Samy Tamim

Backend & AI Developer

+33 781 805 041 • contact@samytamim.com • https://linkedin.com/in/samy-tamim • https://samytamim.com • https://github.com/mylastresort

Professional Summary

Backend & AI developer with 2+ years of experience specializing in distributed systems, microservices, and event-driven architecture for IoT and real-time data platforms, including LLM-based agents. Leads a digital twin platform with predictive maintenance; hands-on with **Go**, **Java**, **Python**, **TypeScript**, **Kubernetes**, **Kafka**, and **MQTT**. Focusing on scalability, fault tolerance, security, and engineering practices (code review, Test-Driven Development, CI/CD).

Experience

Software Engineer **Jun 2024 – Dec 2026**

UM6P - University Mohammed VI Polytechnic Rabat, Morocco

- Led architecture and delivery of a digital twin platform for IoT monitoring and predictive maintenance, ingesting industrial equipment sensor data through **MQTT** with real-time analytics.
- Built a multi-agent IoT operations assistant on **Google ADK**: specialist sub-agents (assets and devices finder, telemetry agent, PdM agent) in an agent-as-tool pattern, local **Ollama** models and **LiteLLM** as the proxy intermediary layer for reliable tool calls, streaming, reasoning, and about 98 tools exposed through **MCP** with guardrails against hallucination; evaluated models and agent behavior with trajectory-based benchmarks to find model scores.
- Built **Kafka** and **Python** microservices with **Redis** caching, keeping consumers and the whole system **stateless**.
- Evaluated multiple **SPOF** on the platform to ensure the system remains resilient.

Full-Stack Development Intern **Dec 2023 – May 2024**

UM6P - University Mohammed VI Polytechnic Rabat, Morocco

- Developed a platform tracking 200+ daily ship movements for fertilizer trade, delivering real-time supply chain insights, with interactive **React.js** and Leaflet.js maps in a cross-functional **Agile** team.
- Engineered a **Flask** REST API with **MySQL**, improving dashboard performance via query optimization and caching.

Projects

Job Control System **Sep 2026**

Go, Async Job Orchestration

- Building a job orchestration system with an internal queue handling 1 000+ async tasks/min and 15+ config options.
- Implementing a worker pool with graceful shutdown, dead-letter queues, and automatic retries for fault tolerance.
- Built the **Go** client/server core with supervisor-style **TOML** configuration, shipped via **Docker Compose** with CI tests.

Multilayer Perceptron **Aug 2026**

Rust, Neural Networks, Backpropagation from Scratch

- Built a configurable MLP with **backpropagation** from scratch in **Rust**, driven by **YAML** training configs.
- Implemented **SGD** and **Adam** optimizers, early stopping, and per-epoch metrics with learning-curve exports.

Video Streaming Platform **Dec 2025**

Go, Next.js, PostgreSQL, Node.js, OAuth2

- Built a scalable **Go** backend with HLS streaming and optimized cache management for efficient video delivery.
- Designed a **PostgreSQL** schema with query optimization and connection pooling for improved data retrieval performance.
- Drove **Agile** delivery with 3 developers through sprint planning and daily stand-ups.

Education

42 Paris, Paris, France **Expected Feb 2027**

Master's-level degree (EQF Level 7, Bac+5): Expert in IT Architecture, RNCP Level 7

Specialization: Data Architecture

Technical Skills

Languages	TypeScript, JavaScript, Python, Go, Java, C, C++, OCaml, SQL
Frontend	React, Next.js, Angular, HTML/CSS, Tailwind CSS, Leaflet.js
Backend & Data	Node.js, NestJS, FastAPI, Spring Boot, REST APIs, PostgreSQL, MySQL, MongoDB, Redis, SQL Tuning, Kafka, FFmpeg
Cloud & DevOps	Docker, Docker Compose, Kubernetes, Linux, Vagrant, ArgoCD, GitLab CI/CD, GitHub Actions, Git, AWS, IaC, Terraform, Prometheus, Grafana, System Administration
Architecture	Distributed Systems, System Design, Event-Driven Architecture, Microservices, Design Patterns, Scalability, Fault Tolerance
AI & Agents	Google ADK, MCP, Multi-Agent Systems, Ollama (Local LLMs), Tool Calling, Prompt Engineering, LLM Evaluation
IoT & Real-Time	MQTT, WebSockets, Digital Twins, Real-Time Data Processing
Security	OAuth2, JWT, OWASP Top 10