

Hema Omer

Backend Developer | AI/ML Developer

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PROFESSIONAL SUMMARY

I started coding at 16 out of pure curiosity and never stopped. What began as teaching myself to build things turned into a career I genuinely love — from shipping my first projects as a teenager to building AI inference servers, telecom compliance systems, and production-grade LLM platforms today. Backend and AI/ML Developer with 6+ years of experience building scalable backend systems, real-time data pipelines, and intelligent applications. Proven track record across Go and Python backends, LLM deployment and RAG systems, high-throughput network analytics, and regulated telecom data processing. Experienced in freelance consulting, product engineering, and leading technical product teams. Fluent in Kurdish, Arabic, and English.

TECHNICAL SKILLS

Languages: Go, Python, PHP, JavaScript / TypeScript, Dart, C++

Frontend: React.js, Next.js, Vue.js, React Native, Flutter, Tailwind CSS, RTK, shadcn/ui, Framer Motion

Backend & APIs: Laravel, Express.js, Flask, REST APIs, SSE, Socket.io

AI / ML: XGBoost, vLLM, RAG, Qdrant, Prompt Engineering, Intent Classification, Apache ECharts

Databases: MySQL, PostgreSQL, Vector Databases (Qdrant)

DevOps & Infra: Docker, GitHub, JIRA, GPU Server Config, Vercel

Networking & Security: Deep Packet Inspection, Telecom Regulatory Standards, VoIP/SIP/RTP, Honeypot Systems, Penetration Testing

Embedded Systems: Arduino (C++), ESP8266, PlatformIO, I2C, OLED Hardware Interfacing

Ruyat Corp.

Sep 2025 – Present

Senior Backend Developer & AI Developer

Iraq

Senior backend and AI across six production systems — IoT field monitoring, high-traffic messaging, multilingual LLM support (project lead), network traffic analytics, fraud ML, telecom compliance, and fiber platform performance.

IoT Cabinet Monitoring Platform**Backend · Real-time · IoT**

Built a monitoring platform for a large network of field cabinets — role-based access, region-scoped data, real-time status, and multi-type alarm handling for field operations.

- Built role-based authentication with secure session management, region-scoped data access, and real-time online/offline cabinet status tracking with dynamic filtering and pagination.
- Built a multi-type alarm management system (voltage, temperature, water leakage, smoke, battery, rectifier faults) with tiered notification rules and live sensor-driven triggering.
- Implemented real-time alarm notification architecture delivering critical metadata to the right region operators while enforcing cross-region data isolation.
- Parallelized the core data-ingestion pipeline to reduce update latency across the field-device network.
- Engineered sync server infrastructure and search backends for reliable IoT-to-application data synchronization.

Messaging Platform — Backend**Go · MySQL · Real-time**

Contributed to the backend of a high-traffic consumer messaging application — core messaging features, security hardening, and search at scale.

- Implemented server-side logic for message forwarding with attachment preservation, emoji reaction syncing, thread pinning, and self-destructing messages with server-side expiration and cleanup.
- Built secure SMS OTP verification, phone registration flows, and user-blocking controls; integrated a third-party AI content-moderation API for real-time threat detection.
- Improved backend stability and security through concurrency debugging, memory-safety hardening, and proactive security audits across the Go backend.
- Led backend refactoring across multiple modules, fixed critical identifier and counter bugs, and added standardized system documentation.
- Improved message delivery reliability through queue and worker-pool optimizations, reducing message processing bottlenecks.
- Deployed Elasticsearch to power a cross-channel message and conversation search-indexing service.

AI Customer Support Assistant (Project Lead)**Go · vLLM · Qdrant · MySQL · SSE**

Led end-to-end delivery of a multilingual AI customer support chatbot for a telecom production platform — from model selection and RAG design through production deployment.

- Deployed and tuned a vLLM inference server (AWQ quantization) on GPU infrastructure, configuring memory and context limits for multi-user stability.
- Configured containerized Qdrant deployments to drive semantic search and retrieval-augmented generation (RAG).
- Built Go relay logic to retrieve conversation context from MySQL and stream tokenized responses via Server-Sent Events (SSE).
- Built and schema-designed a structured FAQ/knowledge base dataset, designed master system prompts seeded with it, and tuned inference parameters per business tier — including resolving Kurdish character-

set errors and model hallucinations.

