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10.5281/zenodo.19177759

Professional Summary

Systems engineer and protocol architect specialized in lightweight cryptography, Edge Computing, autonomous agent design, and M2M protocol engineering.

Founder of HormigasAIS Ecosystem - distributed AI infrastructure built entirely on edge principles: no VPS, no centralized cloud, full digital sovereignty. Author

of LBH Protocol (Lenguaje Binario HormigasAIS), published on Zenodo (DOI:

10.5281/zenodo.19177759). GitOps pipeline: Android ARM64 Nodo A16 ->

GitHub Pages -> Cloudflare CDN -> production.

Core Technical Competencies

Protocol Design: LBH v2.0 binary frame encoding, HMAC-SHA256 signing, transport-agnostic delivery. M2M sync via pheromone signaling - broker-free alternative to NATS/MQTT. XOXO Bus event-driven messaging.

Autonomous Agent Infrastructure: Decentralized training using .human behavioral governance protocol. Adaptive thresholds IoT/Edge. Multi-agent orchestration with sovereign memory (.lbh files). Sandbox isolation.

Security & Cryptography: HMAC-SHA256 asset signing zero external deps (Python stdlib). Production seal verification at hormigasais.com (e.g., CLHQ-Q5PTRLA0). Sovereign key management ~/.hormigas_secrets. GitHub Push Protection, PAT rotation.

Engineering Stack: Python 3.x (stdlib-first), Bash/Shell (Termux ARM64), JavaScript/Node.js, Git/GitHub Actions, Cloudflare Workers+KV, Android ARM64 as production edge node.

Flagship Innovation - HormigasAIS Ecosystem | Founder & Lead Architect |

2024-Present

- LBH_SPEC_v2.0 Formal spec on Zenodo DOI 19177759.

- Dual SDK: `pip install lbh-sdk` (PyPI 16/16 tests) / `npm install lbh-sdk-hormigasais` (npm 25/25 tests)

- Cryptographic sealing system production at hormigasais.com

- Pheromone signaling architecture for multi-agent coordination without central broker

- Sovereign legal infrastructure docs.hormigasais.com/legal.html + institucionalidad.html
- Full GitOps: A16 -> GitHub Pages -> Cloudflare CDN. sitemap.xml + sitemap-repos.xml 200 OK. DOI v1 17767205 + v2 19177759. 6 repos sealed.

Published Work & Credentials

- LBH Protocol Spec: DOI 10.5281/zenodo.19177759
- SDK Python: pypi.org/project/lbh-sdk
- SDK JavaScript: npmjs.com/package/lbh-sdk-hormigasais
- Blog: blog.hormigasais.com
- IP Registry: github.com/Thrumanshow/HormigasAIS-Institucionalidad
- Production: hormigasais.com