

Wesam Ghrayeb

Full Stack Engineer | AI Systems, Agent Workflows & Product Reliability

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PROFILE

Full Stack Engineer with 2+ years building production-grade multi-tenant SaaS, APIs, microservices, real-time workflows and deployments. Hands-on exposure to AI systems through LLM tool-calling, structured outputs, fallback behavior, external API integrations and AI-assisted development. Strong at turning ambiguous product needs into shipped, validated full-stack features with practical reliability thinking.

A1 / AI SYSTEMS MATCH

- Agent workflow foundations: built a tool-calling agent loop with sequential execution, tool-result injection, iteration logs, final structured JSON output and fallback behavior for API/tool failures.
- Reliability mindset: understands that LLMs are powerful but non-deterministic; designs around validation, deterministic schemas, retries, fallbacks, error states, logs and human review.
- Product-layer ownership: React/TypeScript frontend + Node.js/Express APIs + databases + deployment, with focus on usable workflows, responsiveness and real-world task completion.
- Persistent and real-time systems: experience with tenant-aware context, RBAC/ABAC, WebSockets, Redis, RabbitMQ and background processing for reliable multi-step workflows.

EXPERIENCE

WJS Digital Innovations Ltd - Full Stack Software Engineer | 07/2024 - Present

- Own and ship end-to-end features for a multi-tenant B2B SaaS CRM platform used by multiple business clients, from product requirement to API design, UI implementation, deployment and validation.
- Design backend service boundaries, REST APIs and RPC communication across microservices, supporting scalable separation of business capabilities and clear integration contracts.
- Implemented authentication, RBAC/ABAC authorization and strict tenant isolation to protect persistent customer data and secure multi-user workflows.
- Built real-time and asynchronous product flows using WebSockets, Redis and RabbitMQ for background processing, responsive updates and cross-service workflow execution.
- Improved production readiness through Docker-based deployment, AWS infrastructure, Nginx, PM2, operational debugging, issue investigation and practical fallback/recovery handling.
- Used Cursor and LLM-based workflows to accelerate development, debugging, refactoring and automation, while manually reviewing, testing and validating generated outputs before delivery.
- Collaborated closely with product and stakeholders in a fast-moving environment; led CRM testing and quality validation with 50+ Google developers through a Technion QA partnership.

SELECTED AI & PRODUCT SYSTEMS

- **AI Tool-Calling Agent - ZioNet Screening Course:** Implemented an LLM agent loop with tool registry, sequential tool execution, tool observations, structured JSON response schema, logs and fallback/mock results when provider APIs fail.
- **Crypto Investor Dashboard:** Built a full-stack AI-powered dashboard with authentication, protected routes, external API integrations, AI insight generation, live/fallback data states, loading/error handling and deployment-focused configuration.
- **Moments Event Platform:** Designed persistent event workflows across web and mobile: host dashboard, guest RSVP/photo upload, QR check-in, real-time photo wall, moderation queue, staff role gating and Supabase/Next.js/Expo architecture concepts.

TECHNICAL SKILLS

Frontend: React, TypeScript, JavaScript, Next.js project exposure

Backend: Node.js, Express, REST APIs, JWT/Auth, API architecture

AI Systems: OpenAI API exposure, LLM tool calling, structured outputs, prompt/workflow design, fallback/retry logic, human validation

Data: MongoDB, MySQL, SQL & NoSQL, persistent user/context data modeling

Realtime / Messaging: WebSockets, Redis, RabbitMQ, background processing

Infrastructure: Docker, AWS, Nginx, PM2, deployment, production debugging

Architecture: Microservices, RPC communication, multi-tenant SaaS, RBAC/ABAC, system design

EDUCATION

B.Sc. Software Engineering - Ort Braude College | 2019 - 2023 | 3x Dean's List