

# ASHRAF HASSAN

Senior Software Engineer  
AI Application Engineering  
Full-Stack | Distributed Systems  
Cloud & DevOps

## PROFILE

2012 - 2016  
Bachelor's Degree in  
computer science  
[Future academy](#)

Date of Birth  
september 10, 1994

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Languages  
Arabic: Native  
English: Professional

## LINKS

 [LinkedIn](#)  [GitHub](#)  
 [Portfolio](#)

## PROFESSIONAL SUMMARY

Senior Software Engineer with 10+ years of professional experience designing and building scalable web applications, backend services, distributed systems, cloud infrastructure, and enterprise software. Strong full-stack expertise across Node.js, TypeScript, NestJS, React, Next.js, PostgreSQL, Elasticsearch, Redis, Kafka, RabbitMQ, AWS, Kubernetes and CI/CD. Experienced across the full software development lifecycle, including architecture, API design, microservices, legacy modernization, infrastructure automation, observability, production troubleshooting, and third-party integrations. Increasingly focused on AI-powered enterprise applications and LLM-enabled software, combining modern AI capabilities with production-grade backend, data, cloud, and distributed-system architectures.

## JOB EXPERIENCES

September 2023 - Present    software consultant at [Avenge](#)

Outsourcing in [IBM](#) / [Broadcom](#)

- Design, develop, and maintain enterprise infrastructure solutions for client environments using Broadcom VMware technologies, translating business and technical requirements into scalable infrastructure implementations.
- Develop Infrastructure as Code (IaC) solutions for Broadcom Aria using JavaScript and Bash, improving infrastructure consistency, repeatability, and operational efficiency.
- Engineer automation workflows for infrastructure provisioning and management, reducing manual operational activities and improving deployment reliability.
- Design and maintain virtualized infrastructure and supporting services with a focus on reliability, scalability, maintainability, and operational performance.
- Troubleshoot complex infrastructure and system-level issues, performing root-cause analysis and implementing sustainable technical solutions.
- Participate across the software and infrastructure lifecycle, including requirements analysis, architecture, implementation, testing, deployment, troubleshooting, and ongoing maintenance.
- Work within enterprise environments where automation, security, reliability, and operational consistency are critical requirements.
- Contribute to AI-focused enterprise initiatives through the IBM Training & Skills platform, supporting a modern digital learning ecosystem spanning artificial intelligence, cloud computing, data analysis, and other professional skills.

# **JOB EXPERIENCES**

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**Oct 2021 - September 2023**

**Senior software developer**

**VOIS**

- Developed and maintained both frontend and backend components of the One-Portal platform supporting a German enterprise account.
- Designed and implemented reusable software components to accelerate development and maintain consistency across multiple enterprise projects.
- Built scalable application functionality using modern web and backend technologies while maintaining compatibility with existing enterprise systems.
- Collaborated with engineers and stakeholders to analyze requirements, design solutions, implement features, and resolve production issues.
- Integrated frontend applications with backend APIs and supporting services to deliver end-to-end business functionality.
- Participated in architecture and implementation decisions for reusable modules and shared application capabilities.
- Managed deployment of new features across environments and presented completed functionality to technical and business stakeholders.
- Investigated complex application issues and implemented maintainable solutions focused on reliability, performance, and long-term maintainability.

**Jan 2021 - Sept 2021**

**Senior software developer**

**Denta Carts**

- Developed new modules for a B2B e-commerce platform serving dental and medical businesses across the Middle East and Africa.
- Designed and implemented frontend functionality for internal business systems using modern web technologies.
- Built responsive, reusable interfaces optimized for multiple devices and browsers.
- Integrated frontend applications with backend APIs and collaborated with backend engineers to deliver complete business workflows.
- Analyzed requirements and translated business needs into maintainable software components.
- Participated in UI/UX discussions and contributed technical input to application design and user experience decisions.
- Investigated application performance and functional issues and implemented improvements across the frontend stack.
- Managed deployment processes for web applications and internal system components.

