AHMED GALAL ELZEKY

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EDUCATION

ESLSCA University / Computer Science B.S.

Sep. 2021 - Sep. 2024, Cairo, Egypt

Human Academy / Japanese Language and Business Manner Oct. 2024 - Jan. 2025, Japan(Remote)

EXPERIENCE

AI Engineer, Intelligent Systems I-Sys

Feb. 2025 - Present

- Collaborated the deployment of **Watsonx**-powered self-service robots, kiosk avatars, and omni-channel conversational AI systems that enhance customer engagement across our partner Telecommunication and banking companies **Vodaphone** and **Bank Misr**.
- Developed custom NLP modules within Watsonx.ai to support multilingual interactions in Arabic's regional dialects (Egyptian and Saudi) with high accuracy—to ensure a seamless customer experience.
- Leveraged **IBM Watsonx** to power event robots that enabling features like automated registration (with ID/QR code scanning and instant photo printing), interactive demonstrations, and real-time feedback collection.

AI Developer Intern, Eviron Adapt

Aug. 2024 - Oct. 2024

- Using Tensorflow and OpenCV to create Siamese Networks that was used in an image recognition model to distinguish between identical trash bales and bales viewed from different angles, automating a previously manual task and significantly reducing company costs in storage and payments by thousands of Egyptian pounds.
- **Designed and implemented a validation model** to assess image quality against stakeholder-defined requirements, ensuring compliance and improving precision in image verification processes.

AI Developer Intern, ESLSCA University

Feb. 2024 - Apr. 2024

- Developed a project, earning ESLSCA University The Times Highest Higher Education Award 2024 in Technological/Digital Innovation at the Arab Summit of Universities, Dubai.
- Used Langchain Framework and OpenAI Function Calling to build a GPT-powered chatbot that
 guides prospective students, provides real-time updates, and automates document processing and
 verification.
- **Streamlined admissions** by reducing processing times, enhancing communication, and reallocating staff for personalized support, boosting efficiency.
- Integrated Chroma Vector Database and RAG to provide the chatbot for contextual awareness.
- Worked on Django backend and seamlessly connected it with the React frontend via RESTful APIs, ensuring efficient system integration.

Software Developer Intern, IIG-HEC

Jun. 2023 - Dec. 2023

- Website Link: www.iig.land
- Website developed using **ReactJS**, showcasing the company's projects.
- Real-time blog post system using **Firebase Storage** and **Firestore**.
- Deployed the website on **Vercel** serverless hosting.

- Used C# to implementing player mechanics and complex AI behavior of NPCs and player interactions.
- Gained a clear understanding of Object-Oriented Programming
- Refine tasks to help to achieve the vision of the game designer.

Outstanding Achievements

- Published a **Journal of Elsevier's Procedia** Computer Science. Journal name: **Multi-Hop Arabic LLM Reasoning in Complex QA**. Presented in **ACLing** 2024, the 6th International Conference on AI in Computational Linguistics in Dubai, UAE. Link to Paper Here
- Worked on project with my university that has been awarded **The Times Higher Education Award 2024** in Technological or Digital Innovation category in the Arab Summit of Universities in Dubai University. <u>Link to Post Here</u>
- My Startup GPTuBE has been named one of the Top 3 finalists in the **GESAwards 2024 Africa** and will represent Egypt and North Africa in the **Global GESAwards**. <u>Link to Post Here</u>

Projects

• Brillium

An **AI-powered LMS** that transforms a PDF textbooks into interactive digital learning experiences. The system uses Google Gemini to:

- o Automatically generate quizzes, flashcards, and PowerPoint presentations from the book's lessons.
- o Analyzes student performance, pinpoint weak areas
- o Dynamically generates questions to target weak areas.
- o Teachers can view, edit, monitor generated content, and student score and learning gaps.
- o Chatbot alongside student, acts as personal teacher.

Technologies used: Google Gemini, React, TypeScript, FastAPI, Python, MongoDB, Tesseract OCR

• GPTube

Allowed Interactive engagement with YouTube videos through a **GPT powered chatbot** that understood the content of the video. Used **Microsoft Azure** to integrate the GPT model, TTS and STT tools. The tool also enabled the creation of customized experiences based on Video Content:

- o Generating Interactive Mock Tests.
- o Correction and Explanation of User Answers.
- o Generating PowerPoint Presentation.

Technologies used: Microsoft Azure, React.js, Django, Langchain, Chroma Vector Database, OpenAI Function Calling

• Real-Time Facial Emotion Classification

Leveraged transfer Learning Techniques as well as developing my own CNN model from scratch to develop a Real-Time Facial Emotion Classification System.

Technologies used: OpenCV, CNN, MobileNetV2, VGG, ResNet50, Data Augmentation

• Data Visualizer with Machine Learning Training Using UI

Data Visualizer platform integrating **Supervised Machine Learning** prediction capabilities within a user-friendly interface. Allowing user to:

- o Data Exploration, Cleaning, Transforming, Embedding, and Augmenting.
- o Machine Learning Algorithms for training such as Regression, Classification, Ensemble Methods.
- o Access to model Metrics such as: Accuracy, Precision, Recall, F-1 score, MSE

Technologies used: Python, NumPy/Pandas, scikit-learn, Matplotlib

${\rm Skills}$

Programming Languages: Python, C#, HTML, CSS, JavaScript, TypeScript

Tools: Azure, Azure AI Foundry, Watsonx, Git, Django, Tensorflow, Keras, scikit-learn, OpenCV, React, TailwindCSS, PowerBI, Unity

Soft Skills: Agile Manifesto, Kanban Boards, Data Driven Decision Making, Data Analysis, Sales Skills

Courses

$\textbf{AI-102T00-A: Designing and Implementing a Microsoft Azure AI Solution} \hspace{0.1cm} / \hspace{0.1cm} \textit{Microsoft}$	Feb.	2025
$\textbf{AI-900T00-A: Microsoft Azure AI Fundamentals} \hspace{0.2cm} / \hspace{0.2cm} \textit{Microsoft}$	Feb.	2025
AZ-900T00-A: Microsoft Azure Fundamentals $/$ Microsoft	Feb.	2025
Practitioner Watsonx Assistant / IBM	Feb.	2025
Watsonx Orchestrate Intermediate / IBM	Feb.	2025
Linux Adminstration / New Horizons	Jul.	2023
Security + / CompTIA	Apr.	2023
Cloud AWS Practitioner / Amazon	Oct.	2022
Supervised Machine Learning / DeepLearning.AI	Aug.	2022
Network + / CompTIA	Aug.	2022
CompTIA A+ / CompTIA	Aug.	2022