

Joud Walid Awad

Principal Solution Architecture Engineer / Principal Backend Engineer

Principal Solution Architect and Backend Engineer with **11+ years** of experience designing, building, and scaling distributed systems serving **millions of daily users**. Specialized in **Agentic AI and multi-agent orchestration systems** — architecting production-grade autonomous AI pipelines that move enterprises from pilot to scale, including **RAG pipelines, LLM integration, and ML-powered fraud detection and recommendation engines**. Deep expertise in **AWS and GCP cloud architecture, Kubernetes, and Terraform**. Proven track record of reducing cloud costs by 30%, improving system performance by 40%, and architecting 20+ microservices across distributed teams of up to 12 engineers. Seeking a **Principal Solution Architecture** or **Principal Backend Engineering** remote role.

TECHNOLOGIES AND LANGUAGES

Languages:	TypeScript, Python, Node.js, Go, JavaScript, SQL
Backend:	NestJS, Express, FastAPI, GraphQL, REST API, gRPC
Frontend:	React.js, Next.js, React Native
Databases:	DynamoDB, PostgreSQL, MongoDB, Cassandra, Redis, OpenSearch, Neptune, ElastiCache, DocumentDB
AWS:	EKS, ECS, Fargate, Lambda, API Gateway, AppSync, Amplify, CloudFront, Route53, WAF, Shield, EventBridge, SQS, SNS, Step Functions, Kinesis, MSK, EMR, Glue, Athena, Redshift, SageMaker, Bedrock, Bedrock AgentCore, Kendra, Textract, Transcribe, Rekognition, Personalize, Comprehend, S3, EFS, CloudFormation, CDK, CodePipeline, CodeBuild, CodeDeploy, Cognito, Secrets Manager, Parameter Store, Systems Manager, CloudWatch, X-Ray, CloudTrail, Config, DMS, DataSync, VPC, Transit Gateway, Direct Connect, PrivateLink, ELB/ALB/NLB, Auto Scaling, GuardDuty, Inspector, Macie, IAM, Organizations, Control Tower, SSO, IoT Core, SES, QuickSight, Lake Formation
GCP:	Cloud Run, Cloud SQL, Vertex AI, GKE, BigQuery, Pub/Sub, Cloud Functions, Firestore, Cloud Storage, Artifact Registry, Cloud Build, IAM, Cloud Monitoring, Cloud Logging, Trace, Apigee, Cloud Armor, Cloud Endpoints, Dataflow, Cloud KMS, Secret Manager, VPC Service Controls
DevOps:	Terraform, Kubernetes, Docker, CI/CD, GitHub Actions, Ansible, Serverless Framework
AI / ML:	LLMs, RAG Pipelines, Agentic AI, Multi-Agent Orchestration, Context Engineering, MCP Servers, LangGraph, AWS Bedrock, SageMaker, Vertex AI, Fraud Detection, Recommendation Systems, Personalized Search
Other:	Microservices, Event-Driven Architecture, Domain-Driven Design, Data Mesh, SOLID, Clean Architecture, SAGA Pattern

WORK EXPERIENCE

Principal Solution Architecture Engineer

Jun 2024 - Present

Metalab — Remote

- Architected **20+ microservices** distributed across 5 teams (4-5 engineers each), serving a platform with **3 million daily active users** on AWS.
- Designed and deployed scalable Agentic AI systems using AWS Bedrock AgentCore, Bedrock, and GCP Vertex AI, enabling intelligent automation for enterprise clients.
- Built production RAG pipelines scaling to millions of users using AWS-native infrastructure, providing AI agents with access to external knowledge bases and real-time data.
- Trained and deployed ML models for fraud detection, recommendation engines, and personalized search — improving decision-making accuracy and automating key business workflows.
- Directed end-to-end cloud migration projects, moving legacy monoliths to AWS microservices, optimizing architecture for cost efficiency and high availability.
- Spearheaded change management for client organizations — scaling operations through behavioral and structural realignments to enable microservices and data-mesh adoption.
- Automated infrastructure deployment using Terraform and CloudFormation, reducing provisioning time and ensuring consistent, repeatable deployments across environments.
- Ensured security and compliance across all solutions — designing VPC architectures, IAM policies, and encryption strategies aligned to industry standards.

Senior Web Engineer

Jan 2022 - Jun 2024

Metalab — Remote

- Designed and implemented distributed systems across microservices and cloud architectures for clients serving **millions of users daily**, improving system efficiency and engagement.
- Reduced client **cloud operational costs by 30%** by optimizing AWS logging pipelines, data pipelines, and data retrieval processes.
- Overhauled database systems using DynamoDB, PostgreSQL, MongoDB, and Cassandra — boosting **data performance metrics by 40%**.
- Managed a **team of 6 developers**, directing backend technology stack decisions and aligning deliverables with business objectives through sprint planning and agile practices.
- Standardized engineering quality across the organization by enforcing SOLID principles, Clean Architecture, and Domain-Driven Design.

Senior Full Stack Developer

Jan 2018 - Jan 2022

Epic Design Labs — Remote

- Developed and optimized APIs and GraphQL servers using NestJS, Express, and Go — improving **data retrieval speeds by 30%** and supporting scalable mobile and web apps.
- Integrated AWS cloud services (Lambda, S3, AppSync) into enterprise applications, achieving **40% improvement in processing times** and enhanced scalability under peak loads.
- Engineered and deployed **2 top-rated BigCommerce marketplace applications**, driving significant client revenue growth and establishing the company as a recognized marketplace partner.
- Authored comprehensive unit and integration tests, **reducing bug rates by 25%** and ensuring robust pre-deployment quality.
- Built CI/CD pipelines that **improved deployment speed by 35%** and implemented infrastructure-as-code with Terraform and GitHub Actions.
- Deployed containerized applications to EKS, ECS, and Elastic Beanstalk — achieving higher uptime and cost efficiency.

Full Stack JavaScript Developer

Sep 2015 - Dec 2017

Agularic — Remote

- Revamped API layer using Node.js and Express, increasing system performance and enhancing user experience.
- Redesigned database schema and optimized queries for PostgreSQL and MySQL — **reducing load times by 30%** and improving data integrity.
- Achieved and maintained **100% code coverage**, ensuring zero downtime during major production updates.
- Integrated microservices and third-party modules, improving system interoperability and expanding feature sets to meet market demands.

TECHNICAL BLOG

- Author of a **technical blog with 3,600+ followers** covering AWS architecture, Agentic AI, and system design. Popular articles include:
 - [Build Production Ready MCP Server From Scratch on AWS Bedrock AgentCore](#)
 - [Build a Production-Ready AI Agent From Scratch — With LangGraph & AWS AgentCore](#)
 - [System Design: Personalized Search with ML on AWS](#)
 - [Microservices Pattern: Distributed Transactions \(SAGA\)](#)

EDUCATION

B.Sc. in Computer Science

2022

Syrian Virtual University

CERTIFICATIONS

- AWS Solutions Architect — Professional
- AWS DevOps Engineer — Professional
- AWS Database — Specialty
- AWS Security — Specialty
- AWS Developer — Associate
- AWS Solutions Architect — Associate
- HashiCorp Terraform Associate (003)
- Kubernetes Application Developer (CKAD)
- Kubernetes Administrator (CKA)