

# Iheb Belhadj

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## Summary

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Software engineer specializing in backend systems, data pipelines, and production-grade agentic systems. Experienced in architecting scalable backend services, building cloud-native applications, and developing agentic AI pipelines.

## Experience

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### Software Engineering Intern, Talan – Tunis, TN

Feb 2025 – Aug 2025

- Designed and implemented an AI-first analytics platform enabling business users to explore and analyze data through natural language queries.
- Integrated a multi-agent system with LangGraph, dynamically generating SQL queries and visualizations, with support for RAG pipelines and MCP integrations.
- Built a real-time change data capture (CDC) system, automatically refreshing charts when source data changed, improving analytics freshness.
- Developed an end-to-end data pipeline with MinIO, Delta Lake, Airflow, and dbt to streamline ingestion, transformation, and storage, while orchestrating ML forecasting jobs.
- Secured the platform using Keycloak IAM, implementing role- and group-based fine-grained access control for both application and data access using row-level security (RLS).
  - Technologies used: Python, FastAPI, Next.js, LangGraph, LangChain, MLflow, MinIO, Delta Lake, Airflow, dbt, PostgreSQL, Keycloak, Docker, Kubernetes, Nginx

### Freelance Job, Nexits – Paris, FR

Dec 2024 - Feb 2025

- Architected and developed CMS solution, leveraging Payload CMS and a custom-built, block-based page builder enabling nexits team to create new pages and edit content Nexits landing website with no code
- Instantaneous Preview system that dynamically build components from declarative config from the CMS using Astro.js for minimal JS on build
- Dual rendering strategy with SSR for preview mode and SSG for production build
- Achieved 100 performance score on Google Lighthouse 95 accessibility and 100 seo score on production landing website using this architecture
  - 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 full audit trail, enabling edits, rollbacks, and time-travel of product data.
- Contributed to the migration from a legacy system to a modern stack using Next.js, tRPC, and a monorepo architecture with Turborepo.
- Contributed in the deployment and management of monorepo services on AWS as well as CI/CD pipelines using GitHub Actions.
  - Technologies used: Next.js, React, TypeScript, Node.js, tRPC, PostgreSQL, AWS (EC2, S3, RDS), Docker, GitHub Actions, Turborepo

### Freelance instructor, ENETCom 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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### Playpex

github.com/name/repo

- Built a streaming torrent client in Node.js with a backend wrapper leveraging Media Source Extensions API for seamless browser playback.
- Designed a TV-like Angular interface optimized for remote and keyboard navigation, delivering a living-room

experience.

- Bundled torrent streaming backend and services into a unified Electron application for cross-platform desktop use.
- Developed a companion Ionic mobile controller app, enabling real-time playback control via WebSockets.
  - Technologies used: Node.js, Angular, Ionic, Electron

## Technologies

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**Languages:** JavaScript, Typescript, Python, C#, C, SQL, Java, PHP, Bash

**Backend dev** Spring, .NET, Express.js, Django, Flask, FastAPI

**Frontend dev** React, Next.js, Astro.js, Angular, Vue.js

**Databases:** MySQL, PostgreSQL, MongoDB, Redis, DuckDB, MinIO, RDS, S3

**Data eng:** Airflow, Airbyte, dbt, Kafka, Spark

**Agentic AI:** LangChain, LangGraph, CrewAI, AutoGen

**Cloud:** AWS (EC2, S3, RDS, Lambda), GCP (Compute Engine, Cloud Storage, Cloud SQL)

**Infrastructure & DevOps:** Docker, Kubernetes, Terraform, Ansible, Vagrant, Jenkins, GitHub Actions

## Education

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**Masters in software engineering,** ESPRIT

Sept 2022 – Sep 2025

**Bachelor in applied math and physics,** IPEIM

Sept 2020 – Juin 2022