

Assis Ngolo

Payments systems architect. Engineering leader. Builder.
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SUMMARY

I have built financial systems for fifteen years. Three production ledgers, with a fourth bank-grade double-entry rebuild rolling out. An in-house payment facilitator on direct Chase rails, PCI DSS certified in 2022, with the sponsoring bank calling it one of the fastest payfac implementations they had seen. A card tokenization vault. A rules + ML fraud platform for the payfac. Cross-border crypto settlement before that. I still ship production code with my team. I do not pick between manager, product manager, and engineer; I am all three at once.

EXPERIENCE

Squire / Senior Engineering Manager, Payments

2021 to present

payments platform

- Leading the **rebuild of the payments backbone**: a 7-module system around a **bank-grade double-entry ledger**, multi-currency, multi-asset, use-case agnostic. Live in production processing real transactions, with reconciliation and drift detection as first-class subsystems.
- Built an in-house payment facilitator on direct Chase rails in under twelve months. Card issuance, ACH, refunds, chargebacks, dispute management. JPMC called it one of the fastest payfac implementations they had seen.
- Designed and shipped the card tokenization vault behind a strict API surface. Foundation for the platform's **PCI DSS** certification in 2022.
- Built Squire Guard, the rules + ML fraud platform for the payfac. Stripe Radar alternative with a DSL that lets risk operators ship rules without a deploy.
- Built Watchdog, the stability and incident-detection platform. Catches misbehaving systems before customers see them. Saved revenue and CS cost during incidents.
- **90 to 100% sprint completion** across the payments org through estimation, scoping, QA coordination, and planning discipline. I lead, I PM, I write code.

BVNK / Head of Engineering (employee #3, de facto CTO)

2017 to 2021

crypto x fiat infra

- Architected and built the distributed core banking platform: multi-currency, crypto-native ledger, multi-tenant double-entry accounting, AWS-IAM-style access control, generation of routable account numbers and IBANs.
- Implemented ISO 20022, ISO 8583, and Open Banking support, in 2017-2020, before Open Banking was something every fintech blog wrote about.
- Built one of the first production **blockchain-enabled cross-border rails** (Fiat to Crypto, mPesa to MTN Ghana) at a time when tangential crypto exposure would close a Stripe or PayPal account.
- Grew engineering 0 to 10. Established culture, CI/CD, reliability practices from scratch. Left in 2021.
- BVNK was **acquired by Mastercard in March 2026** to connect on-chain payments and fiat rails.

Nellcorp / Founder & CEO

2010 to present

Delaware + Luanda

international payments + systems firm

- International payments and systems firm. Two entities: Nellcorp Inc. (Delaware, USA) for global product and client work, Nellcorp Lda. (Luanda, Angola) for Lusophone Africa.
- Delivered integrations on Angola's payment rails: Multicaixa, Multicaixa Express, Kwik.
- Shipped Crew (AI agent orchestration), humanidentity.io (decentralized identity), Bantumail (secure email), Brands (social media management). Currently building Nellcorp Pay.
- Designed the **Human Identity Protocol (HIP)**: prove a person is human without handing personal data to platforms. Ed25519 certificates, HMAC-derived per-platform subject IDs, JWS attestations, append-only provider registry, three key-storage tiers. protocol.humanidentity.io. Draft spec is Apache 2.0.

- Designed a **stateless JWT revocation scheme**: signed sjti claim per token, validated against a per-user server-side secret. Rotating the secret revokes every token instantly. No blacklist, no token store. blog.nellcorp.com/new-approach-to-jwt-revocation.
- Built a **decentralized election fraud monitoring system** for the 2022 Angolan election. Counted votes across all 18 provinces using low-tech photos of polling-station tally sheets. Real-time, distributed, paper-trail-backed.

Earlier / Engineer, lead, then head of teams across critical industries

2010 to 2017

multiple roles

- Transportation: emergency control system for the City of Porto's train network. Energy: protection, control, and SCADA systems for Angola's national utilities. Education: school ERP on Fedena / BigBlueButton / Canvas, kept many Angolan schools running through the pandemic. Business: ERP rollouts on Odoo and ERPNext.

ACHIEVEMENTS

- | | |
|---|---|
| /01 \$1B+/yr platform I lead at Squire | /02 Payfac on Chase rails, PCI DSS 2022 |
| /03 3 production ledgers shipped, a 4th rolling out | /04 BVNK to Mastercard, March 2026 |
| /05 90-100% sprint completion at Squire | /06 Election monitoring, 18 provinces, 2022 |

TECHNICAL

LANGUAGES

Go, Node.js, TypeScript, SQL

INFRA

AWS (EKS/ECS, SQS/SNS, Lambda, RDS),
Kubernetes, Docker, CI/CD, observability

CRYPTO

BIP44 wallets, multisig custody, stablecoin settlement, on-chain cross-border, crypto exchange

DATA

PostgreSQL, Redis, Kafka

PAYMENTS

PCI DSS, tokenization, ISO 20022, ISO 8583, ACH, payfac, ledgers, KYC, AML, fraud prevention

AI

AI-assisted development, agent orchestration (Crew), anomaly detection

LEADERSHIP / TEN LESSONS

- 01 Earn credibility before you spend it.**
Title-based authority is a loan. Track-record authority is owned. I default to writing code, shipping fixes, and being in the failure with the team. Once that exists, you can lead almost anyone.
- 02 Translate. Constantly.**
The same decision sounds different to an engineer, a PM, a CFO, and a regulator. For an exec, the lens is almost always: does this make us more money, does it cost us less, or does it reduce a risk that could destroy us?
- 03 Default to writing.**
Decisions on paper become reviewable, comparable, and ownable. Conversations evaporate. I write a design doc before I write code on anything non-trivial.
- 04 Cultivate the dissenter.**
Most of the worst decisions I have watched get made were the ones where no one was paid to disagree. Find the engineer with the contrary view, listen, then do not punish them for being right.
- 05 Done means done and observable.**
Reliability is a feature, not a clean-up project. I do not ship a critical path I cannot see when it breaks. Watchdog exists for a reason.
- 06 Repeat yourself until people listen.**

Most leadership is restating the same priority in a slightly different way for the eighth time. That is not failure; that is the job.

- 07 **Pick your battles. Then fight them all the way.**
I let small disagreements slide. The ones I do not let slide, I take to the wall. People learn fast which is which.
- 08 **Make others bigger.**
Give the project away once you have built it. Help the engineer below you get promoted. Your impact scales when you stop being the bottleneck.
- 09 **Feedback is observations, not evaluations.**
Notice. State the consequence. Suggest a fix, framed as a suggestion. "This code is bad" is useless; specific is feedback.
- 10 **Go find the work.**
Every senior engineer and leader I respect goes looking for the next big problem before it is assigned. The ones who wait stay senior forever.

EDUCATION

Rochester Institute of Technology / MSc. Computer Systems Networking & Telecommunications	2014
Rochester Institute of Technology / BSc. Computer & Software Engineering	2011

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