Nicolas Blassel

Data & AI Engineer · Geospatial data & satellite imagery · LLM systems in production

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Fully remote, available on European business hours, happy to travel for project kick-off · Contractor (own company) or employee

SUMMARY

I have been building software since 2007: web development first, then network administration at NATO, then 8 years of geospatial data and satellite imagery work for the French Navy and French Military Intelligence. From 2020 to 2025 I was the technical lead, on the user side, for an AI object-detection program on satellite imagery (Preligens, now Safran.AI): quality control of detections, troubleshooting the application, and new data products built on top of it. Since 2025, as an independent consultant, I design, evaluate and ship LLM systems and full applications, measuring results with tests instead of gut feeling, and I train non-technical teams to use generative AI.

SKILLS

AI & LLM: LLM pipelines, agents, RAG, embeddings, structured outputs (JSON schema, Pydantic), guardrails; vision LLMs, speech-to-text (Whisper); Mistral, Claude, OpenAI, Gemini, Qwen, Llama; Groq, OpenRouter, HuggingFace

Evaluation: golden datasets, regression tests, multi-model benchmarks (quality, cost, latency), systematic prompt iteration; quality control of AI detections on imagery

Data: Python, SQL, R; PostgreSQL/PostGIS, Elasticsearch, SQLite; ETL, REST and GraphQL APIs; large-scale web scraping; Grafana, Kibana; Dataiku, FME

Geospatial: optical and radar satellite imagery, ArcGIS Pro, QGIS, GDAL, GeoPandas, AIS ship-tracking data

Development: FastAPI, React, Node.js; Stripe, Factur-X e-invoicing; WhatsApp bots; SEO

Infrastructure: Linux VPS administration, Docker, Nginx; networking (WireGuard, SSH tunnels, proxies), backed by 3 years of network administration at NATO

EXPERIENCE

Data & AI Consultant — GeoDataFlow (own company) · remote — May 2025 – present

CLIENT WORK

- **Automated bookkeeping for a contractor**: invoices dropped into Google Drive (photos, PDFs) are read with OCR + LLM and written to an accounting spreadsheet, with error checks and VAT calculation across rates; in-house evaluation framework: golden datasets, regression tests, multi-model benchmarks (Gemini, Qwen, Mistral, GPT-OSS), anti-hallucination guardrails
- **auvi.au**: 1,500 social media job posts processed per day; filtering, extraction and full rewrite by LLM (Mistral API), about 20 reliable job ads republished automatically every day
- **Gaming operator**: player KPIs and analytics in Grafana (database and Google data sources)
- **Local business (France)**: full website with SEO, gift card sales through Stripe (several hundred per month), gift card database, admin dashboard, cash register database compliant with French tax regulations
- **Training**: AI workshops for non-technical audiences on building a website with free tools

AI PRODUCTS AND PIPELINES

- **L'Attendu** (leattendu.fr, live): legal research assistant for employment lawyers; queries official French legal databases (case law, statutes, collective agreements), selects the version of the law in force at the date of the facts, **checks every citation against its source** and flags what it could not verify (RAG, Mistral)
- **ArtisanTool.fr**: quoting and invoicing SaaS for tradespeople; quotes generated by AI from text, photos (vision LLM) or voice messages (Whisper), on the web or via WhatsApp; RAG, multiple LLMs, VAT calculation, Stripe payments, Factur-X e-invoices (FastAPI, React)
- **lombokweekly.com**: bot monitoring 15 WhatsApp groups; 300 messages a day processed by AI and published automatically
- **Short-term rental market study** (Lombok, Indonesia, ongoing): 5,000+ listings collected and cross-referenced (rental platforms, Google Maps), duplicate matching, interactive map of real estate projects

Technical Co-founder — FlowMesh (flowmeshai.com), alongside — Late 2025 – present

- Administrative workflow automation and chatbots for 10–50 person professional firms (law, accounting, consulting); lead developer
- Lead generation pipeline: company registry, Google Maps, contact search, website audits, SQLite database (thousands of firms in France and Switzerland)

French Ministry of Armed Forces — from web development to data and AI 2006 – Apr 2025

Data Engineer, satellite imagery AI program — Military Intelligence Directorate (DRM), Creil Sep 2020 – Apr 2025

Geospatial analyst, then data engineer (Jan 2023); technical lead for the TAIIA AI program from 2020 to 2025

- User-side lead for the AI object-detection program on satellite imagery built by Preligens (now Safran.AI): quality control of detections, reporting of classification errors
- On-site troubleshooting of the application for the vendor, whose team was off-site: issues diagnosed before they stepped in
- Python scripts on the program's APIs (REST, GraphQL) and database to build new products: density heatmaps and detection of objects moving over time (the tool itself only counted them)
- Automated sorting and geolocation of satellite imagery metadata received from allies: 10,000+ records/day (NITF), Elasticsearch, PostgreSQL/PostGIS (deduplication)
- Analysis of 70M+ geospatial points: anomaly detection (coordinates, projections) in Python and R
- Grafana dashboards: analysis 50% faster; workflows documented and replicated across 3 networks in 5 months

Special assignment: GIS expert, Paris 2024 Olympics opening ceremony — Paname24 Jul 2024

- Computed the impact of the Eiffel Tower lasers on nearby buildings and adjusted beam angles to meet city regulations; tracked the parade barges on ArcGIS Online (500+ survey records cleaned and automated)

Satellite Imagery Analyst — French Navy, Toulon Apr 2017 – Sep 2020

- 60+ satellite images a month, all sensor types (optical and radar): vectorization, information extraction, damage assessment (military and natural disasters)
- Piracy database: 1,500+ geolocated incidents, seasonal patterns cross-referenced with AIS data; first pipelines on geo-referenced databases from 2018
- Maps for international military exercises (ArcGIS, Airbus MUSIC); daily data updates for 3 units

Internal retraining: geomatics — bachelor's level 2016 – 2017

Network Technician — NATO, Brunssum (Netherlands) 2013 – 2016

- Cisco networks for 500+ users, deployments in 3 countries; Access database managing 1,200+ mobile devices
- Internal tools in VBA, Access and web; working in English every day in a multinational team

Webmaster and IT Support — French Navy 2010 – 2013

- Web and database administration; two assignments (4 and 6 months) in London for the EU counter-piracy operation Atalanta

Full-Stack Developer — French Navy 2007 – 2010

- PHP/MySQL/AJAX intranet for order management (1,000+ users); trained 30 staff

SIDE PROJECTS

- **GeoQuizz** (geoquizz.geodataflow.fr): game for training satellite image recognition
- **SuperCarrot** (supercarrot.space): web app synced with Strava for sports challenges between friends
- **Race replay** (Pocari Race Lombok): race data collected online, geo-referenced and replayed on a map

EDUCATION

2024	ArcGIS Pro certification (Esri) · Advanced Python and Python for QGIS (OpenClassrooms)
2016-2017	Geomatics training, bachelor's level (internal retraining, French Ministry of Armed Forces)
2005	Vocational diploma in IT (BEP), French Navy

LANGUAGES

French: native · **English**: fluent, professional (TOEIC 930/990), used daily