- Directed training and dataset curation for a multilingual intent classification model to auto-route queries across English, Arabic, and Kurdish dialects.
- Ran a formal model benchmarking and selection process to choose the underlying language model.

Network Traffic Analytics Platform

VoIP · DPI · AI

Built a VoIP traffic analytics module for real-time SIP, RTP, RTCP, and SRTP protocol analysis, categorizing traffic by Autonomous System, application, and content category.

- Developed a call detection system leveraging network fingerprinting to analyze encrypted VoIP traffic patterns.
- Trained an AI model for user-activity recognition from deep packet inspection data to support network-level traffic classification.

Fraud & Risk Analytics System

XGBoost · Feature Engineering

Designed and built an end-to-end ML pipeline using XGBoost to classify and predict suspicious financial transactions across digital wallet products.

- Performed advanced feature engineering over structured transaction datasets and engineered custom network-layer visualization tools to trace transaction flows layer by layer.

Telecom Compliance Platform

Go · Regulatory · Compliance

Built and extended a Go-based telecommunications compliance service aligned with international regulatory standards (ETSI) for standardized data processing.

- Developed metadata extraction and content-processing components supporting regulatory compliance requirements.
- Built protocol classification and internal validation tooling to support quality assurance for compliance systems.
- Implemented audio codec processing capabilities as part of a compliance data pipeline.

Fiber Network Management Platform

Go · Performance · Analytics

Performance and analytics improvements on a fiber network management platform.

- Optimized large-dataset export performance (memory handling and data formatting).
- Resolved performance bottlenecks in a user-location/mobility analytics feature.

H3MA Agency

Jan 2023 – Mar 2025

Founder & Full Stack Solutions

Sulaymaniyah, Iraq

Founded a digital agency delivering tailored web development, rebranding, and custom internal systems — sales, inventory, performance, and debt dashboards — for 16+ SME clients.

- Founded a digital transformation solution delivering tailored web development, rebranding, and custom internal systems (sales, inventory, employee performance, and debt management dashboards) for 16+ SME clients.
- Managed concurrent client pipelines using Agile methodology with JIRA to ensure execution met exact technical specifications.

We Are iQ Group

Jun 2023 – Aug 2023

Software Developer — University Internship

Sulaymaniyah, Iraq

University internship cleaning and validating large multilingual datasets (Arabic, English, Kurdish) and conducting authorized penetration testing on an internal client project.

- Processed a large volume of multilingual records (Arabic, English, Kurdish) using Python, achieving high accuracy by leveraging mapping APIs for address/name validation and pre-trained translation models to resolve cross-language inconsistencies.
- Rectified data anomalies, misspellings, and category errors across three languages to produce a clean, consistent dataset for production use.
- Conducted authorized penetration testing for an internal client project, applying multiple testing methodologies and contributing findings that led to improved security measures.

Potan

Jun 2022 – Jan 2023

Full Stack Developer

Sulaymaniyah, Iraq

Built and rebuilt the Joomlachi e-commerce stack — Flutter mobile app, Laravel backend from scratch, and a full React admin dashboard — plus blog and HR tooling.

- Managed API integration, refresh logic, and core functionality for the Joomlachi e-commerce mobile app (Flutter), covering home, search, category, cart, and settings screens; resolved cart item count discrepancies.
- Rebuilt the entire Joomlachi backend from scratch using Laravel to handle production-scale operations.
- Developed the complete Joomlachi admin dashboard frontend with React and Tailwind CSS, implementing comprehensive CRUD functionality via RTK for admins, users, locations, items, companies, drivers, orders, discounts, currencies, and more.
- Created the Hama Group blog page and full admin dashboard using React and Tailwind CSS.
- Enhanced the UI/UX and continued development on an internal HR app and dashboard using React Native.

