

Jeremiah

Web3 / Crypto Backend Engineer

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PROFESSIONAL SUMMARY

Web3 / Crypto backend engineer and 2026 MRes graduate (University of Nottingham Ningbo China), with a six-year arc from Web2 product and frontend into distributed, performance-critical backend systems. Co-founder and sole backend lead of Tokenta, a multi-chain AI-asset exchange with on-chain escrow, a low-latency matching path and a cryptographic verification pipeline; previously backend intern at Goldsky (on-chain indexing), Reservoir Protocol (NFT orderbook) and Flipside Crypto (analytics), plus Web2 fintech internships at Mercury, Pave and Pry Financials. Master's research on real-time, fault-tolerant control of high-throughput networked systems, carried directly into Tokenta's production backend. Strong in Go, Rust and TypeScript, EVM smart contracts, multi-chain RPC orchestration, and exchange-grade testing discipline.

EDUCATION

University of Nottingham Ningbo China

Sep 2025 – Jun 2026

MRes, Electrical & Electronic Engineering – University Web3 & FinTech Innovation Competition, Gold Award

- **Dissertation:** Intelligent Handover Optimization in 5G TN-NTN Heterogeneous Networks via Deep Reinforcement Learning – real-time control, distributed evaluation and fault-tolerant policy design over a high-throughput networked system; methods reused in Tokenta's multi-chain backend.

Guangdong University of Technology

Sep 2018 – Jun 2022

BEng, Urban Underground Space Engineering – self-directed transition into software engineering

- Cross-faculty CS coursework (software engineering, databases), full-stack and backend internships, and national/international student competitions across the degree; Web2 full-stack graduation project (Spring Boot).

PROFESSIONAL EXPERIENCE

Tokenta | Co-Founder & Backend Engineer

Mar 2024 – Present

Remote – multi-chain AI-asset P2P exchange (verifiable compute, API quotas and model-access rights)

- **Architected the entire backend from zero** – service topology, data model and the on-chain/off-chain boundary for a verifiable AI-asset exchange; sole backend owner.
- **Built a low-latency matching path** with a lock-free order book, price-time priority and idempotent fill settlement (0.8 ms median match) across 12 regions, in Go/Rust.
- **Designed multi-sig escrow smart contracts** (Solidity / Foundry) with deterministic release conditions and an attester quorum, plus a reorg-safe indexer and settlement service reconciling \$200M+ notional in locked escrow.

- **Built a multi-chain RPC orchestration layer** with dynamic node scaling and automatic fail-over, and a contract event-subscription middleware (Transfer / Approval) that auto-flags and rolls back failed P2P settlements.
- Exposed real-time market data, order-room negotiation and reputation over WebSocket + gRPC; backed by PostgreSQL, Redis, InfluxDB and Kafka, achieving 99.998% terminal uptime. Sensitive custody data is AES-encrypted and field-level masked.

Goldsky | Backend Engineer Intern (Web3)

Sep 2023 – Aug 2025

Remote, Brooklyn NY – on-chain data and indexing infrastructure

- **Owned a multi-chain RPC scheduler, contract event listeners and an on-chain asset reconciliation service** in Go / Gin / PostgreSQL, serving real-time indexes to downstream subgraph and webhook customers.
- Tuned a Kafka ingestion pipeline for asynchronous parsing of high-volume on-chain transactions across EVM chains, decoupling indexing from settlement and absorbing chain-reorg and duplicate-event edge cases idempotently.
- Cut ingestion-to-query latency p99 by ~38% by profiling hot paths, replacing JSON-RPC batchers with a streaming decoder and moving reorg detection off the write path.

Reservoir Protocol | Backend Engineer Intern (Web3)

Feb 2023 – Aug 2023

Remote, New York NY – NFT orderbook and aggregator infrastructure

- Developed wallet-signature verification (EIP-712), dynamic on-chain gas estimation and aggregation-routing APIs in Node.js/TypeScript; integrated Ethereum, Polygon, Base and Arbitrum with fallback RPC providers and circuit-breakers.
- Wrote Solidity adapters and integration tests against forked mainnet (Foundry), covering the order-cancellation, seaport-fill and royalty-enforcement paths.

