WALID SLIM

AI / Full-Stack Engineer — LLM Agents · Model Context Protocol (MCP) · Node.js · React

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SUMMARY

AI / Full-Stack Engineer with 3+ years building production LLM-powered systems for the hospitality industry at Quicktext, the company behind the Velma AI assistant. Designed and shipped 12+ services solo — an embeddable AI hotel concierge, the company-wide Model Context Protocol (MCP) gateway (57 tools, 7 providers, OAuth 2.1 scope-based security), interactive MCP Apps for Claude/ChatGPT, and OAuth authorization servers — totaling 1,400+ commits across 16 production repositories and 490+ resolved Jira issues (97% resolution rate) in agile sprints. Deep, hands-on expertise in LLM agent orchestration (OpenAI, Azure OpenAI, Google Gemini, Groq), the MCP ecosystem (servers, clients, auth, transports), NestJS/Next.js microservices, and Kubernetes deployments.

PROFESSIONAL EXPERIENCE

Full-Stack Developer — Quicktext (Velma AI)

Jan 2023 – Present · Hospitality AI platform serving hundreds of hotel properties worldwide

Delivered **500+ Jira issues** (363 user stories, 140 bug fixes — 97% resolved) and **1,400+ commits** across 16 production repositories in three years of Scrum sprints.

AI & MCP Platform — designed, built, and own end-to-end

- **Architected and shipped Velma's embeddable AI concierge widget** (Next.js 15, React 19, Vercel AI SDK): multi-provider LLM routing across Azure OpenAI GPT-4o, Google Gemini, and Groq (Llama + Whisper voice), orchestrating 18+ booking, hotel-info, weather, and discovery tools — embedded on hotel websites via a single script tag.
- **Designed a two-tier conversational memory system** — Redis rolling summaries for short-term context plus MongoDB long-term user profiles — reaching <5 ms warm pre-stream latency, with Langfuse/OpenTelemetry tracing and per-request token-usage tracking.
- **Architected the company-wide MCP gateway** (NestJS, 25K+ LOC, 547 commits): a decorator-based provider framework (`@McpProvider`/`@Tool`/`@Resource`/`@Prompt`) exposing **57 tools across 7 providers** (booking engine, hotel data, hub, storage, Velma AI, weather, data warehouse) through a single Streamable HTTP endpoint — with a MongoDB provider registry enabling zero-downtime tool enable/disable and auto-sync on startup.
- **Secured the gateway with OAuth 2.1 + fine-grained scopes:** RFC 9728 protected-resource metadata and .well-known discovery, auto-generated per-tool scopes (read/write/readAll/writeAll) with scope-based tool filtering per user, plus long-lived `qt_*` API tokens; 4 composable security guards — JWT validation, scope enforcement, CIDR IP whitelisting, Redis rate limiting (100 req/min) — with audit logging and per-team access validation over multi-tier Redis caching.
- **Engineered session lifecycle & observability for the gateway:** 500-session transport pool with 3-tier inactivity detection and cleanup, MongoDB-backed session/tool-call metrics (TTL-indexed) feeding real-time admin and public dashboards across **58 REST endpoints**; also shipped stdio transport for Claude Desktop and dynamic scope-aware server instructions per session.
- **Built interactive MCP Apps** (MCP Apps SDK, `ui://` resources): tools return self-contained React 19 UIs (Vite single-file bundles) rendered inside Claude and ChatGPT via the postMessage host bridge — separating LLM-visible `structuredContent` from display-only `_meta.widgetData`, with strict CSP and tool safety annotations (readOnly/destructive/idempotent/openWorld hints) for app-store publishing compliance.
- **Shipped a multi-tenant hotel booking MCP platform:** live Apaleo PMS booking flow (room search → booking creation → reservation lookup) with OAuth2 client-credentials token caching and MCP session pooling; MongoDB-backed dynamic hotel registry with an admin CRUD UI to onboard new hotels with zero redeploys; nearby-places discovery on OpenStreetMap/Overpass with Leaflet maps, 131 POI category mappings, and geohash-keyed Redis caching with startup pre-warming.
- **Built OAuth 2.0/2.1 authorization servers for MCP clients** (authorization-code flow with PKCE, dynamic client registration, .well-known discovery metadata) with Microsoft Entra ID and Google SSO — enabling secure Claude/ChatGPT access to hotel systems.
- **Developed the booking-engine middleware integrating 100+ hotel booking providers** (REST, SOAP/XML, OAuth-signed APIs) with normalized availability responses, UTM conversion tracking, and multi-team room aggregation with deduplication.