**Jan 2019 - December 2020**

**software developer**  
**Beyond Solution**

- Contributed to the design, development, maintenance, and evolution of CS Platform, a medical support solution used to streamline communication between pharmacists and clients.
- Developed reusable frontend and backend components to improve consistency, maintainability, and scalability across the platform.
- Integrated multiple microservices to enable reliable communication between distributed application components.
- Designed and implemented integrations with third-party APIs to extend platform capabilities and improve interoperability.
- Developed cloud-based infrastructure on AWS, considering scalability, performance, availability, and security requirements.
- Worked across application and infrastructure layers to diagnose complex issues and implement end-to-end solutions.
- Participated in system design and integration decisions across frontend, backend, APIs, infrastructure, and external services.
- Supported production systems through troubleshooting, maintenance, performance improvements, and deployment activities.
- Contributed to a multi-channel communication platform supporting customer interactions through channels including WhatsApp, Messenger, and a custom chat engine.

**July 2016 - November 2018**

**Web developer**  
**Infosys**

- Contributed to the end-to-end development, maintenance, analysis, and modernization of the App4Legal legal technology platform.
- Developed and integrated application modules across frontend and backend layers to improve platform functionality and cohesion.
- Built reusable software components with a focus on maintainability, consistency, and scalability.
- Integrated existing modules and services to support increasingly complex application workflows.
- Diagnosed and resolved complex application and system-level issues through root-cause analysis and targeted technical solutions.
- Participated in legacy modernization and migration initiatives, replacing older components with more maintainable and performant technologies.
- Collaborated with development teams throughout requirements analysis, implementation, testing, troubleshooting, and deployment.
- Maintained technical documentation and project knowledge using Jira and Confluence.
- Supported continuous improvement of application architecture, code quality, and development practices.

# SKILLS

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## CORE COMPETENCIES

- AI-Powered Application Development
- Enterprise Software Engineering
- Full-Stack Development
- Backend & API Engineering
- Distributed Systems
- Microservices Architecture
- Cloud Architecture & Infrastructure
- CI/CD & Deployment Automation
- System Integration
- Database & Search Architecture
- Real-Time Communication & Data Streaming
- Observability & Production Engineering
- Legacy Modernization & Migration
- Technical Problem Solving

## DATABASES & SEARCH

- PostgreSQL / MySQL
- MongoDB
- Elasticsearch (Search DB)
- Redis

## BACKEND & DISTRIBUTED SYSTEMS

- Node.js
- Express.js / NestJS
- REST APIs
- gRPC (sync communications)
- WebSockets
- Microservices
- Monolithic & Distributed Architectures
- Apache Kafka (Async communications)
- RabbitMQ (Queueing)
- WebRTC (video / audio calls with LiveKit)
- Real-Time Audio / Video / Data Streaming

## AI & LLM

- AI-Powered Enterprise Applications
- LLM Application Development
- Generative AI Integration
- Conversational AI
- AI-Powered Workflow Automation
- Function / Tool Calling
- Retrieval-Augmented Generation (RAG)
- Structured Outputs

## DEVOPS / OBSERVABILITY & QUALITY

- AWS (Developer path)
- Docker / Docker Compose
- Kubernetes / Helm
- Ansible (configuration)
- Jenkins (CI/CD)
- Nginx
- Linux
- Git

## FRONTEND

- React.js / Next.js
- JavaScript / TypeScript
- HTML5
- CSS
- Bootstrap / TailwindCss
- Responsive Web Development
- Redux toolkit / Zustand (state management)
- Component-Based Architecture

# PROJECTS

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## IBM Training & Skills

### AI-Powered Enterprise Learning Platform

IBM Training & Skills is a comprehensive digital learning platform designed to provide professionals with technical and professional development through self-paced courses, hands-on labs, assessments, and digital credentials.