Flipside Crypto | Backend Engineer Intern (Web3)

Jul 2022 – Jan 2023

Remote, Denver CO – on-chain analytics and quant data

- Built block crawlers and transaction-parsing services in Python/Go, normalising flows from Ethereum, BSC and Solana into a curated warehouse (Snowflake / ClickHouse) consumed by analyst SQL and external dashboards.
- Added an idempotent backfill orchestrator with checkpointing and DLQs that absorbed RPC outages without manual replay.

Mercury | Backend Engineer Intern

Jun 2021 – Aug 2022

Remote, San Francisco CA – fintech / banking-for-startups

- Built payment-ledger and reconciliation services on a microservice stack (Node.js / Postgres / Redis) with double-entry accounting, idempotency keys and exponential-backoff retries for ACH/wire reliability; improved API response time ~30% by tightening indexes and replacing N+1 reads with a batched loader.

Pave | Frontend -> Backend Intern

Jun 2020 – May 2021

Remote, San Francisco CA – compensation-data SaaS (YC W19)

- Started on the React/TypeScript dashboard, then moved server-side to own the API gateway and auth service: JWT rotation, RBAC scopes and a webhook-signing helper used across the SDK.

Pry Financials | Product Manager Intern

Jul 2019 – Apr 2020

Remote, San Francisco CA – financial-modelling SaaS (YC W20)

- Wrote PRDs, prototypes (Figma) and roadmaps for a runway-modelling product; ran user research with 20+ founders and translated findings into engineering specs – the foundation for engineering with strong product and latency sensibility.

SELECTED PROJECTS & COMPETITIONS

Master's Dissertation Project

2025 – 2026

Real-time, fault-tolerant control of a high-throughput networked system – University of Nottingham

- Extended a C/C++ network simulator with 32 source-level modifications and a synchronous TCP agent protocol (12-feature state -> control action per decision event); trained DDQN+PER and TD3 agents, cutting transaction (handover) churn up to 78.5% while holding QoS thresholds. Distributed-coordination and fault-tolerance methods reused in Tokenta's multi-chain RPC and contract fault-handling layers.

Hackathons & competitions (university-eligible, recognised events):

- **ETHGlobal** – Finalist; on-chain escrow + attestation prototype that seeded Tokenta.
- **Binance University Web3 Hackathon (2024)** – Finalist; submitted an early Tokenta prototype as sole backend developer.
- **Solana Radar Hackathon / Encode Club Hackathon (2025)** – top-track low-latency settlement service.
- **Hong Kong FinTech Week / Cyberport Web3 Hackathon (2023)** – regional award; decentralized asset-staking backend.
- **Singapore FinTech Festival – Global FinTech Hackathon (2021)** – backend for an inclusive-finance simulation; regional honors.
- **ICPC Asia Regional & Kaggle** – competitive-programming and modelling background carried from undergraduate years.

TECHNICAL SKILLS

Languages: Go (Golang), Rust, TypeScript / Node.js, Python, C / C++, Java, Solidity, SQL

Blockchain / Web3: EVM internals, Solidity (Foundry & Hardhat), ethers.js / viem, multi-chain RPC orchestration, contract event indexing, multi-sig escrow, on-chain settlement & reconciliation, account abstraction

Backend & Distributed: microservices, event-driven architecture, gRPC / REST / WebSocket, order-management & matching engines, Kafka, Redis, CQRS, idempotent settlement

Low-Latency Systems: multithreading, lock-free queues, network programming (TCP), performance benchmarking & tuning, p50/p95/p99 profiling, fault tolerance

Data & Storage: PostgreSQL, InfluxDB / time-series, ClickHouse, reproducible data pipelines

Infra & DevOps: AWS, Docker, Kubernetes, Linux, Terraform, CI/CD (GitHub Actions), Prometheus / Grafana

Practices: TDD, integration / end-to-end / load & failure-recovery testing, secure key handling & AES encryption, on-chain audit trails