

MOHAMMAD Oreaba

Senior Software Engineer - Technical Lead
Artificial Intelligence Engineer

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Master's degree holder in Computer Science & **Artificial Intelligence** with honors from the American University, with **10** years of attested experience in Software Development. Built and led the delivery of full-scale **Python** systems from scratch, including web apps, REST APIs, microservices, distributed systems, and **AI-powered** applications (**LLMs, RAG, Computer Vision**). A seasoned educator with **5** years of university-level teaching in CS and **AI**, mentoring students in **Python** programming and modern **AI** frameworks. Skilled in **DevOps**, CI/CD, and **containerized deployment**, with deep expertise in **Docker**, multi-container orchestration, and cloud environments. Led cross-functional teams with a results-driven mindset, delivering robust, scalable software. **Certified AWS Developer Associate** and **Python Programming Associate**. Passionate about innovation, **AI**, and delivering measurable impact.

Backend Technical Skills:

- Architect on-prem & cloud solutions.
- Architect & develop RESTful APIs, web apps, web services, automations, and sockets applications.
- Write unit & integration tests using pytest.
- Write clean, testable & maintainable code.
- Document APIs: Open-API-swagger-postman.
- Build dockerized multi-container applications.
- Redhat Linux, Windows & MacOS experience.

AI Technical Skills:

- Develop and deploy LLM-based applications.
- Fine-tune and optimize models for chatbots.
- Integrate commercial and open-source LLMs.
- Build local ChatGPT-like systems for companies.
- Develop AI-Powered Microservices & APIs.
- Build Computer Vision pipelines for intelligent document and image processing.

I AM:

- Senior Python Back-end Engineer
- Computer Vision Engineer
- Generative AI & LLM Engineer
- Database & Cloud Engineer
- Technical Development Lead

Education:

- **Program Digital Future Leaders - CEUs: 10.5**
2023- 2024 — Massachusetts Institute of Tech.(MIT)
- **Master of Computer Science - GPA: 3.75/4.0**
2012 - 2017 — American University in Cairo (AUC)
- **Bachelor of Computer Science - GPA: 3.37/4.0**
2004 - 2008 — HTI, Egypt
- **B.Sc & M.Sc Equivalencies degrees**
2022 — Ministry of Education, UAE

Programming Languages:

- Python +++++
- SQL +++
- Java +++
- C# ++
- C++ ++
- JS ++

Backend:

- FAST API - SQLAlchemy
- Django - DRF - ORM
- CELERY -BEAT- Channels
- PostgreSQL - PgAdmin 4
- Sqlite3 - Chroma DB
- AWS RDS - DynamoDB
- Redis AMQP - RabbitMQ
- OAuth 2.0 - JWT- Postman
- Jupyter Notebook

Artificial Intelligence:

- PyTorch, TensorFlow, Scikit-learn
- Transformers, HuggingFace
- LangChain, LangGraph
- LLM, RAG, ChromaDB, FAISS
- PEFT, LoRA, PPO, DPO, RLHF
- Ollama, llama cpp python
- OpenCV, Tesseract OCR, YOLO
- OpenAI API, Cohere
- Develop AI Agents

DevOps:

- AWS Developer
- Azure VMs
- Docker
- Docker Compose
- Docker Registry
- Kubernetes
- Git
- CI/CD
- Github-Actions

Experience:

