow Developer Certificate** | Google (Valid: 02/2022 – 02/2025) [Certificate](#)
- **HCIA-AI** | Huawei (Valid: 08/2020 – 08/2023) [Certificate](#)
- **Google Cloud Award** (2021) [Awards](#)