M'hamed Youcef BENCHADI

Senior Data & Software Engineer

Algiers, Algeria | +213 540 57 76 72 | dm_benchadi@esi.dz
github.com/youp94 | linkedin.com/in/m-hamed-youcef-benchadi-50470893

Summary

Senior Data & Software Engineer with 6+ years of experience delivering production SaaS platforms, data pipelines, and AI-powered applications end to end, from architecture to deployment. Designs backend APIs and data workflows (Airflow, Spark, Kafka), automates business processes, and ships through CI/CD and containerized deployments. Measurable results include 20x order-processing capacity and 70% less reporting time; experienced in leading and mentoring junior engineers.

Professional Experience

Independent Senior Software Engineer | Freelance, Algiers, Algeria 11/2025 – Present

Independent engineering and technical consulting for multiple clients, with end-to-end ownership of full-stack SaaS products: architecture, backend, frontend, CI/CD, and deployment (Python, FastAPI, Django, React, React Native).

- **Pharmaceutical Management Platform:** Automated the preparation of regulatory product-registration filings, replacing weeks of manual work, within a full-stack platform for inventory, operations, and internal workflows. Built REST APIs with FastAPI and PostgreSQL and a React frontend, with secure handling of healthcare-related data.
- **E-Commerce Platform:** Delivered an integrated e-commerce and inventory system now running **1,000+ products** across hundreds of categories and **300+ orders per day**: admin platform for products, categories, collections, inventory, and orders, with external delivery integration and sales and inventory forecasting from historical data, plus a customer storefront.
- **Legal Document Platform:** Built a document management and collaboration platform for legal teams, with role- and permission-based access for users and groups. Added LLM-powered summarization, translation, and analysis, and a multi-document RAG chatbot using LangChain and vector embeddings in PostgreSQL (pgvector). Validated in testing with thousands of documents and hundreds of concurrent users.

Senior Software Engineer | SKAALAB 02/2025 – 03/2026

Senior engineer on the modernization of the company's ERP offering into a cloud-deployed SaaS product.

- **ERP SaaS Modernization:** Modernized a legacy ERP into a modular SaaS product (Django, PostgreSQL, React), **reducing manual workflows by 60%** and **improving deployment cycles by 40%**, with GitHub Actions CI/CD and secure VPS deployment.

Senior Professional Service Engineer | CaptureDoc 11/2023 – 11/2024

Delivered end-to-end workflow-automation solutions for enterprise clients: gathered requirements in client meetings and led delivery while managing a team of junior engineers.

- **Order-Management Automation (packaging industry):** Flagship engagement of the year. Automated the full order workflow with software robots (Tungsten Automation): incoming order receipts are scanned, their data is captured and fed into the client's system, and each department is notified to prepare orders through to fulfillment. Eliminated manual data entry, enabling the company to **process 20x more orders**.

Data & Software Engineer | Fentech, Algiers, Algeria 09/2019 – 10/2023

Joined as an intern and moved into a full-time engineering role building data-driven products. **Cut reporting time by 70%** with automated dashboards, defined KPIs with business stakeholders, and mentored two junior developers.

- **Sales Forecasting & Inventory SaaS:** Engineered the data layer: Python pipelines (Airflow, Spark) processing up to **100 GB** of product, sales, and inventory history into PostgreSQL and MongoDB, **tripling throughput**. Integrated ML forecasting models reaching up to 95% accuracy into a full-stack platform (backend migrated from Django to FastAPI, frontend from Angular to Vue.js), deployed on Docker and Kubernetes.
- **Image Processing Web App:** Built an image preprocessing and vectorization pipeline (OpenCV, PyTorch) orchestrated with Airflow, in Docker.
- **Patent NLP & Vectorization (internship project, 2019–2020):** Scrapy and Selenium pipeline collecting hundreds of thousands of patents by category, year, and sector, vectorized with TensorFlow to analyze technology trends.

Technical Skills

Programming Languages: Python, JavaScript, Java, Kotlin | **Databases:** PostgreSQL, pgvector, MongoDB, MySQL

Data Engineering: Apache Airflow, Apache Spark, Apache Kafka, Pandas, NumPy, Dask

Backend & APIs: FastAPI, Django, Flask, REST APIs, SQLAlchemy, Pydantic, Node.js

AI & Machine Learning: LLM integration, RAG, LangChain, scikit-learn, TensorFlow, PyTorch, OpenCV

Frontend & Mobile: React, React Native, Angular, Vue.js

DevOps & Infrastructure: Docker, Docker Compose, Kubernetes, GitHub Actions, GitLab CI, Linux

Education

Engineering Degree in Computer Science | Higher School of Computer Science (ESI), Algiers, Algeria 2020

Languages

English (professional, C1) • French (professional, C1) • Arabic (native)