

Mickael Gicquaire

AI Solutions Developer

- Haute-Saône (France) — moving closer to the Swiss border once hired
- French national (EU) — eligible for a Swiss G permit
- Available immediately — 100% workload



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■ Profile

In personal projects, I design and evaluate hybrid RAG systems and MCP servers (golden sets, automated tests), using agent-driven development. Previously Technical & Marketing Manager at a publishing house in Lausanne: websites, sales funnels, Salesforce Marketing Cloud campaigns, AI tools for automation and analytics. 6+ years as a digital entrepreneur. Art-school background: storytelling and AI visuals.

■ Key figures

800,000+	passages indexed locally (2 hybrid RAG systems) 734,456 + 69,034 passages
4 languages • 26 corpora	local multilingual search engine (734,456 passages)

■ Professional experience

- **Applied AI R&D — self-directed projects**

09/2025 – present

 - Designed, specified, evaluated and optimised each system; agent-driven development (Claude Code, adversarial review by Codex), run locally.
 - Indexing and search run locally on a 2014 laptop (Intel i7-4860HQ, GTX 980M 4 GB GPU) under Windows + WSL2.
 - Independent activity (sole proprietorship): digital educational resources; web and AI development.

Projects detailed on page 2.
- **Technical & Marketing Manager**

09/2024 – 09/2025

Les éditions Nouvelle Page (Vivara group) — permanent contract, Lausanne

Swiss publishing house with multi-million revenue; reported directly to the Publisher (who runs the imprint).

 - Designed and built websites and sales funnels (WordPress, PHP) and in-house funnel-building tools (JavaScript, HTML, CSS).
 - Email campaigns and sequences in Salesforce Marketing Cloud; order bumps and conversion optimisation.
 - Introduced AI tools for automation and analysis.
- **Founder — online training & digital marketing business**

2017 – 04/2024

Health and wellness sector.

 - Designed and built 50+ landing pages and websites; end-to-end sales funnels (opt-in pages, email sequences).
 - Owned offer, positioning, acquisition and customer relationship end to end.

■ AI projects

Hybrid RAG over technical documentation — “atelier-code” MCP server

STACK Python, FastMCP, ChromaDB, sentence-transformers, SQLite FTS5 (BM25), RRF

- MCP server (FastMCP, 8 tools) for hybrid BM25 + vector search fused with RRF, over ~69,000 passages from 31 technical books, integrated with Claude Code.

Protocol	A/B test of the answer prompt on a 61-question golden set, LLM judge		
Metric	internal score “answer judged correct + citation present”, over the 56 questions covered by the corpus		
Result	Minimal instruction (baseline)	21/56 (38%)	
	Answer protocol	51/56 (91%)	
	5/5 out-of-corpus abstentions in both modes		
Limitation	the gain comes from citations, not accuracy; uncalibrated LLM judge		

Multilingual hybrid RAG engine over a heritage corpus (ancient texts) — MCP server

STACK Python, FastMCP, multilingual sentence-transformers, PyTorch CUDA, NumPy float16 (memory-mapped), SQLite FTS5, RRF

- Search engine exposed as an MCP server (6 tools): 734,456 passages, 26 corpora, 4 languages, 2 of them in non-Latin scripts; search runs fully locally, answers generated by Claude.
- Migrated the ChromaDB file (float32 vectors, passage text and internal index: 18.8 GB) to memory-mapped float16 NumPy vectors only (1.1 GB), with text now served from the existing full-text index.

Local voice assistant for a coding agent

STACK Python, FastAPI, WebSocket, MCP, Claude Code hooks, faster-whisper, Piper TTS, pytest

- Local voice layer for a coding agent: Claude Code replies spoken through Piper synthesis (MCP server and hooks); speech → faster-whisper transcription → voice loop validated as a prototype.
- Speech synthesis: ~263 ms median from text received to first audio (n=5, excluding WSL↔Windows transit); engines chosen by benchmark with thresholds fixed beforehand; 74 pytest tests (phase 1).

Traceable, source-backed historical research platform

- Every published fact links to a captured source sealed with a SHA-256 hash: 1,849 citations, each checked by a verification agent.
- Specialised agents (research, source checking, fidelity control) under automated validation: 16 JSON schemas, 113 test cases, pre-commit hook.

Multi-agent long-form writing assistant

- Multi-agent workflow (Claude drafting, Codex as read-only adversarial reviewer): roles, write permissions and human sign-off set by contract, over 150,000 words.

■ Skills

Applied AI	Hybrid RAG: ChromaDB, SQLite FTS5 / BM25, RRF fusion, sentence-transformers, PyTorch CUDA · MCP: FastMCP, servers and tools, Claude Code integration · Coding agents: Claude Code, Codex; evaluation with golden sets and LLM judges		
Development	Python (through agent-driven development and code reading) · C (solid) · JavaScript, HTML, CSS, PHP, WordPress · React, Node.js (basics) · Three.js, GSAP, Lenis		
Digital marketing	Salesforce Marketing Cloud, SEO/GEO, Meta Ads, copywriting, sales funnels		
Creative AI	Midjourney, Higgsfield (proficient) · ComfyUI, LoRA training (currently learning) · ElevenLabs (basics)		
Systems & tools	Linux, WSL2, Git · n8n (basics)		

■ Education

Self-study: App Academy Open, The Odin Project, self-taught 42 “piscine” curriculum	2024
Isart Digital — Sandbox 2014: one-month intensive selection (bootcamp “piscine” format), ranked 1st	08/2014 – 09/2014
École Émile Cohl — coursework in graphic design (partial programme)	09/2009 – 06/2010
ArtFX — coursework in 3D modelling, animation and visual effects (partial programme)	09/2007 – 06/2009

■ Languages

French — native · English — B2 (self-assessed)

■ References

References available on request