

# Iheb Belhadj

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## Summary

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Software engineer specializing in backend systems, data pipelines, and agentic AI. Experienced in building cloud-native applications, multi-agent systems, and scalable infrastructure for data-driven solutions.

## Technologies

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**Languages:** TypeScript, Python, JavaScript, Java, C#, C, SQL, PHP, Bash  
**Web/Fullstack:** Next.js, React, Astro.js, Angular, Vue.js, Express.js, Spring, Flask, FastAPI  
**Databases:** PostgreSQL, MySQL, MongoDB, Redis, MinIO, AWS RDS, S3  
**Data Eng & AI:** Airflow, Airbyte, dbt, Kafka, Spark, LangChain, LangGraph, MLflow  
**Infrastructure:** Docker, Kubernetes, Ansible, Vagrant, Jenkins, GitHub Actions, AWS

## Experience

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**Software Engineering Intern**, Talan – Tunis, TN Feb 2025 – Aug 2025

- Integrated a multi-agent system with LangGraph for dynamic SQL and chart generation, enabling no-code data exploration.
- Built a real-time CDC pipeline refreshing charts live, enabling instant monitoring.
- Developed an end-to-end data pipeline with MinIO, Delta Lake, Airflow, and dbt to manage ingestion, transformation, and ML forecasting.
- Secured the platform with Keycloak IAM using role- and group-based access control.
  - Technologies used: Python, FastAPI, Next.js, LangGraph, LangChain, MLflow, MinIO, Delta Lake, Airflow, dbt, PostgreSQL, Keycloak, Docker, Nginx

**Freelance Job**, Nexits – Paris, FR Dec 2024 - Jan 2025

- Architected a CMS solution with Payload CMS and a custom block-based page builder, enabling no-code content updates for the landing site.
- Built an instantaneous preview system using Astro.js for dynamic component rendering with minimal JS.
- Designed a dual rendering strategy (SSR for preview, SSG for production), achieving 100 performance, 95 accessibility, and 100 SEO score on Lighthouse.
  - Technologies used: Astro.js, Payload CMS, React, TypeScript, Vercel, SQLite, Turborepo

**Software engineer**, Nexits – Paris, FR Aug 2023 - Sep 2024

- Implemented product state historization with audit trail, enabling edits, rollbacks, and time-travel of product data.
- Contributed to migration from legacy stack to Next.js, tRPC, and Turborepo monorepo with AWS deployment.
  - Technologies used: Next.js, React, TypeScript, Node.js, tRPC, PostgreSQL, AWS (EC2, ECR, S3, RDS), Docker, GitHub Actions, Turborepo

**Freelance instructor (Weekends)**, ENET'Com Junior Enterprise – Sfax, TN Oct 2023 - Nov 2023

- Conducted workshops over the weekends on web development using the MERN stack (MongoDB, Express.js, React, Node.js) teaching more than 30 junior club members.

**Software Engineering Intern**, Nexits – Paris, FR June 2023 - Aug 2023

## Projects

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- **Portfolio:** Built on Next.js with MDX-based content management, lazy loading, and server components. Integrated a LangChain agent that answers questions about my experience. Achieved 100 performance and best practices scores on Lighthouse.
  - Technologies used: Next.js, LangChain, Vercel
- **OpsForge:** A self-contained local DevOps environment simulating production using Vagrant and Ansible. Includes a private Docker registry, Jenkins CI/CD, monitoring stack with Prometheus/Grafana, and SonarQube.
  - Technologies used: Ansible, Vagrant, Docker, Jenkins, Prometheus, Grafana, SonarQube, Bash
- **Playpex:** Torrent streamer in Node.js with backend wrapper using MSE API for seamless browser playback. Angular frontend, Electron desktop app to bundle the engine and the frontend, and Ionic mobile controller.

## Education

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**Software engineering**, ESPRIT Sept 2022 – Sep 2025

**Pre-engineering school (Math-Physics: Rank 626 ), IPEIM** Sept 2020 – Juin 2022