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|---|---|
| <p><i>Classified</i> 2023 - present Location: Abu Dhabi, UAE Domain: classified</p> | <p>Specialist - Software management and maintenance / AI engineer</p> <ul style="list-style-type: none">• Developed Task Management System in Python in full SDLC.• Migrated all source code repos for all apps to Azure DevOps.• Led Dev Team & maintained REST APIs for GIS apps in Python.• Developed AI chatbot for the organization docs using LLM & RAG.• Integrated and evaluated multiple LLMs on both CPU and GPU.• Applied CV & LLMs for document understanding & text extraction. <p>Technologies: Python, SQL, Oracle, Docker,, VS CODE, CI/CD, LLM, Ollama, LangChain, FastAPI, llama-cpp-python, RAG, HuggingFace, Azure DevOps</p> |
| <p><i>Diamond Consultancy</i> 7/2022 - 12/2023 Location: Abu Dhabi - UAE Reporting to: Partners Project:www.diamond-dpc.com Domain: Fintech, Analytics</p> | <p>Principal Software Engineer / Architect</p> <ul style="list-style-type: none">• Architected & Developed Zakaa Platform for MEWA - KSA• Deployed & configured all applications on MS Azure VMs.• Recruited and mentored Junior and Mid Senior Developers.• Only one ever received the <i>Innovation Award</i> in the company. <p>Technologies: Python, SQL, Oracle, nginx, Docker, VS CODE, CI/CD, LLM, ChatGPT API, LangChain, FastAPI, Django, PostgreSQL, Azure VM</p> |
| <p><i>34ML</i> 7/2022 - 7/2023 Location: Cairo, Egypt Reporting to: High Board Project: www.34ml.com Domain: Software,E-commerce</p> | <p>Senior Software Engineer / Machine Learning</p> <ul style="list-style-type: none">• Developed cloud native AI/ML OCR Card Reader backend services.• Authored the system documentation for developers & stakeholders.• Led the development teams: Backend, Frontend, & Mobile. <p>Technologies: Python, Scaling, FAST API, SQLAlchemy, JWT, OAUTH 2.0, OpenCV, AWS Lambda, SQLite, VS Code, AWS AI Libraries, Swagger UI, git</p> |
| <p><i>Syndo - Fintech Startup</i> 5/2021 - 5/2022 Location: Cairo, Egypt Reporting to: CEO Project: www.syndo.me Domain: E-commerce, Fintech</p> | <p>Senior Software Engineer & Technical Lead</p> <ul style="list-style-type: none">• Built a complex crowdfunding platform from scratch in full SDLC.• Designed & developed +50 APIs in a service oriented architecture.• Designed SQL relational database (60 data models in Postgres).• Integrated with payment gateways (with 4 different methods)• Authored system documentation for dev/stakeholders (~100 pages).• Mentored junior software developers. <p>Technologies: Python, Django, Django REST, Django ORM, CELERY, Celery Beat, SQL, Redis AMQP, Redis Cache, PostgreSQL, Heroku, AWS, Scaling, VS Code, React JS, SSL Certificates, DNS, JSON, git, github, MVC, SOA</p> |
| <p><i>American University in Cairo</i> 8/2018 - 10/2021 Location: New Cairo, Egypt Reporting to: CTO Project: My AUC Mob App Domain: Education, Fintech</p> | <p>Senior Full Stack Software Engineer (Mobile - Backend - Frontend)</p> <ul style="list-style-type: none">• Designed 200+ RESTful APIs for AUC Mobile app.• Built PoCs in Python and Java for Mobile app.• Developed Backend for Digital Wallet solution = AUC PAY• Debugged & troubleshoot production issues for backend & mobile. <p>Technologies:Python, Django, FAST API, VS Code, HTML, JavaScript, CSS, Visual Studio, OAuth 2.0, SSO, JAVA, JSON, MVC, Microservice</p> |
| <p><i>Valify - Fintech Startup</i> 3/2018 - 3/2019 Location: New Cairo, Egypt Reporting to: CEO Project: www.valify.me Domain: Fintech, Banking</p> | <p>Artificial Intelligence Engineer / Computer Vision</p> <ul style="list-style-type: none">• Trained 2 object recognition models for the Egyptian National ID card.• Built Backend REST APIs to recognize and OCR card information.• Built an android mobile app to use the recognition models. <p>Technologies: Python, VS Code, OpenCV, Matlab Computer Vision Toolbox, Tesseract OCR, Deep Learning, Adaboost classifier, Android Studio, JSON</p> |
| <p><i>American University in Cairo</i> 9/2012 - 6/2015 Location: New Cairo, Egypt Project:https://fount.aucegypt.edu/etds/1386</p> | <p>Teaching Assistant & Research Assistant</p> <ul style="list-style-type: none">• Taught courses, e.g, Python Programming, Computer Vision.• Earned SAFRAN MORPHO Phd funded research grant.• Enhanced Human Pose Estimation algorithm accuracy by 20%. |

Certifications:



Leading Technical Innovation & **AI** – MIT, USA



Certified Associate in **Python** Programming – PCAP31-03



Certified Entry-Level **Python** Programmer – PCEP30-02



Certified AWS Developer Associate – DVA-C02



Certified AWS Cloud Practitioner – CLF-C01



Python3 Programming Specialization – University of Michigan



Generative AI for Software Developers Specialization – IBM



Generative AI Engineering and **Fine-Tuning** Transformers – IBM



Fundamentals of **AI Agents** Using **RAG** and **LangChain** – IBM



Machine Learning in **Python** – IBM



Python Essentials for MLOps – Duke University



Advanced AWS Cloud Developer – Udacity Nanodegree



Software Design & Architecture Specialization – Uni. of Alberta



Hands-on Machine Learning – nVidia & AWS



Web App Security - OWASP Top 10 – LinkedIn

Publications:

- "[Solving the Confusion of Body Sides Problem in 2D Human Pose Estimation](#)"
ICMIP, 2018
- "[AI-Motadabber](#):
An easy-to-use all-in-one Quran software for every Muslim" IJAZAT, 2018

Languages:

- Arabic – Native
- English – Fluent

Licences:

- Active Golden Visa
– Abu Dhabi
- Official Engineer licence
no. 16512 – Abu Dhabi
- Driver licence
– Abu Dhabi

Projects

A portfolio of AI, backend, and RESTful projects demonstrating expertise in many Django applications, OAuth2.0, EKYC, LLMs, RAG pipelines, Computer Vision & OCR applications, Python ecosystems, CICD Pipelines and DevOps integrations.



GitHub: github.com/oreaba

Additional project links and detailed case studies available upon request.