

Osama Aref

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<https://osamaaref.com>

Established Software & AI Engineer with 7+ years of experience building robust, scalable applications using PHP, Python, Node.js, React, and cloud services. Strong track record in developing AI-driven systems, optimizing performance, and delivering end-to-end solutions in fast-paced environments.

Skills

Languages & Frameworks: Python, PHP, Node.js, Go, Java, C++, React.js, React Native, Next.js, Angular

Cloud & Infrastructure: AWS, IaC (Infrastructure as Code), Docker, Nginx, SQL & NoSQL Databases, ElasticSearch

DevOps & CI/CD: Jenkins, Ansible, NATS, CI/CD Pipelines, New Relic

AI & Machine Learning: ETL pipelines, TensorFlow, Keras, Agents, RAG, Fine-tuning, SageMaker, Bedrock, LangChain, HuggingFace

Experience

Senior Back-end Engineer, Aether – Dubai

April 2022 – Present

- Architected an ML-based rebill optimization system using AWS Glue & SageMaker, resulting in a 15% rise in successful transactions by optimizing retry timing.
- Developed an AI agent chatbot based on Claude LLM with RAG-powered query generation used by 10+ employees, reducing manual lookup time by 70%.
- Designed and developed scalable back-end solutions for E-commerce sites, customer membership management & chat apps utilizing the full power of AWS (Lambda, EC2, Route 53, etc.)
- Automated deployment using tools like Ansible, Docker & Jenkins, reducing setup time by an average of 70%.
- Led the implementation of a full NATS messaging architecture including clusters & custom authentication, increasing the system's reliability by 30%.

Software Engineer, GulfTalent – Dubai

June 2018 – April 2022

- Built the full-stack development of a job portal using PHP, ReactJS, and Google Cloud Platform.
- Developed a 2-way job-candidate matching algorithm with ElasticSearch, enhancing match relevance and increasing user engagement by 35%.
- Migrated a complete front-end application from AngularJS to ReactJS, reducing code complexity by 30%.
- Launched a user-friendly mobile application on both Android and iOS platforms utilizing Expo framework; achieved 4.7-star rating with 10,000+ downloads within the first quarter.
- Managed an on-site Linux server ensuring optimal performance, security, and uptime.

Projects

Robin (the AI Sidekick)

<https://osamaaref.com/projects/robin>

Developed a serverless AI agent that leverages LLMs and LangChain to provide intelligent calendar management and personal assistance through a chat interface.

Technologies: React.js, Python, LangChain, OpenAI, AWS (Lambdas, S3), MongoDB.

Echo Chamber

<https://osamaaref.com/projects/echo-chamber>

Created a personalized conversational AI that adopts my communication style by fine-tuning an LLM on WhatsApp chat history and deploying it as an API endpoint via Hugging Face.

Technologies: PEFT, LoRA, RunPod, Hugging Face Inference.

Professional Certificates

MIT Professional Education

2025

Applied Data Science & Machine Learning

Education

American University of Sharjah, United Arab Emirates

June 2018

Bachelor of Science in Computer Engineering

Honors: magna cum laude