



Alaa Houdheg

Tech Lead • Senior Full-Stack Engineer • Product Engineer

alahoudheg@gmail.com • [linkedin.com/in/alaa-houdheg-02b8a617b](https://www.linkedin.com/in/alaa-houdheg-02b8a617b) • github.com/AlaaHoudheg • (+216) 52 214 301

Professional Summary

Tech Lead and Senior Full-Stack Engineer with 5+ years of experience delivering scalable web platforms, AI-powered products, and data-driven applications from concept to production. Promoted to Tech Lead within 2–3 years at Norma, where I lead a team of 4–6 engineers, drive hiring, and co-own architecture decisions across fintech, real estate, legal, and gaming domains. My edge is at the intersection of product thinking and engineering execution — I translate complex business and product ideas into technical systems, lead client-facing delivery, and keep cross-functional teams aligned and shipping. Hands-on technical leader known for high communication, agile delivery, fast problem-solving, and driving clarity in ambiguous environments. Experienced in end-to-end product development, software architecture, API design, cloud infrastructure, and engineering team management.

Professional Experience

Product Engineer / Technical Lead / Full-Stack Developer | Norma Mar 2022 – Present

Promoted from Full-Stack Developer to Technical Lead within 2–3 years. Led a team of 4–6 engineers across AI, fintech, gaming, and analytics products. Actively involved in hiring and onboarding. Co-defined architecture standards alongside the CTO.

- Led and grew an engineering team of 4–6 developers; drove end-to-end hiring, onboarding, and mentoring initiatives
- Co-defined software architecture, technical stack decisions, and engineering standards for internal and client-facing platforms
- Delivered 5+ MVP products enabling rapid business validation across multiple domains using agile methodologies
- Established CI/CD pipelines, automated testing, and code review standards improving team reliability and delivery velocity
- Served as primary technical point of contact for external clients — managed requirements, stakeholder communication, and shipped production-ready APIs
- Collaborated with product management and UX teams to translate business requirements into structured sprint deliverables

LevelApp — AI Agent Evaluation Platform

Role: Product Engineer / Technical Lead | Company: Norma

Contributed as Product Engineer and Technical Lead on LevelApp — a SaaS platform bringing structured QA to AI systems where none previously existed. Directed product vision, client acquisition, and business development while working closely with the technical team on system design and delivery. Deployed to 5 clients including 2 major live productions: a real estate AI assistant and a legal law-verification system.

- Participated in defining evaluation requirements: scoring methodologies, output validation criteria, guardrail testing scenarios, and benchmarking goals
- Drove the product case for pre-deployment AI testing enabling clients to catch guardrail failures before production, replacing zero structured QA
- Shaped requirements for dataset management, experiment tracking, and multi-turn LLM agent evaluation workflows
- Owned product strategy, beta tester acquisition, and client onboarding — landing 5 production deployments including 2 enterprise clients

- Contributed to frontend implementation of experiment configuration and results analysis dashboards

Technologies: TypeScript • React • Next.js • Python • FastAPI • LLM APIs • GCP • Pub/Sub • GitHub Actions • NLP Metrics • AI Evaluation • Prompt Engineering

DashQ VLA — AI Virtual Leasing Agent

Role: Software Engineer | Company: DashQ

Contributed to the design and production launch of a multi-agent virtual leasing assistant. Played a key role in translating client booking workflows into system requirements, coordinating with external teams, and ensuring on-time delivery under tight deadlines to 5 major clients, each managing 100+ property units.

- Contributed to initial system architecture discussions, helping shape the integration of knowledge base and CosmosDB vector database components
- Optimized conversational AI flow from information extraction through to booking confirmation, reducing conversation failures
- Coordinated with external client teams to deliver integration-ready REST APIs and manage live system updates
- Shipped to production within 6–12 months across 5 major clients with 100+ doors each under high-pressure delivery conditions

Technologies: Python • FastAPI • CosmosDB • LangGraph • LangChain • LangSmith • Async • LLM APIs • Multi-agent Systems • Vector Databases

Indie Plaza — Platform for European Indie Game Studios

Role: Technical Lead | Client: Spiel Fabrique

Led engineering on a platform helping independent European game studios showcase projects and access funding opportunities. Shipped first live version within 1–3 months.

- Shaped product roadmap with the Product Owner and converted business goals into tracked agile sprint deliverables
- Designed scalable platform architecture and implemented Algolia-powered full-text search, improving content discovery performance
- Led technical coordination across the engineering team and contributed directly to feature implementation
- Optimized application performance applying Next.js rendering strategies (ISR & SSG) for improved Core Web Vitals
- Maintained and improved CI/CD pipelines across DEV, STAGING, and PRODUCTION environments

Technologies: TypeScript • Next.js • React • Node.js • Firebase • Algolia • GCP • Rowy • Google SSO • ISR • SSG • CI/CD

ValueCometric — ESG Market Intelligence Platform

Role: Senior Frontend Developer | Team: ~40+ engineers (guild structure)

Worked on an ESG analytics platform providing investor-driven perception scores and interactive dashboards.

