

KATLEGO MOKOTO

LEAD SYSTEM ARCHITECT

SYSTEM ONLINE // ACCEPTING MISSIONS

DOC.ID: CV-2026-X9

CLASS: RESTRICTED

LOC: SOUTH AFRICA

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STATUS: ● ONLINE

[01.] TACTICAL PROFILES — SELECT ACTIVE MISSION

[SYS.REQ.01] // AGENTIC ORCHESTRATOR: Hybrid system architect specializing in the deployment of autonomous AI agents and local LLM orchestration. Expert in bridging high-performance edge computing with scalable Cloud infrastructure. Driven by a mandate to engineer resilient, sentient ecosystems. Strictly utilizes high-tier models, heavily leveraging Gemini and local network clusters to build hyper-intelligent, predictive systems.

[SYS.REQ.02] // QUANTITATIVE DATA: Data architect and systems engineer focused on high-throughput algorithmic analysis and predictive modeling. Specializing in processing complex data streams into minimalist, low-latency command centers. Dedicated to constructing rigorous infrastructure that transforms raw, high-frequency data into actionable, automated intelligence.

[SYS.REQ.03] // SOVEREIGN INFRASTRUCTURE: Lead System Architect pioneering the development of sovereign digital infrastructure. Merging high-fidelity, minimalist frontend design with resilient backend protocols. Focused on solving critical infrastructural bottlenecks through the deployment of relentlessly optimized, self-contained software ecosystems that think, adapt, and operate with absolute precision.

[02.] CORE ARCHITECTURE — EXPERIENCE

SYSTEM ARCHITECT & DEVELOPER

MENS MERCATUS | 2025 – PRESENT

- Designed and built a 12-app AI-native portfolio ecosystem from the ground up as sole architect.
- Engineered the Cognitive Alpha platform integrating DeepMind Gemini for real-time RAG document retrieval and institutional market analysis.
- Developed a fully autonomous Fintech Sentinel for synthetic identity fraud detection and escrow auditing.
- Built AGRI-INTELLIGENCE, a predictive yield optimizer using LSTM networks and IoT sensor data, achieving 92% accuracy.
- Architected GRID-GUARDIAN, a Virtual Power Plant manager utilizing Facebook Prophet for energy demand forecasting.
- Created LOGI-FLOW SA, a logistics platform solving Vehicle Routing Problems using Google OR-Tools for township delivery optimization.
- Deployed multi-agent content swarms via the Agentic Content Machine for automated cross-platform content generation.

[05.] EDUCATION & CERTIFICATIONS

SELF-DIRECTED SYSTEM ARCHITECTURE

SOVEREIGN ENGINEERING TRACK | 2024 – PRESENT

GOOGLE AI/ML SPECIALIZATIONS

GEMINI API | VERTEX AI | CLOUD ARCHITECT

FULL-STACK DEVELOPMENT

NODE.JS | REACT | PYTHON | POSTGRESQL

[03.] TECHNICAL CAPABILITIES

SYSTEM DESIGN

Microservices, Distributed Systems, Neural DBs, Event-Driven Architecture.

BACKEND PROTOCOLS

Node.js, Python, PostgreSQL, Redis, Docker, Kubernetes.

FRONTEND MATRICES

React, Three.js, Canvas API, Advanced CSS, Web Audio API.

AI / ML INFRA

TensorFlow, Gemini API, RAG Pipelines, Sentiment Analysis, LSTM.

AGENTIC SYSTEMS

Local LLMs, Agent Orchestration, MCP Servers, Tool-Use Pipelines.

DEVOPS & INFRA

CI/CD, Electron, PWA, Service Workers, Cloud Deploy, OR-Tools.

