

Senior Data Scientist / Gen AI Engineer

Graduate Engineer (École Centrale)

6+ years of experience

Trilingual

Available immediately

Abdelmaoula ESSABBAHI

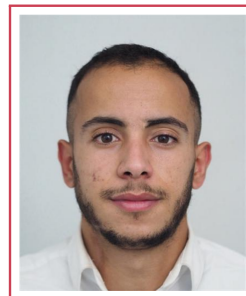
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Senior Data Scientist with 6+ years of experience, specializing in Machine Learning, Deep Learning, and Generative AI (LLMs, Transformers, Computer Vision). I have led high-impact projects across banking and insurance institutions, including BPCE, BNP Paribas, and AXA, delivering data-driven solutions that reduce costs, anticipate risks, and enhance customer experience. With strong expertise in MLOps and advanced AI technologies, I translate complex data into measurable business value while guiding teams toward technical excellence.

Education

2018 – 2021 **Master of Science in Engineering**, École Centrale de Lyon, Focus: Applied Mathematics and Risk Engineering

IT Skills

Generative AI & LLM: LLM NLP Transformers Prompt Engineering RAG Fine-tuning

Data Science: Machine Learning Statistical Modeling Time Series Anomaly Detection

Industrialisation & MLOps: MLflow Kubeflow CI/CD Docker Kubernetes OpenShift

Big Data & Cloud: Spark / PySpark Databricks AWS GCP

APIs & Deployment: FastAPI Flask Pipelines d'inférence

Professional experience

April 2024 – **BPCE SA, AI Engineer**

- Jan. 2026 ○ **Generative AI & LLMs (NLP):** Automated analysis of reports using LLMs, including semantic structuring, summarization, insight extraction, and business-oriented recommendations.
- **GenAI Industrialization & CI/CD:** Production deployment of LLM use cases with industrialized inference pipelines, CI/CD integration, monitoring, and secure deployment.
- **Computer Vision & GenAI:** Swimming pool detection from satellite imagery using data augmentation techniques and generative AI-assisted annotation.
- **Generative AI Enablement & Training:** Design and facilitation of GenAI/LLM training sessions and workshops to accelerate adoption and team autonomy.

Technologies Used: Vertex AI, Python, PySpark, GCP

Novembre 2021 - April 2024 **AXA Direct France, Senior Data Scientist**

- **Fraud Detection:** Implemented advanced machine learning techniques for fraud detection, significantly reducing fraudulent claims and safeguarding company resources.
 - **Cost Optimization:** Developed and deployed large-scale machine learning models, reducing glass breakage inflation by 20%, showcasing innovation and efficiency in operational processes.
 - **Increased Customer Satisfaction:** Created machine learning algorithms to accurately predict customer churn rates and perform sentiment analysis, raising Net Promoter Score (NPS) by 15% and enhancing customer satisfaction.
 - **Streamlined Claims Processing:** Automated identification of blocking activities, reducing processing times by 30% and improving efficiency.
 - **Mentored Junior Staff:** Mentored over 10 colleagues, fostering learning and boosting team productivity.
- Technologies Used:** Python, SQL, Azure DevOps, Databricks, PySpark

April 2021 - **BNP Paribas Personal Risk-Credit Scoring, Data Scientist**

- November 2021
- **Improved Risk Prediction and Credit Scoring:** Developed and optimized Machine Learning models, including neural networks, to accurately predict credit risk and identify fraudulent behaviors, reducing credit defaults by **20%** and fraud incidents by **25%**.
 - **Identified Key Features:** Conducted extensive Exploratory Data Analysis (EDA), pinpointing the most influential features for predictive modeling, increasing model accuracy by **18%**.
 - **Enhanced Data Quality:** Collected, cleaned, and prepared complex financial and transactional data, improving accuracy for advanced credit scoring analysis and fraud detection.
- Technologies Used:** Python, Scikit-Learn, Pandas, TensorFlow/Keras, GitLab

Sept. 2019 **BioMerieux, Data Scientist**

- (1 Year)
- Deployed a Machine Learning model to classify stocks at Biomerieux.
 - Designed and implemented a Supply Chain repository to enhance visibility, collaboration, alerts, and data control at Biomerieux.
 - Implemented robust data pipelines to ensure data integrity and availability in the Supply Chain.
 - Integrated supervised and unsupervised Machine Learning techniques to identify behavioral patterns and detect anomalies in logistic data flows at Biomerieux.
- Technologies Used:** Python, Scikit-learn, Pandas, Numpy, SQL

May 2019 **Heineken France, Intern - Data Analyst**

- (4 Months)
- Designed and developed a detailed monitoring dashboard for maintenance technicians at Heineken France.
 - Implemented data governance to support Business Intelligence projects at Heineken France.
- Technologies Used:** Python, power BI, SAP HANA

Entrepreneurship

May 2023 - **HRCHOOSE AI, Founder & Lead Data Scientist (GenAI & LLM)**

- Oct 2024
- Built an AI-powered recruitment platform leveraging Generative AI (LLMs, NLP, RAG) for candidate sourcing, automated screening, and semantic job-candidate matching.
 - Designed and deployed ML and LLM-based semantic matching models achieving 95% precision and improving shortlist quality by 25%.
 - Productionized scalable inference APIs (FastAPI, Docker, AWS) and automated pipelines, reducing pre-screening time by 40%.

Links: Website — LinkedIn — Demo Video

Technologies: Python, Large Language Models (LLMs), NLP, Retrieval-Augmented Generation (RAG), FastAPI, Docker, AWS

Languages

English: Fluent

French: Bilingual

Arabe: Bilingual