Potan

Nov 2020 – Dec 2020

Freelance UI/UX Designer (Part-time)

Sulaymaniyah, Iraq

Freelance UI/UX for regional parcel-delivery apps (Sardam Post, Aryan Post) and a corporate website prototype for Potan.

- Designed the complete UI for Sardam Post App (Adobe XD) — a parcel posting and delivery application for the Kurdistan Region.
- Designed a UI prototype for Potan's corporate website (Adobe XD) to showcase their services and portfolio.
- Designed the complete UI for Aryan Post App (Adobe XD) — a second regional posting and delivery application for the Kurdistan Region.

Speedway IQ

Dec 2020 – Apr 2022
Sulaymaniyah, Iraq · Hybrid

Full-Stack Developer (Part-time, while at university)

Part-time full-stack role building internal tools and dashboards — first structured Laravel and React experience under senior mentorship.

- Assisted in developing internal tools and dashboards to support daily operations across multiple departments.
- Learned and applied Laravel for backend development and React.js for frontend components under senior developer guidance.
- Collaborated with design and operations teams to understand project requirements and implement features.
- Gained foundational experience with documentation standards, Git version control, and testing procedures through structured mentorship.

SMARTMED

Jul 2020 – Sep 2020
Iraq

Freelance Full-Stack Developer (While at university)

First freelance gig — end-to-end CRM web app (Laravel + Vue.js) and UI fixes on their Smart-Inventory storage platform.

- Developed a Customer Relationship Management (CRM) web application end-to-end, building both the backend and frontend using Laravel and Vue.js with Laravel Sanctum for authentication.
- Improved UI/UX and resolved frontend bugs in their Smart-Inventory system, a storage management platform used in market operations.

EDUCATION

Komar University of Science and Technology · BSc in Computer Science

Jan 2021 – May 2025 · Sulaymaniyah, Iraq

- Founded the university's first technology club; structured technical workshops and mentored 20+ students across web development, programming, and Git version control.
- AUK Iraq Universities Hackathon — 3rd Place (2024): Led a team of 4 to build a Kurdish natural-language medical voice assistant using Python and the Claude API.
- Komar Tech Day — 2nd Place (2023): Coordinated a multi-project club showcase and secured second place with a custom WiFi security deployment framework.
- BIT Festival Hackathon Participants assistants (2022).
- Hackasuly Participants Mentor (2021).
- Hacksuly hackathon participant (2019).

NOTABLE PERSONAL PROJECTS

Sahih Tree — GitHub

Next.js 24, TypeScript, Go, MySQL, Docker

Hadith & narrator archive across 25,000+ profiles. Full-stack web application mapping how Islamic knowledge was passed down — who narrated which hadith, who taught whom, and how those lines connect across generations.

github.com/h3ma209/sahih-explorer

krain-sec — GitHub

Go, Multi-threading, Systems Programming, Network Security, Socket Programming

Cybersecurity Honeypot. Open-source threat intelligence framework in Go functioning as a multi-protocol honeypot to safely trap, log, and analyze malicious server connection behaviors.

github.com/h3ma209/krain-sec

R6 Vulture — GitHub

TypeScript, Python, Event-Driven UI, Service Boundary Design, Local Caching

Rainbow Six Siege Overlay. In-game tactical intelligence overlay for Tom Clancy's Rainbow Six Siege.

github.com/h3ma209/r6-vulture

Phantom — GitHub

ESP-IDF (C), ESP32, PlatformIO, Hardware Interfacing, SPI / I2C

WiFi & Bluetooth security learning tool. A pocket-sized learning tool for people curious about WiFi and Bluetooth security — not a black-box hacker toy.

github.com/h3ma209/Phantom

SAI — GitHub

Vue.js, Express.js, Flask, Python, Node.js, Machine Learning

Security AI — AI-powered WAF microservice. Platform featuring an AI-powered web application firewall that dynamically validates live requests between client and server.

github.com/h3ma209

AWARDS & LANGUAGES

Awards: AUK Iraq Universities Hackathon — 3rd Place (2024) · Komar Tech Club Opening Day — 2nd Place (2023) · BIT Festival Mentor (2021)

Languages: Kurdish (Native) · English (Full Professional) · Arabic (Elementary)