[04.] SYSTEM METRICS

PROJECTS BUILT	50+
AI SYSTEMS INTEGRATED	25+
SYSTEM UPTIME	99.99%
ACTIVE PORTFOLIO APPS	12
CODEBASE SIZE	200K+ LOC

[06.] SOVEREIGN APPLICATION REGISTRY — FULL ECOSYSTEM

SYSTEM	FUNCTION & CAPABILITY	STACK	STATUS
COGNITIVE ALPHA	DeepMind Gemini-powered RAG engine synthesizing market intelligence through semantic document retrieval. Provides institutional-grade reasoning, real-time chart analysis, and automated research briefings via vector DB pipelines.	Gemini API, Vector DB, RAG	ACTIVE
FINTECH SENTINEL	Hybrid AI fraud detection platform preventing synthetic identity fraud and deepfake financial attacks. Deploys Isolation Forest algorithms for spatial outlier detection across multi-dimensional demographic datasets, with automated escrow auditing.	TensorFlow, Scikit-learn	ACTIVE
AGRI-INTELLIGENCE	Predictive crop yield optimizer ingesting real-time IoT sensor data, meteorological forecasts, and historical yield records. Achieved 92% accuracy in pilot deployments, enabling 18% reduction in agricultural water usage through algorithmically optimized irrigation.	LSTM, IoT, Prophet	ACTIVE
GRID-GUARDIAN	Advanced Virtual Power Plant (VPP) manager forecasting localized energy demand against solar PV generation using Facebook Prophet. Intelligently dispatches battery storage and provides real-time telemetry. Reduced peak-tariff grid reliance by 40%.	Prophet, SCADA, IoT	ACTIVE
LOGI-FLOW SA	Contextualized logistics platform solving Vehicle Routing Problems (VRP) using Google OR-Tools. Employs Random Forest Regressors to forecast delivery times. Reduced last-mile delivery times by 20% and improved on-time rates by 15% in township environments.	OR-Tools, Scikit-learn	ACTIVE
LINGUA-BOT SA	Autonomous multilingual orchestration engine translating complex localized South African dialects in real-time. Uses distributed NLP pipelines to bridge communication gaps across 11 official languages with contextual cultural awareness.	NLP, LLMs, Translation API	ACTIVE
ALPHA HUB	Institutional-grade market analytics dashboard monitoring L1 liquidity pools and visualizing order flow with sub-millisecond precision. Provides real-time depth-of-market analysis and whale movement tracking for quantitative trading.	WebSocket, Canvas API	ACTIVE
AGENTIC MACHINE	Multi-agent content swarm engine automating the generation, curation, and distribution of institutional-grade content across digital platforms. Orchestrates autonomous agent clusters to repurpose data into SEO blogs, social threads, and newsletters.	Gemini, Agent SDK	ACTIVE
HEALTH-AI SA	Mobile-first wellness assistant utilizing NLP and LLMs to offer tailored medical triage and health recommendations for rural South African populations with limited access to healthcare infrastructure.	LLMs, NLP, Mobile-First	BLUEPRINT
EDU-BOT SA	Adaptive learning platform using Collaborative Filtering algorithms to map complex skill networks and personalized learning paths. Re-engineers the education-to-employment pipeline to address the Human Capital Paradox.	CollabFilter, Graph DB	BLUEPRINT
PORTFOLIO TRACKER	Quantitative portfolio analytics command center with real-time P&L tracking, risk metrics, position sizing calculations, and trade journal logging. Strict blueprint-panel UI with institutional-grade data visualization.	Canvas, WebSocket, JS	ACTIVE
SOVEREIGN MANIFESTO	Interactive cinematic magazine-format publication documenting the Mens Mercatus thesis, technical architecture, and strategic vision. Features 3D page-turn effects, animated gazette imagery, and full editorial typesetting.	CSS3, Intersection Observer	ACTIVE

[07.] INFRASTRUCTURE SUBSYSTEMS

NEXUS ANALYTICS	ONLINE	SOVEREIGN ENGINE	V2.0
QUANTUM CHIPS // CONFIDENTIAL & PROPRIETARY	ONLINE	MCP AGENT 02 DFS 02	DATE: 28/05/2025 ONLINE
ZERO_TRUST SEC	STANDBY	LOOPBACK SECURE	ACTIVE