- Contributed to an enterprise digital learning ecosystem incorporating artificial intelligence, cloud computing, cybersecurity, data analysis, and design thinking.
- Worked on software capabilities supporting scalable digital learning and professional-skills workflows.
- Contributed to an AI-powered enterprise platform, combining modern application engineering with AI-focused learning and skills capabilities.
- Applied full-stack engineering practices across application functionality, integrations, APIs, and supporting infrastructure.
- Worked within an enterprise environment requiring scalable architecture, maintainability, reliability, security, and production-quality engineering practices.
- Supported the development and evolution of software components within a large-scale enterprise ecosystem.

## SAMA

### Saudi Central Bank Platform

- Contributed to software engineering activities within an enterprise financial-services environment.
- Worked within systems requiring reliability, maintainability, structured development practices, and secure handling of business functionality.
- Participated in application development, maintenance, integration, and technical problem solving.

## One-Portal – Vodafone Germany

### Enterprise Telecommunications Customer Portal

- Contributed to a large enterprise customer portal supporting business telecommunications management.
- Developed reusable frontend and backend components for enterprise workflows.
- Worked on functionality related to contracts, hardware orders, billing, service monitoring, and user administration.
- Integrated application modules and APIs to provide centralized business functionality.
- Deployed new functionality and collaborated with stakeholders to validate completed features.

## DentaCarts's system

### B2B E-Commerce & FinTech Platform

DentaCarts is a B2B e-commerce platform serving dental and medical businesses across the Middle East and Africa.

- Developed application functionality for a large-scale B2B commerce ecosystem connecting dental businesses with verified suppliers.
- Built frontend and backend capabilities supporting product discovery, procurement, and business workflows.
- Worked on integrations between application components and external systems.
- Contributed to responsive web experiences and internal business applications.
- Supported deployment and production operation of application components.

## CS platform

### Medical Support & Multi-Channel Communication Platform

- Developed software for a medical support platform designed to help pharmacists communicate with clients and access relevant customer information through a centralized system.
- Built and integrated backend and frontend components supporting multiple communication channels.
- Integrated WhatsApp, Messenger, and a custom chat engine into the platform.
- Integrated distributed services and third-party APIs to support end-to-end communication workflows.
- Designed and maintained AWS-based infrastructure supporting application scalability and reliability.
- Contributed to the evolution of a communication-centric platform combining APIs, microservices, real-time interactions, and cloud infrastructure.

## Uplearn-edu

### E-Learning & Tutor Matching Platform

Uplearn is an e-learning platform that connects students with suitable tutors through a request-and-match workflow based on learning requirements, tutor expertise, and availability.

- Designed and developed core functionality for a student-to-tutor request and matching platform, supporting the complete workflow from tutor requests through session completion.
- Implemented business workflows for tutor matching, availability, scheduling, session management, and learning interactions.
- Integrated Zoom to enable live, interactive tutoring sessions as part of the platform's end-to-end learning workflow.
- Developed backend APIs and application logic supporting student and tutor workflows and platform operations.
- Implemented real-time communication capabilities to facilitate coordination between students and tutors.
- Built reusable frontend and backend components with a focus on maintainability, scalability, and consistent application behavior.
- Integrated multiple application services and third-party capabilities to provide a seamless tutoring experience.
- Designed and implemented workflows around real-world scheduling and availability constraints.
- Contributed across the full development lifecycle, including system design, implementation, integration, testing, deployment, and troubleshooting.

## Lexzur(App4legal)

Lexzur is a modular legal technology platform providing legal practice management, contract lifecycle management, document automation, analytics, and workflow capabilities.

- Contributed to the engineering and evolution of a modular legal technology platform supporting complex enterprise workflows.
- Developed and integrated application modules supporting case and matter management, CRM, task automation, billing, analytics, and document workflows.
- Built reusable frontend and backend components to improve maintainability, consistency, and scalability across the platform.
- Diagnosed and resolved complex application and system-level issues through root-cause analysis and targeted technical solutions.
- Contributed to legacy code modernization and migration, replacing older components with contemporary technologies to improve performance and maintainability.
- Maintained technical documentation and project knowledge using Jira and Confluence.