

Abdelraouf Dahy Abdelraouf

Ai Engineer | Data Scientist

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SUMMARY

Robust AI Engineer with a strong computer science foundation and proven experience designing, training, and deploying production-ready machine learning models. Specialized in Deep Learning, Computer Vision (YOLO, Transformers), and Natural Language Processing, including generative AI architectures like RAG systems and autonomous agents. Passionate about translating complex data and architectural challenges into high-impact, scalable industry solutions.

EDUCATION

Graduated 2026

Egyptian E-Learning University (EELU)

Bachelor of Computer Science and Information Technology (GPA 3.71)

Experience & Training

AI & Data Science Intern – Instant Internship

July 2025 – Present

- Currently developing and deploying ML models in data analysis, computer vision (CNNs), and NLP.
- Building projects with Streamlit/Flask for real-world applications.
- Learning advanced topics like GANs and AI agents through hands-on projects.

AI and Machine Learning Trainee | Sprints x Microsoft Summer Camp

July 2024 – September 2024

- Implemented machine learning algorithms, data preprocessing pipelines, and model evaluation metrics.
- Applied deep learning fundamentals, neural network structures, and model optimization techniques.
- Engineered clean, scalable Python code within collaborative cloud development environments.
- Developed systematic debugging practices and data-driven problem-solving methodologies for complex datasets.

AI Training Program – Instant for Training and Development

July 2024 – April 2025

- Python for Data Analysis & AI
- Mathematics for Machine Learning (Linear Algebra, Calculus)
- Probability & Statistics for Data Science
- Data Science Fundamentals (Data Wrangling, Visualization, Exploratory Data Analysis)
- Supervised & Unsupervised Machine Learning
- Deep Learning (Neural Networks, CNNs, RNNs)
- Model Evaluation & Optimization

AI Course – Huawei ICT Academy

August 2024 – October 2024

- Introduction to Artificial Intelligence through Huawei's ICT program.
- Learning, AI use cases in telecommunications, and neural network basics.

PROJECTS

Generative AI & Autonomous Systems (Advanced AI)

Retrieval-Augmented Generation (RAG) Document Engine (Final Project)

- Architected a private RAG pipeline designed to securely ingest, parse, and index massive custom document repositories for high-accuracy semantic search.

- Optimized vector embedding storage and retrieval mechanisms to ensure contextual question answering with min latency.

Intelligent AI Assistant (Final Project)

- Developed an advanced private AI assistant leveraging custom prompt engineering frameworks and memory context structures to handle dynamic conversations.
- Integrated robust API processing layers to manage operational stability and execute complex logical reasoning tasks.

Autonomous AI Agents System (Final Project)

- Engineered a technical repository implementing multi-agent design paradigms, focusing on planning loops and memory preservation structures.
- Built collaborative autonomous problem-solving behaviors based on industry-standard agentic architectures and workflows.

Text-to-Image Generation Pipeline ([Instant Internship](#))

- Programmed an end-to-end generative AI pipeline to parse complex descriptive text prompts and synthesize high-fidelity original images.
- Implemented state-of-the-art diffusion architectures with fine-tuned hyperparameters to maximize visual output quality.

Deep Learning & Natural Language Processing

Transformer-Based Text Summarizer & QA Engine ([Instant Internship](#))

- Built an advanced NLP engine utilizing transformer models to read dense text resources and produce context-aware abstractive summaries.
- Developed an extractive question-answering component capable of resolving intricate, user-generated textual queries.

Real-Time Twitter Sentiment Analysis Framework ([Instant Internship](#))

- Constructed a text classification framework that parses live social media data streams to accurately evaluate public sentiment trends.
- Executed modern data tokenization, stop-word filtering, and rigorous feature extraction engineering to maximize model precision.

Computer Vision & Medical AI

Brain Tumor Classification & Segmentation ([Instant Internship](#))

- Developed a deep learning architecture using Convolutional Neural Networks (CNNs) for multi-class classification of brain tumors from MRI scans.
- Implemented spatial localization and precise pixel-level segmentation boundaries to assist in clinical data analysis.

Real-Time Car License Plate Detection System ([Instant Internship](#))

- Designed a real-time vehicle license plate recognition pipeline utilizing custom-trained **YOLO** object detection models.
- Integrated **OpenCV** image preprocessing steps to maintain high localization accuracy under challenging traffic monitoring environments.

Low-Latency Hand Gesture Recognition ([GitHub Link](#))

- Engineered a tracking application optimized for fluid human-computer interaction (HCI) using the **Media Pipe** framework.
- Translated raw real-time webcam video frames into executable system commands with minimal processing overhead.

Automation, Data Engineering & Analytics

Intelligent Chatbot Automation Suite by n8n ([Instant Internship](#))

- Architected with a modular backend system connecting **Telegram** conversational nodes to external data sources and AI models using **n8n**.
- Automated asynchronous user queries and structured automated task sequences to optimize system workflow efficiency.

Scalable Web Scraping Production Suite ([GitHub Link](#))

- Built a high-efficiency data collection infrastructure containing 7 custom scrapers to **extract** large-scale tabular **datasets** from diverse industries.

- Structured automated data pipelines to cleanly parse, transform, and store raw web content into production-ready formats.

Business Intelligence Dashboard Portfolio ([GitHub Link](#))

- Designed interactive analytics reporting suites in **Power BI** by implementing advanced DAX calculations and logical schemas.
- Transformed chaotic database records into streamlined executive-facing dashboards to drive data-driven decision-making.

Comprehensive Data Analysis Suite [EDA] ([GitHub Link](#))

- Created mathematical computation notebooks to clean missing datasets, eliminate multi-collinearity, and run statistical validation proofs.
- Mined insight trends out of unstructured enterprise data files to deliver clear, actionable visualizations.

Skills

Technical Skills

- **Languages & Foundations:** Python, Java, C++, OOP, Data Structures, Algorithms.
- **Data Science & Machine Learning:** Machine Learning, Deep Learning, Natural Language Processing (NLP), Computer Vision (OpenCV).
- **Frameworks & Libraries:** TensorFlow, PyTorch, Scikit-learn, Keras, NumPy, Pandas, Matplotlib, Seaborn.
- **Data Engineering & Analytics:** Data Analysis, Exploratory Data Analysis (EDA), Data Visualization.
- **Databases & Mathematics:** SQL, MySQL, MongoDB, Statistics, Probability, Linear Algebra.
- **Tools & Environment:** Jupyter Notebook, Google Colab, VS Code, Git, GitHub, Linux.

Soft Skills

- **Analytical:** Problem Solving, Critical Thinking, Analytical Thinking, Decision Making.
- **Execution:** Attention to Detail, Time Management, Work Ethic, Self-Learning, Adaptability.
- **Collaboration:** Communication, Teamwork, Collaboration, Presentation Skills, Leadership.

Certifications

- **AI and Data Science Diploma (170 Hours)** | *Instant Software Solutions* (2025)
- **HCIA - Artificial Intelligence** | *Huawei ICT Academy* (2025)
- **Sprints for AI and ML** | *Sprints* (2025)
- **Deep Learning for Computer Vision** | *Mahara Tech* (2024)
- **Deep Learning for NLP** | *Mahara Tech* (2024)
- **Machine Learning** | *Coursera - Andrew Ng* (2024)
- **Python for Data Science and ML** | *Udemy* (2023)
- **Clean Code** | *Mahara Tech* (2023)

LANGUAGES

Arabic: Native

English: Intermediate (B2)