Mohammed Affan

Software Developer · Known online as Itachi

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PROFESSIONAL PROFILE

Software developer working across AI systems and the infrastructure around them. At Pollinations.ai, contributes agent interfaces, MCP tooling, retrieval, and isolated execution; at Myceli.ai, builds AI workflows and automation. Independent work spans model research, Rust systems, evaluation environments, and web, mobile, and 3D applications.

PROFESSIONAL EXPERIENCE

Pollinations.ai

Feb 2025 – Present

Developer · MLOps & AI Infrastructure

- Build AI agents, model integrations, APIs, and workflow automation for the Pollinations platform.
- Extended the MCP server with tools for image batches, video generation, multimodal analysis, transcription, search, and pricing; added dynamic model discovery and API-key authentication.
- Contribute to Polli across Discord, GitHub, and OpenAI-compatible APIs, connecting repository search, session context, caller-scoped tools, model routing, and streamed responses.
- Moved repository embeddings into Cloudflare Vectorize with incremental indexing, batched embedding requests, and removal of vectors for deleted files.
- Replaced per-user database update subprocesses with batched operations and concurrent API validation; isolated Cloudflare shell execution in disposable containers without caller credentials.

Myceli.ai

Feb 2025 – Present

Developer · AI Systems & Automation

- Connect AI infrastructure through automations and workflows, connecting models, services, and agent modules across cloud and local environments.

INDEPENDENT RESEARCH & DEVELOPMENT

Ouroboros

2026 · Independent researcher & developer · Research in development

- Develop language-model research prototypes in PyTorch under local hardware constraints; retain unpublished architecture and implementation details privately.
- Evaluate mechanisms independently against explicit baselines; document ablations, limitations, and negative findings in a public research notebook.
- Public output is a research log. No published paper or public benchmark result is claimed.

Sylph

2026 · Independent systems developer · Private implementation in development

- Develop a Rust-based AI runtime exploring local inference, task-driven learning, and peer-to-peer exchange of model adapters.
- Separate model backends through an inference contract; implement adapter compatibility and payload-integrity checks in the exchange path.
- Develop adapter-composition checks and adversarial tests, with local and Kubernetes/Helm deployment tooling. Public overview available; implementation remains private.

Mohammed Affan Engineering projects & technical background

SELECTED ENGINEERING PROJECTS

Memory-Arc

2025 · Independent developer · Public Python implementation

- Built configurable memory infrastructure connecting recent conversation history to persistent vector retrieval, with AI, heuristic, hybrid, and disabled processing modes.
- Separated configuration, JSON persistence, asynchronous memory interfaces, and model-provider adapters.

Repository intelligence

2026 · Independent developer · Private Rust tooling in development

- Develop local repository-analysis tooling using Rust, Tree-sitter, SQLite, and FTS5 for language structure, persistence, and evidence retrieval.
- Build explicit validation context to distinguish stored results from evidence about the current source state.

Agent evaluation environments

2026 · Environment developer · Public OpenEnv hackathon projects

- Built simulation environments for evidence-based investigation, with procedural scenarios, MCP tools, state transitions, and reward components.
- Added adversarial tests for reward shortcuts and evidence gathering; developed an adversary that advances during investigation and adapts to containment actions.

Application engineering

2026 · Application developer · Private web, mobile & 3D implementations

- Built a Flutter records and reporting application with Supabase integration, insights screens, PDF tooling, and automated builds.
- Developed a Next.js presentation builder with research, outline, image-generation routes, streamed results, and editing interfaces.
- Built SceneForge with typed scene descriptions, incremental JSON parsing, and streamed updates to an interactive Three.js scene.

TECHNICAL SKILLS

Languages: Python, TypeScript / JavaScript, Rust, Dart, SQL.

AI & MLOps: PyTorch, model fine-tuning, local inference, model deployment, MCP, agent orchestration, RAG.

Infrastructure: Cloudflare Workers, Vectorize, D1, Docker, Kubernetes, Helm, Linux, GitHub Actions.

Applications & data: FastAPI, React, Next.js, Flutter, Three.js, Qdrant, SQLite, Supabase.

EDUCATION

Diploma — AI/ML pathway Pursuing · 5th semester
MS Ramaiah Polytechnic

SELECTED CONTRIBUTIONS · POLLINATIONS.AI

Indexing · PR #12602 — Changed paths are reindexed; deleted paths have their vectors removed.
Isolation · PR #14787 — Shell work runs behind an explicit container boundary.
Streaming · PR #14438 — Clients can receive incremental output through a familiar API interface.