

Zakaria Sassioui

AI & Product Strategy Lead

About Me

AI strategist and senior data scientist with 10+ years of experience in machine learning, LLM orchestration, NLP, RAG systems, and geospatial data. I started my career as a fullstack developer, building end-to-end web applications, and evolved into a machine learning engineer developing production-grade AI solutions within complex tech stacks. My background spans spatial web, remote sensing, computer vision, and applied ML. I help organizations design and scale AI-powered products while structuring R&D initiatives that unlock funding through programs like RS&D, Scale AI, MEI, and Mitacs. I combine strong engineering execution with product thinking and measurable business impact.

Contact Information

Location: Montreal, Quebec, Canada

Skills & Expertise

★★★★ AI and Machine Learning

- Machine Learning
- Supervised & Unsupervised Learning
- Deep Learning
- NLP
- Computer Vision
- LLM

★★★ Geospatial Intelligence

- QGIS, PostGIS, GeoServer
- Remote Sensing
- Web Mapping
- WMS/WFS Publishing
- Image Classification & Spatial Analysis

★★ Cloud & Fullstack Engineering

Professional Experience

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Lead of AI & Data Automation 2025—Current

Key contributions and responsibilities:

- Leading AI product development
- Architected a generative AI platform for content creation and analytics
- Designed a **multi-agent orchestration framework** (persona extraction, outreach generation, booking)
- Created **RAG-based internal tools** to enable sales and knowledge retrieval
- Developed **partnerships with universities and institutions** (Cégeps, Confiance IA, Scale AI) for funding and collaboration
- Structured and managed **R&D funding initiatives** (RS&D, Scale AI, MEI)

La Presse

Senior Data Scientist 2022—2024

Key contributions and responsibilities:

- ✅ **+38% increase in donation conversion** by deploying ML models for donor targeting and activation
- 🧠 Built **user segmentation models** used in editorial and marketing flows
- 🔍 Architected a **semantic search engine**
- 📦 Migrated from traditional SQL search to **vector-based retrieval with OpenSearch**
- 📄 Created a **content recommendation engine** for “similar articles” (hybrid semantic/keyword model)
- 🧬 Developed a **lookalike engine** to target new audience from existing audience data
- 🤖 Developed internal **LLM-based tools**: quiz generation, article explainer, smart article scoring (alternative to Smartocto)
- 💰 Estimated and optimized **cloud cost (AWS)** for AI stack scalability
- 🔧 Stack: Python, Snowflake, AWS Lambda/S3, LangChain, OpenSearch

Planifika

Head of R&D (officially Data Scientist) 2019—2022

Key contributions and responsibilities:

- 🧠 Designed and deployed **CNN & YOLO-based models** for object detection and QA automation after data collection
- 🧬 Built custom **heuristic optimization models** (genetic algorithms, rule-based systems) for investment prioritization
- 📊 Created a new service offer around **Power BI analytics**, and led the partnership with Microsoft
- 📁 Managed and structured all internal **R&D projects to qualify for tax credits** (RS&D) and grants
- 📄 Successfully secured **2 public funding programs**: Vitrine Technologique (Ville de Québec) & MEI
- ⚙️ Automated reporting flows and client-facing tools using Python, Power BI, and cloud storage
- 🔧 Stack: Python, TensorFlow, OpenCV, Power BI, Azure, SQL Server

Radio-Canada (Hackathon & Beta Project)

AI Product Prototyper (Hackathon Winner) 2018—2019

Key contributions and responsibilities:

- REST API Design
- AWS, Azure, GCP
- Deployment Process & DevOps
- Web Architecture

★ Leadership & R&D Strategy

- Technical Team Building & Mentorship
- R&D Funding Strategy (R&DE, Scale AI, MEI)
- Product Roadmap Alignment
- Grant Writing & Program Structuring
- Client & Stakeholder Communication

