SamAlgo
AI & CLOUD SOLUTIONS ARCHITECTURE

Independent consultant · Remote
samalgo.com

Samy A. Foudil PhD

AI & Cloud Architect

Agentic AI · AWS & MLOps · Full-stack Python



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I design and deliver production AI systems. Former deep-tech CTO, PhD in Cognitive Neuroscience. 10+ years across software, data and research, with end-to-end delivery for energy, healthcare and research.

Agents & LLMs	AWS & MLOps	Software & data	Delivery & reliability
Pydantic AI · LangGraph	Lambda · Step Functions	Python · SQL · Django	Terraform · Docker · CI/CD
Strands · ADK · AgentCore	S3 · SQS · DynamoDB	Ninja · FastAPI · React Native	Logfire · Langfuse · OTel
Bedrock · MCP · Hybrid RAG	Textract · SageMaker	PostgreSQL · PyTorch	CloudWatch · Tests · FinOps

01 Professional experience

EDF
2025–present

AI & Cloud Architect · AWS MLOps · Python

Intelligent document processing for a major energy company.

- Industrialised document-processing pipelines combining OCR, multimodal extraction and specialised AI agents for complex PDF reports, images and forms.
- Orchestrated parallel processing with Step Functions and Lambda; delivered typed reports with validation, multi-model fallbacks and confidence scoring.
- Built production reliability with asynchronous integration, distributed tracing, monitoring, infrastructure as code, strict typing and automated tests.

Python · Pydantic AI · Bedrock · Textract · Step Functions · Lambda · S3 · DynamoDB · SQS · Terraform · Logfire

CRNL · Lyon Neuroscience Research Centre
2024–2025

Cloud Architect · Full-stack Python Developer · Data Scientist

NeuRoam: real-world behavioural data collection and spatiotemporal analysis.

- Delivered the web platform, typed APIs and React Native app for geolocation, daily-life traces and ecological questionnaires.
- Built spatiotemporal analytics with PostgreSQL/PostGIS and PyTorch, and language analysis with Bedrock.
- Deployed hybrid cloud infrastructure with Docker and CI/CD, meeting GDPR and research data requirements.

Python · Django · Django Ninja · React Native · PostgreSQL / PostGIS · PyTorch · OVHcloud · AWS Bedrock

EXPERITEM · BrainWatch
2021–2024

Chief Technology Officer · Data Architect

Deep-tech platform for multimodal behavioural intelligence.

- Owned the technical roadmap and AWS architecture for multimodal behavioural and physiological data analysis.
- Built data pipelines, CI/CD, application security and GDPR governance for the BrainWatch platform.
- Contributed to non-dilutive R&D funding: CIR, Bpifrance and French Tech programmes.

Python · Django · AWS RDS / PostgreSQL · DynamoDB · Lambda · Glue · SageMaker · Docker

Samy A. Foudil, PhD
AI & Cloud Architect

Architect. Engineer. Builder.

Independent initiatives alongside client engagements — from product concept to implementation.

02 Entrepreneurial & independent projects

GlobaNova

2025–2026 · Side project

AI & Cloud Architect · Lead Full-stack Developer

Immersive community platform with an AI voice facilitator for group conversations.

- Built real-time speech-to-speech moderation: turn-taking, silence handling and human handover, connected to Unity through WebRTC data channels.
- Delivered the Django platform and AWS deployment with PostgreSQL, Redis and Caddy.

Python · LiveKit / WebRTC · OpenAI Realtime · Unity integration · Django · AWS Elastic Beanstalk · RDS · Redis

SamAlgo · Agent & knowledge platform

2024–present

Founder & Principal Architect · samalgo.com

The engineering platform behind my consultancy: connected AI assistants and supervised automation.

- Built web and Telegram agents with typed tools, hybrid retrieval, persistent memory and a searchable wiki.
- Integrated Workspace and CRM workflows, sandboxed execution and automated document generation.

Python · Pydantic AI · Django · PostgreSQL / pgvector · Hybrid RAG · Tool calling · Human-in-the-loop

NeuRoam

2024–2025 · Personal initiative & CRNL

Product conception · Full-stack & Cloud Engineering

Personal initiative also delivered through the CRNL engagement. Conceived and built a mobile-to-cloud product combining everyday behavioural capture, researcher interfaces and analytics, translating cognitive-science requirements into software.

React Native · Django Ninja · PostgreSQL / PostGIS · Python analytics · Docker · Hybrid cloud

03 Research & earlier engineering

2020–2021 — **CNRS · ISC Marc Jeannerod — Postdoc / Data Scientist**
Python pipelines for fMRI and EEG; statistical modelling, machine learning and multimodal time-series analysis.

2016–2020 — **Université Lyon 1 / CRNL — PhD Researcher & Engineer**
Episodic memory in virtual environments; mobile collection, web tools and hybrid AWS infrastructure. Publications in Scientific Reports and Journal of Neuroscience.

2012–2016 — **ENS de Lyon · LIRIS · INSERM — Research Engineering**
Learning analytics, behavioural clustering and validation of speech-analysis tools.

04 Education

PhD in Cognitive Neuroscience · 2016–2020
Université Claude Bernard Lyon 1

MSc in Applied Cognitive Science · 2012–2014
Université Lumière Lyon 2

Higher Technical Diploma in IT · 2007–2009
La Martinière Duchère, Lyon

Languages · French: native · English: professional

05 Selected publications

Foudil & Macaluso (2024)
Scientific Reports · Memory and brain connectivity
doi.org/10.1038/s41598-024-58298-y

Foudil, Plèche & Macaluso (2021)
Scientific Reports · Episodic memory
doi.org/10.1038/s41598-021-93960-9

Foudil, Kwok & Macaluso (2020)
Journal of Neuroscience · Temporal memory
doi.org/10.1523/JNEUROSCI.2296-19.2020