IMEN BARKALLAH

Software Engineer | Full-Stack Developer

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PROFESSIONAL SUMMARY

Software Engineer with a Professional Master's degree in Software Engineering and New Technologies, currently pursuing an Engineering Degree in Computer Engineering. Experienced in developing full-stack web and mobile applications using Java, Spring Boot, Angular, React, and Flutter. Passionate about Artificial Intelligence, Machine Learning, and building AI-powered applications.

TECHNICAL SKILLS

Programming Languages: Java, JavaScript, TypeScript, Python, C#, PHP, Dart

Frontend: React, Angular, HTML5, CSS3, Tailwind CSS, Bootstrap

Backend: Spring Boot, Spring Security, REST APIs, Flask, Strapi v5, Fastify

Mobile Development: Flutter

Databases & Cloud Services: PostgreSQL, MySQL, Microsoft SQL Server, SQLite, Firebase

AI & Data: Machine Learning, NLP, NLTK, TF-IDF, Word2Vec, TensorFlow Lite, Google ML Kit, Gemini API, Anthropic Claude API, Multi-Agent Systems

DevOps & Testing: Git, GitHub, GitLab, Docker, CI/CD, Postman, Dokploy, Vitest, Playwright, k6, API Testing, E2E Testing

Software Engineering Concepts: JWT Authentication, RBAC, MVC, Object-Oriented Programming (OOP), UML, Agile/Scrum

PROFESSIONAL EXPERIENCE

Full-Stack Developer Intern — ZetaBox *Jan 2026 – May 2026 | Sfax, Tunisia*

- Developed an intelligent web-based technical support platform for ticket management, project tracking, dashboards, and automated reporting.
- Built responsive front-end interfaces using React, TypeScript, Vite, Tailwind CSS, React Query, Zustand, and Recharts.
- Integrated secure back-end features across two back-end services using Strapi 5, Fastify, RESTful APIs, JWT authentication, RBAC, PostgreSQL, and Redis/BullMQ.
- Implemented key components of a multi-agent AI workflow for ticket triage, code analysis, task planning, human validation, execution tracking, and GitHub pull request generation.
- Validated critical features through automated testing: 30/30 front-end tests, 30/30 API and security tests, 14/14 E2E, accessibility, and browser tests, and 4/4 smoke tests.
- Supported the containerized deployment of the frontend, Strapi backend, AI backend built with Fastify, PostgreSQL, and Redis using Docker, CI/CD pipelines, Dokploy, OVH VPS, and DNS configuration.

Freelance Full-Stack Developer — Akariiet *Apr 2026 – Present | Sfax, Tunisia*

- Design and develop a multi-tenant SaaS property management platform for property management companies.
- Build and maintain 12 core business modules, including organizations, users, subscriptions, projects, contracts, meeting minutes, fees, payments, claims, dashboards, reports, and audit logs.
- Secure the platform using JWT authentication, Spring Security, back-end access guards, sanitized API error responses, and organization-level data isolation.
- Integrate Paymee payment workflows for SaaS billing, subscription management, invoice tracking, and payment status monitoring.
- Deploy the application using Docker and CI/CD pipelines while validating critical workflows through automated testing and AI-assisted testing with Cursor AI.

Full-Stack Developer Intern — KMF Business Solutions *Feb 2024 – May 2024 | Sfax, Tunisia*

- Designed and integrated an energy consumption tracking module into a web-based ERP system for the construction sector.
- Developed a Flutter mobile application integrated with the ERP system for monitoring energy consumption data.
- Built interactive dashboards with statistical visualizations using Chart.js to support data-driven decision-making.
- Implemented JWT authentication, CRUD operations, and PDF reporting using JasperReports.

- Applied the MVC architecture with Spring Boot and developed a component-based front end using Angular 7.

Web Developer Intern — Media City *Jun 2023 – Jul 2023 | Sfax, Tunisia*

- Built a full-stack e-commerce platform for Adler Distribution, including the product catalog, shopping cart, checkout flow, and administrative dashboard.
- Developed PHP/MySQL back-end modules for order processing, inventory management, customer management, and dashboard functionalities.

PROJECTS

RiskInsight — AI-Powered Claim Prediction System — Academic Project *Feb 2026*

- Built a web application for predicting housing insurance claims to support personalized insurance offers and proactive risk prevention.
- Integrated machine learning workflows for model training, evaluation, and automated model management using Flask, React, JWT, SQLite, and reCAPTCHA v2.

Smart Stock — AI-Powered Inventory Management — Academic Project *Apr 2025 – May 2025*

- Developed a mobile application for inventory tracking, analytics, and intelligent stock management using Flutter.
- Integrated Google ML Kit, TensorFlow Lite-based face authentication, and a Google Gemini-powered AI chatbot.

ISET Chatbot System — Multilingual Academic Assistant — Academic Project *Jan 2025*

- Built an AI-powered academic chatbot capable of retrieving real-time information from the ISET website through web scraping.
- Developed a Flask-based REST API integrating NLP techniques, including NLTK, TF-IDF, and Word2Vec, to improve response relevance and confidence scoring.
- Containerized the application using Docker and validated core functionalities through automated testing.
- Trained and evaluated NLP models on ISET-specific data to improve response accuracy and information retrieval performance.

EDUCATION

Engineering Cycle in Computer Engineering (Software Engineering & Business Intelligence) — International Institute of Technology (IIT), Sfax *2025 – Present | Sfax, Tunisia*

Professional Master's Degree in Information Systems and Networks Development (Software Engineering and New Technologies) — Higher Institute of Technological Studies (ISET), Sfax *2024 – 2026 (Graduated) | Sfax, Tunisia*

Bachelor's Degree in Information Systems Development — Higher Institute of Technological Studies (ISET), Sfax *2021 – 2024 | Sfax, Tunisia*

CERTIFICATIONS

Cisco CCNA 1, CCNA 2, and CCNA 3 — Cisco Networking Academy (2025) | Machine Learning with Python — CDOSS (2025)

AWARDS & VOLUNTEERING

- 1st Place — Hackathon: Developed an AI-powered mobile application prototype assisting people with disabilities (Feb 2024).
- Logistics Lead, Club Ider — Managed event logistics, resource allocation, and team coordination (2022 – 2023)
- Active Member, SOS Children’s Villages — Contributed to community initiatives supporting children and families in need (2022 – 2023)

LANGUAGES

Arabic (Native) | French (Upper-Intermediate) | English (Upper-Intermediate)