

Thomas Ayih-Akakpo

Data & Backend Architect · Data pipelines, distributed systems & integrations · Custom API & ERP Solutions

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PROFILE

Software engineer and technical architect with 16 years of experience designing distributed systems. Specialised in complex data ingestion, building integration middlewares, and data modelling to power decision-support dashboards. I help operational leadership turn raw data into actionable performance indicators.

KEY ACHIEVEMENTS

- **IT leadership for a multi-activity group:** technical lead for a team of 7 people, cross-functional IT across caviar and textiles.
- **€500K+ in revenue** generated over 4 years through 2 custom B2C e-commerce stores, designed and delivered.
- **Vector search engine** (FAISS / pgvector) delivered as v1.0 for company's embroidery library, designed to cut the time between a client request and a custom-design proposal.
- **Rebuilt the management software for a fish farm** covering the full production cycle: feeding, hatchery, rearing ponds, environmental monitoring, caviar processing.
- **Halved engineering delivery lead time** by redesigning the team's workflow (branching, CI, code review, onboarding).

CORE SKILLS

Architecture & methods: Solution architecture, event-driven architecture, API-first design, event-driven systems, modular architectures (targeted microservices approach), end-to-end idempotence, trade-off analysis

Leadership: hiring and scaling cross-functional teams, leading cross-brand IT projects, mentoring, presenting to non-technical leadership

Domains: Production & industrial monitoring, payments & mobile money, ERP (Odoo), e-commerce, telecom & digital TV, vector search / generative AI, partner & third-party API integrations

Backend & data: Python, Django, DRF, FastAPI, Flask, TypeScript, NestJS · Celery, RabbitMQ, Redis · PostgreSQL · Vector search (FAISS, pgvector)

Platform & operations: Docker, Docker Swarm, Traefik, Cloudflare Tunnel, Linux, AWS, on-premise & hybrid infrastructure, GitHub Actions (CI/CD), Keycloak, Azure API Management

Testing & quality: E2E & integration testing strategy (Playwright, Vitest, pytest)

EDUCATION

MSc, Telecommunications ESMT, Dakar, Senegal 2008 - 2010

BSc, Engineering Sciences ESMT, Dakar, Senegal 2005 - 2008

LANGUAGES

French (native) · English (fluent) · Spanish (intermediate)

EXPERIENCE

Head of IT Nov 2018 - Jun 2026

Acipenser Madagascar (Acipenser / Akanjo group) · Antananarivo, Madagascar

Fish farm & production (Nov 2018 - Nov 2021)

- On-site at the fish farm: rebuilt the farm management software, tracking feed production and distribution to sturgeons, hatchery efficiency (from fertilised egg intake to hatching), population tracking across rearing ponds, environmental monitoring (water's physico-chemical parameters), and processing tracking (slaughter, curing, caviar tinning).
- Drove the technical roadmap and software development directly.

Distribution & IT leadership (Nov 2021 - Jun 2026)

- **Odoo integration for distribution:** order and stock management between Acipenser and its distributors (Paris, Luxembourg, New York); structured the product catalogue and achieved French e-invoicing compliance (Peppol).
- **IT leadership:** took charge of the IT projects for the group's Division in charge of textile development and merchandising, as well as caviar distribution and marketing.
- **Grew the team:** from 3 to 7 people (project manager, front-end and back-end developers, IT technicians, web integrator).
- **B2C e-commerce:** designed and delivered 2 online stores, generating €500K+ in revenue over 4 years; set up KPI reporting routines to steer the business.
- **Event-driven integration middleware:** the backbone consuming webhooks across Odoo, Saleor and third-party APIs (carriers), orchestrating cross-platform actions; single source of truth for group-wide data.
- **Vector search engine (Akanjo embroidery library):** designed and delivered (v1.0), at the direct request of group leadership, a visual discovery application for the brand's creations, designed to cut the time between a client request and a custom-design proposal.
- **Platform, operations & tooling:** self-hosted Debian / Docker Swarm infrastructure; led the Microsoft 365 overhaul (multi-domain governance, licensing, tenant migration).

Stack: Python, Django, FastAPI, Odoo, Saleor, Next.js, TypeScript, PostgreSQL, FAISS, pgvector, Docker, Traefik, GitHub Actions.

Lead Developer / R&D Engineer 2010 - 2018

Blueline (Gulfsat) · Antananarivo, Madagascar

Lead Developer (2017 - 2018)

- **Technical lead** for a team of 3 engineers (DevOps, backend, full-stack): architecture decisions moving toward a modular, near-microservices approach, without fully committing to it given the system's scale; heavy delegation to the team and mentoring.
- **Cut average delivery lead time by 50%:** redesigned the engineering workflow (branching strategy, CI pipelines, code review standards, structured onboarding).
- Regularly presented architecture decisions and technical trade-offs to a non-technical executive team.

R&D Engineer (2010 - 2016)

- **GPS fleet tracking:** geospatial PostgreSQL schema, GPX trace ingestion and parsing pipelines, computed distances and driving time from raw coordinates; used by the Operations department to track vehicles and manage their scheduling.
- **Digital TV:** API-first middleware acting as the source of truth for subscriber management, electronic programme guides (EPG) and data engineering, across a network covering 3 cities (Antananarivo, Antsirabe, Toamasina); built a multi-channel broadcast tool (programme guide and content management) for an internal Blueline channel; billing integrations; high-throughput event-driven backends (RabbitMQ).
- **Telecom data pipelines:** ingestion, transformation and validation of heterogeneous data feeds; Bash automation scripts for deployment and Linux operations.

Stack: Python, C++, Django, Flask, RabbitMQ, Redis, PostgreSQL.

Software Developer (Internship) 2010

Xone Technologies · Dakar, Senegal

- **Mobile banking connectors:** solo development (Python) of the connectors for a mobile banking exchange point in Senegal, within a team of 4 developers working mainly in Java on the rest of the infrastructure; the solution was deployed and used in production.