- **Technical leadership:** championed MCP from first prototype to company standard — winning the architecture decision with the CTO and team; code reviewer across the MCP repositories, mentor and onboarder for developers joining the platform, and regular demos of agent capabilities to product and customer-facing teams.
- **Delivered supporting microservices:** Azure Blob Storage media service with bucket quotas, perceptual image hashing, EXIF sanitization, and an MCP module exposing hotel media to AI agents (PostgreSQL + TypeORM); a JsReport + headless-Chrome PDF export pipeline; and a weather/points-of-interest aggregation service — all Dockerized with Kubernetes manifests for staging and production.

Core Platform — key contributor across 5 team-owned services (380+ commits)

- **Console (Next.js 14 Turborepo, 16 micro-frontend apps, 175 commits):** built the console's OAuth2 server for MCP clients — RFC 7591 dynamic client registration, PKCE, RS256 JWTs with JWKS publication, OIDC discovery, and a 12-scope MCP permission model — plus the Q-MCP management dashboard: one-click client config generation (Claude Desktop, Claude.ai, ChatGPT, Cursor, VS Code), per-user/per-tool permissions (read/readAll/write/writeAll), token-lifetime controls, role-based admin access, new booking-engine integrations, and a revamped image-gallery/storage UX.
- **Analytics/KPI service (NestJS, Elasticsearch, Bull, 89 commits):** implemented email pixel tracking for campaign attribution, Google Analytics 4 direct-booking revenue tracking with currency-exchange handling, queue-based async message processing, and MongoDB↔Elasticsearch reservation-data migrations.
- **Bot configuration service (NestJS, MongoDB, 72 commits):** extended the dialog/configuration system powering every bot instance (257+ dialog templates), added Q-Task and special-offers dialog features, and refactored property pre-fetching into a global interceptor.
- **Real-time messaging server (Node.js, Socket.io, Redis, 39 commits):** added the MCP channel to live-chat routing, fixed Booking.com live-chat conversation flows, implemented WhatsApp opt-in/opt-out endpoints, and introduced HTML-sanitization middleware for REST and socket payloads.
- **Booking.com messaging gateway:** integrated OAuth 2.0 bearer authentication and Redis-backed duplicate-message detection for the message queue.
- **Rolled out a new multi-tenant property type (aparthotel) across the full stack** — bot config, real-time server, and all 14 console app environments — coordinating schema, API, and feature-flag changes.

TECHNICAL SKILLS

AI / LLM: LLM agents & tool orchestration, Model Context Protocol (MCP) servers/clients/auth, MCP Apps SDK (interactive UI), OpenAI & Azure OpenAI (GPT-4o), Google Gemini, Groq, Whisper voice, Vercel AI SDK, prompt engineering, conversational memory & RAG patterns, Langfuse/OpenTelemetry LLM observability, AI-assisted development (Claude Code, GitHub Copilot)

Backend: Node.js, NestJS, Express, TypeScript, REST APIs, WebSockets (Socket.io), Bull/Redis queues, event-driven architecture, microservices, OAuth 2.0/2.1, PKCE, JWT, SSO (Microsoft Entra ID, Google), Zod validation

Frontend: React 19, Next.js 14/15 (App Router), TanStack React Query, Tailwind CSS, Ant Design, shadcn/ui, Turborepo monorepos, Vite

Data: MongoDB/Mongoose, PostgreSQL/TypeORM, Redis, Elasticsearch

DevOps & Cloud: Docker, Kubernetes, Azure (Blob Storage, OpenAI), CI/CD, Git/GitHub

Integrations: Booking.com, Apaleo PMS, 100+ booking engines (Siteminder, Synxis, Mews, Accor, IHG…), Google Analytics 4, Twilio, Firebase

EDUCATION & CERTIFICATIONS

- **Full-Stack Web Development Certificate** — RebootKamp (RBK) Tunisia · Sep 2022 – Jan 2023
- **BTS, Industrial Automation & IT** — CSFMI Monastir · 2019 – 2021
- **Higher Institute of Computer Science and Mathematics** — Monastir · 2017 – 2018
- **Mathematics Baccalaureate** · 2016

LANGUAGES

Arabic (native) · French (fluent) · English (fluent)