Ziad Waleed

Machine Learning Engineer

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○ https://github.com/ZiadWaleed2003

🎓 EDUCATION

2022 – 06/2026	**Bachelor's degree in Computer Science**
	Helwan University

🧠 SKILLS

- Python
- Machine Learning
- Version-Control system (git)
- Java
- C++
- Deep Learning
- Problem Solving
- Tensorflow
- Data Analysis
- Web Scraping
- Data Structure and Algorithms
- Transformers

📁 PROJECTS

Financial RAG System for Stock Market Analysis
- Developed a **Retrieval-Augmented Generation (RAG) system** for financial data analysis using **LangChain** and **ChromaDB**.
- Integrated **Alpha Vantage API** to fetch stock market data and **News API** for real-time company news.
- Implemented **time-series forecasting** for stock price prediction (next 10 weeks) using historical data.
- Processed and chunked financial news, leveraging **pretrained embedding models** for vector search.
- Utilized **Gemini 1.5 API** as the **LLM** to power an AI chatbot for financial insights.
- Built a full-stack system (frontend & backend) to provide an interactive user experience.

Arabic-to-English Machine Translation using mBART + LoRA ⊡
- Fine-tuned a **many-to-many mBART model** using **LoRA adapters** on an Arabic-English dataset, boosting the SacreBLEU score from **16 (base model)** to **34.18**.
- Deployed the fine-tuned model to **Hugging Face Hub**, making it accessible for inference
- Built and deployed an interactive **Gradio demo** on **Hugging Face Spaces** to allow real-time translation usage.

Vehicle Routing Problem (VRP) Optimization ⊡
- Developed an optimization solution for the VRP using Genetic Algorithms and Differential Evolution.
- Implemented advanced metaheuristic techniques to optimize routing for vehicles, improving efficiency in logistics and delivery systems.

Money-Transferring-App ⊡
- Created a Face Recognition model as Log-in feature that enables the users to log in with their Face ID and password and also applied MVC and other design patterns

Attendance System Using QR code ⊡
- Developed a desktop Application using python , tkinter , OpenCV and Pandas to take the attendance of the students using their QR code by (labtop camera or phone camera) and then store the codes in a CSV file with the time of arrival and save the file in a specified folder at the end

🎓 EXPERIENCE

03/2023 – 11/2023	**IEEE-FCAI**
	Machine Learning intern
	• Worked with a number of different ML and DL models to create solutions with it.
12/2024 – present	**IEEE-FCAI**
	Vice-Director Machine learning committee

🎖 AWARDS

Modifier 8.0 ML hackathon
IEEE HSB
- I won 1st place in the Computer Vision Hackathon by developing a CNN model that achieved a 95.8% accuracy score.
- I utilized a pre-trained model based on the Xception architecture and fine-tuned it to work with my data.
- The model could differentiate between 20 different car categories.
- Since the training data was limited, I applied data augmentation techniques to increase the dataset size and enhance the model's performance.

🌐 LANGUAGES

Arabic	English