

Louai ALOUI

SOFTWARE ENGINEER

Ariana essoughra, 2081, Ariana, Tunis

☎ (+216) 53-317-696 | ✉ louaialoui1993@gmail.com | 📱 [alouilouai](https://www.linkedin.com/in/louailouai) | 📄 [louai-aloui-521094111](https://www.linkedin.com/in/louai-aloui-521094111)

Passionate and versatile Full-Stack Software Engineer with 3+ years of experience building scalable, high-performance systems using Node.js, NestJS, Python, and modern frontend stacks like Next.js and React. Proven success in leading microservice architecture, cloud infrastructure (AWS), CI/CD automation, and real-time communication systems. Recently focused on Agentic AI development, building autonomous applications that leverage LangChain, Azure OpenAI, and Forefront for intelligent automation and global impact—spanning job application assistance and educational tools. Strong background in financial data pipelines, SaaS platforms, and blockchain integrations. Actively seeking full-time opportunities to contribute to cutting-edge AI-driven products and take on challenging backend or platform engineering roles.

Skills

Languages: JavaScript, TypeScript, Python

Backend: Node.js, Express.js, NestJS, Flask, Strapi, Koa, GraphQL, REST APIs

Frontend: React, Next.js (App Router & Page Router), Gatsby, Redux Toolkit, Tailwind CSS

Databases: PostgreSQL, MongoDB, DynamoDB, MariaDB, SQLite3, QuestDB, CockroachDB

DevOps & Cloud: AWS (EC2, S3, SES), Azure Cloud, Azure Foundry AI, Docker, Kubernetes, GitHub Actions, CircleCI, Prometheus, Loki, Grafana, Wasabi

Other: LangChain, n8n, Prisma, TypeORM, Sequelize, Zookeeper, Zello, Mattermost, Confluence

Work Experience

Self Initiated Project

AI APPLICATION DEVELOPER

Jan. 2025 - now

- Dedicated 7 months to researching and developing Agentic AI applications solving real-world challenges through intelligent automation.
- Created Job Application Advisor (<https://job-application-advisor.vercel.app>), an AI-powered web app that helps candidates worldwide tailor their CVs to job descriptions, increasing interview conversion through smart analysis and personalized recommendations.
- Developed a second educational AI assistant designed to help students and learners interactively understand complex topics using conversational agents, enhancing self-learning and academic performance.
- Leveraged cutting-edge frameworks including LangChain, Azure OpenAI, and Forefront to build autonomous agents capable of browsing, reasoning, and acting without human intervention.
- Prioritized lean development, UX-first design, and rapid iteration cycles, leading to strong user engagement during beta testing phases.
- Open-sourced components and actively shared insights on GitHub and LinkedIn, demonstrating technical depth and thought leadership in the agentic AI space.

Quantech Solution Partners

Nice (Remote)

FULL-STACK ENGINEER

Jan. 2024 - Dec. 2024

- Transitioned to full-stack engineering, automating workflows for financial data (DataScope, OPRA) with Python scripting, reducing manual effort by 30 %.
- Spearheaded the migration from QuestDB to PostgreSQL, boosting query speed by 40% and ensuring data consistency across distributed microservices.
- Replaced REST APIs with GraphQL, enabling flexible and efficient data queries and reducing average response times by 25%.
- Built CI/CD pipelines on GitHub Actions with AWS EC2 and Next.js/Flask stack, reducing deployment time by 50%.
- Integrated Confluence with Microsoft Teams, increasing team collaboration efficiency by 20% through streamlined knowledge sharing.
- Implemented push-to-talk functionality using Zello, enhancing real-time communication across global teams, reducing response delays by 50%.
- Deployed and configured Mattermost in Docker, improving task management processes and boosting team coordination by 15%.