- Improved dashboard load times by 30–50% through frontend performance optimization and Metabase integration tuning
- Implemented dynamic filtering and parameter passing between Next.js application and embedded analytics dashboards
- Developed new data exploration and data visualization features improving usability across investor-facing views

Technologies: TypeScript • Next.js • React • Metabase • REST APIs • Performance Optimization • Data Visualization

Tradius — Optimizing Liquidity Services for Cryptocurrencies

Role: Frontend Developer | Team: Enterprise (40+ engineers guild structure)

Contributed to a live real-money crypto trading platform within a large enterprise engineering organization.

- Built complex trading interfaces and UI logic in Next.js/TypeScript within a 40+ engineer enterprise guild team
- Integrated RPC-based APIs via centralized Axios context, maintaining consistent data flow across trading modules
- Applied clean code principles and component-based architecture ensuring scalability and maintainability
- Built shared Storybook component library improving team maintainability, reusability, and documentation
- Owned integration of Cypress end-to-end (E2E) automated testing suite improving release confidence

Technologies: TypeScript • Next.js • React • RPC APIs • Storybook • Cypress • E2E Testing • Component Architecture

Dialogue Management Tool — Hawkswell Studio

Role: Full-Stack Developer

Built an internal dialogue management tool from ideation to delivery, supporting narrative design workflows in game production.

- Translated stakeholder ideas into technical architecture, data models, and user interaction flows
- Defined input/output data structures for dialogue systems; built responsive frontend with Next.js, Tailwind CSS, and shadcn/ui
- Integrated third-party API for AI-powered audio transcription, extending tool capabilities

Technologies: TypeScript • Next.js • React • Firebase • Node.js • GCP • FastAPI • Tailwind CSS • shadcn/ui

Earlier Experience

Full-Stack JS Instructor | [Go My Code](#)

Feb 2021 – Mar 2022

- Delivered full-stack web development training programs (MERN stack) to 500+ students across online and in-person environments
- Taught frontend development, backend engineering, database design, and system integration while mentoring students through practical projects

Web Designer / Graphic Designer | [Internet Leaders](#)

May 2020 – Apr 2021

- Contributed to maintaining and building features for e-commerce platforms using Prestashop and MERN stack
- Designed UI/UX prototypes in Figma and created marketing visual assets for product launches

Core Skills

Leadership & Management: Technical leadership • Product ownership • Engineering team management • Strategic decision-making • Cross-functional collaboration • Hiring & onboarding • Developer mentoring • Stakeholder communication • Agile • Scrum

Programming Languages: JavaScript • TypeScript • Python • PHP • SQL

AI / LLM Systems: LLM evaluation frameworks • AI benchmarking • Structured output validation • AI agent testing • Prompt engineering • LangChain • LangSmith • LangGraph • Langfuse • MCP • RAG • Vector databases

Frontend: React • Next.js • Tailwind CSS • shadcn/ui • Storybook • Modern frontend architecture • Core Web Vitals • Performance optimization • SSR • SSG • ISR

Backend & APIs: Node.js • Express.js • FastAPI • REST API • RPC • GraphQL • Scalable backend services • PHP • Microservices

Cloud & Infrastructure: GCP • Cloud Run • Cloud Functions • IAM • CI/CD • GitHub Actions • Pub/Sub • AWS S3 • DevOps • Deployment pipelines

Data & Platforms: MongoDB • PostgreSQL • GraphQL • Algolia • Firebase • Supabase • CosmosDB • Metabase • Vercel • Netlify

Testing & QA: Playwright • Cypress • E2E testing • Automated testing • System reliability • AI evaluation pipelines • Unit testing

Developer & AI Tools: Git • GitHub • GitLab • Claude Code • Bolt • Loveable • Figma • VS Code

Design: Figma • Canva • Photoshop • Illustrator • Adobe XD • UI/UX design

Education & Certifications

Bachelor's Degree – Digital Communication and Multimedia | ISIMG, Gabes 2017 – 2020

[Cybersecurity Certification – CompTIA Security+ Preparation](#) • [Introduction to User Experience Design Certification](#)

15 satisfied clients • 23+ products in production • 5 engineers now thriving • 500+ students, infinite memories

Currently exploring AI tools & getting ready for the new era of software engineering

"Every number above is a person I gave my best to ... And there's more to come."