

Experiments

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Why these Labs and Proof-of-Concept (PoC) ?

I believe a hands-on approach enhances the credibility of a professional. My experimental servers are 100% cloud-native and 100% based on open source. They are not financed by, supported by, or connected to the Bank of England's infrastructure. I write my own code and run a private bug bounty program. Some of my experiments have been successful, but others are not (yet).

Hard.Email

Purpose: PoC to optimize the cybersecurity posture of a mail server.

Result: At least the second-best cyber posture of any mail server in the world.

Kyber.Club

Purpose: PoC of applied post-quantum cryptography and random number generator.

Results: (1) World's first online platform to generate key pairs, encrypt, decrypt, digitally sign, and verify, compliant with NIST FIPS 203, 204, 205 and FrodoKEM. (2) Randomness comparable to quantum RNGs, but without the complexity.

BeatQuantum.com

Purpose: PoC for crypto-agility experiments. World-class cybersecurity for a web server. World's first private bug bounty program based on a white-box approach.

Results: (1) Sets the standard for the cryptographic posture of a web server. (2) Not hacked (yet).

Other Experimental Labs (Development mode Errors expected)

LinuxCore.cloud

Purpose: PoC to generate high-quality cyber threat intelligence (CTI) across continents and at antipodes.

Result: Currently generating useful CTI from Singapore and helpful in my writings.

GiantDB.cloud

Purpose: PoC to establish multi-database resilience.

Status: Work in progress. No results yet. Early design / implementation phase.

Local Implementation of AI models

Purpose: To keep training data, queries and output completely local.

Status: Work in progress. Initial results are dissatisfactory. The current setup (QWEN 30GB / GAIA frontend / Lemonade backend) is too slow. I may need a bigger machine.