FRONTEND ENGINEER

- Designed and implemented interactive data visualizations, boosting user engagement metrics by 30% for dynamic web applications.
- Developed a modular frontend architecture with Next.js 14 (App Router) and Redux Toolkit, centralizing state management and enhancing performance.
- Integrated NextAuth for secure authentication, reducing onboarding issues by 20% while maintaining compliance with modern security standards.
- Built customizable UI widgets with dynamic resizing and positioning, improving dashboard personalization options for users.
- Authored reusable React hooks to abstract complex logic, enhancing code quality and reducing redundancy across components by 25%.
- Collaborated with backend teams to deliver cohesive user experiences, aligning frontend with APIs to meet 100% of project deadlines.

Digital Rogue Wave

Montplaisir, Tunis

BACKEND ENGINEER

Dec. 2022 - Sep. 2023

- Developed a SaaS referral system using NestJS and Apache Kafka, enabling seamless event-driven communication and handling 1M+ events monthly.
- Designed and implemented microservices for email notifications, reward redemptions, and referral tracking, following Domain-Driven Design (DDD) principles to ensure scalability.
- Dockerized services including PostgreSQL, Redis, and Prometheus, and migrated the database to CockroachDB, boosting system performance by 35%.
- Optimized an open-source Zookeeper cluster to improve Apache Kafka coordination, reducing event-processing latency by 25%.
- Collaborated with frontend developers to integrate Next.js 13 (Page Router) with backend APIs, ensuring timely feature delivery and seamless user experiences.
- Built CI/CD pipelines to automate build, test, and deployment processes, decreasing deployment time by 40% on AWS EC2 instances.
- Achieved 90% code coverage through unit testing with Jest and integration testing with Cypress, ensuring reliability and minimizing bugs in production.
- Set up real-time monitoring with Prometheus, Loki, and Grafana, reducing mean time to resolution (MTTR) by 30% for production issues.
- Partnered with cross-functional teams to deliver features from ideation to deployment, improving overall system scalability and user satisfaction.

Wagmi Tech UG

Berlin (Remote)

SOFTWARE ENGINEER (FREELANCE)

Apr. 2022 - Oct. 2022

- Contributed to the development of an NFT marketplace leveraging Hedera Hashgraph, ensuring secure and efficient decentralized transactions.
- Implemented Apollo Server and client, reducing query response times by 25% and enabling seamless data fetching between frontend and backend.
- Integrated Algolia for advanced search capabilities, improving search speed by 40% and supporting complex queries for marketplace data.
- Migrated from serverless MongoDB to a MongoDB cluster, enhancing database scalability and enabling real-time updates through database listeners.
- Collaborated on smart contract development and integrated Web3.0 technologies, strengthening expertise in blockchain and distributed ledger ecosystems.
- Utilized technologies like Express, MongoDB, Gatsby, TailwindCSS, Docker, Kubernetes, Prisma, and GraphQL to design and build a scalable, high-performance system.

Bulldozer

Quebec (Remote)

SOFTWARE ENGINEER INTERN (GRADUATION PROJECT)

Jul. 2021 - Jan. 2022

- Led backend development by integrating headless CMS technology, reducing development time by 30% and improving scalability for content management.
- Built fully automated CI/CD pipelines on CircleCI for containerized applications, increasing deployment efficiency by 40% and ensuring consistent production rollouts with Docker and AWS.
- Designed and delivered a responsive, dynamic Next.js frontend, enhancing user engagement and achieving cross-device compatibility.
- Developed and deployed scalable APIs using Strapi, Node.js, Koa, and AWS Lambda serverless functions, optimizing application performance and reducing server costs.
- Optimized database operations using SQLite3 for testing and MariaDB for production, leveraging Bookshelf.js and Knex for efficient ORM and query building.

Education

ESPRIT - Honoris-United-Universities

Ghazela, Ariana, Tunis

ENGINEERING DEGREE IN COMPUTER SCIENCE AND SOFTWARE ENGINEERING

Sep 2016 - Jan. 2022

- Participated in the university's website updates twice, contributing to the site's maintenance and enhancement.