- 🏆 Won 1st place at the Radio-Canada hackathon with a prototype that transformed **audio news segments into auto-generated videos**
- 💰 Secured **funding from Radio-Canada** to build a beta version with a 4-person team
- 🧠 Built a full pipeline: **audio ingestion 'speech-to-text 'NLP parsing 'video script 'visual generation**
- ☁️ Deployed using **Node.js, Azure, Docker** for modularity, cloud deployment, and scaling
- 📺 Delivered a functional beta capable of generating short, intelligent video stories from audio input

Université Laval + Freelance

Python Teaching Assistant (Université Laval) 2017–2019

Freelance Fullstack Developer 2017–2019

Key contributions and responsibilities:

- 👨‍🎓 Taught and supported courses in **Python programming, ML fundamentals, and data analysis** at Université Laval
- 👨‍💻 Built fullstack web solutions (React, Laravel, MySQL) for small businesses in Québec and international clients
- 📊 Created **interactive visualizations using D3.js** for analytics dashboards
- 📖 Gained deep exposure to **ML theory, model building, clean architecture, and test-driven development**
- 📁 Developed project scoping and client communication skills through freelance work

Where is My Car

Founder & Fullstack GIS Developer 2014–2016

Key contributions and responsibilities:

- 🚀 Created and launched a **mobile + web GIS application** for real-time geolocation and map-based services
- 👨‍💻 Led the **product design and UX/UI** across platforms
- 👨‍💻 Built the fullstack app (frontend + backend), integrating real-time mapping, custom markers, and interactive spatial features
- 🛠️ Acted as **product owner, designer, and solo developer**, overseeing architecture, dev, and deployment

Master's Research (Morocco)

GIS & Remote Sensing Researcher 2014–2016

Key contributions and responsibilities:

- 🌐 Processed and analyzed **satellite imagery (Landsat, multispectral bands)** using **Erdas Imagine** and **GDAL**
- 🌐 Created WMS/WFS web services with **GeoServer** for map publishing and overlay visualization
- 📁 Managed vector and raster data layers in **QGIS** and **PostGIS**
- 🌐 Performed **land use classification** and soil quality analysis via spectral index interpretation
- 🌐 Built internal **geoportals** using OpenLayers, Leaflet and custom layers from government data sources

🎓 Achievements

Excellence Scholarship

🏛️ Université Laval

Awarded for academic excellence during Master's 2017–2018

Speaker – PyData 2024

🏛️ PyData

Presented a talk on semantic search in production. presenting lessons learned from developing a search engine at scale in a media company

Winner – Radio-Canada Innovation Hackathon 2018

🏛️ Radio-Canada

Won 1st place for building an AI prototype that transformed audio content into dynamic video summaries. Received funding to develop a beta version.

1st Prize – Devovx Morocco (Smart Driving App) 2015

🏛️ Devovx Morocco

Developed and pitched a smart driving app. Built frontend, backend, and data visualization as solo developer. Won national innovation prize.

Winner – Salem Al-Ali Informatics Prize (Shuf Kuwait) 2013

🏛️ Kuwait Foundation for Advancement of Sciences

Selected among 30 young programmers across the Arab world in an international coding innovation challenge. recognized nationally for early technical achievement.

🎯 Hobbies & Interests

Outside of my work in AI and technology, I'm passionate about **combat sports** like boxing and MMA — disciplines that fuel my focus, discipline, and resilience.

I also enjoy exploring **photography and visual storytelling**, particularly in portrait and urban settings. This creative side often complements my technical work, especially in AI-generated media and product design.

As a lifelong learner, I regularly dive into topics like **AI innovation, Marketing, and personal development**. I enjoy reading, hosting workshops, and mentoring young professionals.

When I disconnect from screens, I spend time **in nature, hiking or learning survival skills**, or reconnecting with my roots across **the Arab and African world**.

"Discipline is freedom. Creativity is structure. I believe both are essential to build meaningful things."