Yahia Elsherif

Software Engineer | AI & Machine Learning Enthusiast

New Cairo, Egypt | yahiaelsherif2002@gmail.com | phone: +20 106 955 9925
Portfolio | GitHub | LinkedIn

Professional Summary

Backend Software Engineer with expertise in building scalable APIs using **FastAPI**, **Node.js**, and **Express**. Delivered production systems integrating **MongoDB** and **Oracle** databases while applying **AI/ML** capabilities including **RAG** pipelines and **LLMs**. Developed an advanced **image super-resolution** model for my CS graduation project (AI specialization). Passionate about combining software engineering best practices with practical AI solutions to solve real-world problems.

Technical Skills

Languages & Frameworks:
 Python, JavaScript (ES6+), TypeScript, Node.js, Express.js, FastAPI, React.js, HTML5, CSS3

AI & ML Tools:
PyTorch, Scikit-learn, TensorFlow/Keras, OpenCV, LangChain, Hugging Face, NumPy, pandas, Matplotlib

Databases & ORMs:
MongoDB, Oracle, MySQL, Mongoose, SQL

Tools & Platforms:
Git/GitHub, Docker, Postman, RESTful APIs, GraphQL, JWT Authentication

Education

Bachelor of Science (B.Sc.) in Computer Science and Artificial Intelligence:
Cairo University | Graduated 2024
GPA: 3.0 | Graduation Project: **A+**

Projects

Document Management System with AI Assistant | Python, FastAPI, MongoDB, OpenAI

- Built a full-stack document management platform enabling users to upload, organize, and interact with PDF documents through an intelligent AI assistant.
- Implemented RAG (Retrieval-Augmented Generation) pipeline using LangChain and vector embeddings for context-aware document Q&A with citation support.
- Designed RESTful APIs with FastAPI for document processing, chunking, embedding generation, and real-time chat functionality.
- Created responsive React interface with document viewer, chat interface, and seamless file management for intuitive user experience.

Motorbikes Online Shop | React.js, Node.js, and MongoDB

- Developed a full-stack motorbike shop application with React, Node.js, and MongoDB for smooth browsing and ordering experiences.

- Implemented bike filtering, bilingual (English/Arabic) support, and dynamic UI updates for better accessibility and engagement.

- Designed a clean, responsive interface with optimized components and animations for a fast, modern user experience.

Image Super-Resolution with PyTorch *(Graduation Project)*

- Developed a **deep learning model** to enhance image resolution using **Convolutional Neural Networks (CNNs)** and **Generative Adversarial Networks (GANs)**.

- Built a full pipeline for training, validation, and evaluation on large-scale datasets.

- Achieved high-quality upscaling results that exceeded existing benchmarks, even outperforming early OpenAI research in super-resolution tasks.

- Deployed and optimized model inference for real-time image enhancement.