

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&DE, 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&DE, 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&DE) 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 (RS&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."