

# CALEB DITCHFIELD

## Senior Software Architect | Node.js, Tokenization & EVM Infrastructure

Richmond, VA | Remote (US Eastern Time) | 706-577-0827 | ditchfieldcaleb@gmail.com | 0xklob.io  
linkedin.com/in/caleb-ditchfield | github.com/xklob

### PROFESSIONAL SUMMARY

Senior software engineer and hands-on architect with 9+ years building Node.js/TypeScript backends, distributed systems, and security-critical Ethereum infrastructure. Founding-engineer experience translating financial products into production architecture across stablecoins, DeFi lending, payment channels, and carbon-credit tokenization. Built API and service layers, transaction orchestration, smart-contract integrations, role-based controls, deployment automation, observability, and incident-response systems, including Fei Protocol through \$3.5B in peak protocol-controlled value.

### TECHNICAL SKILLS

**Backend & Architecture:** Node.js, TypeScript, JavaScript, API/service design, event-driven and asynchronous systems, containerized services, distributed workers, IPC, transaction processing, deterministic simulation

**Blockchain & Digital Assets:** Ethereum/EVM, Solidity, Ethers.js, Foundry, Hardhat, ERC-20, ERC-721, stablecoins, DeFi, smart-contract integration, transaction construction/execution, governance, role-based permissions

**Data & Infrastructure:** Python, FastAPI, SQLite, Alembic, relational data modeling, LanceDB/HNSW vector search, Docker, Linux, CI/CD, deployment automation

**Reliability & Security:** Datadog, PagerDuty, OpenZeppelin Defender, observability, automated testing, performance optimization, threat modeling, incident response, bug-bounty triage

### PROFESSIONAL EXPERIENCE

#### DataAnnotation & Other Platforms | LLM Evaluation Engineer (Contract)

May 2026 - Present

Remote

- Design architecture-heavy coding evaluations, test suites, and reference implementations across TypeScript, Solidity, Python, and backend systems; assess solutions for correctness, security, performance, maintainability, and requirements adherence.

#### Segfault Security | Founder / Independent Software Engineer

Mar 2023 - Present

Remote

- Architected and operated Tarkin, an event-driven TypeScript/Node.js transaction-orchestration and execution system that consumed live EVM mempool streams, generated candidate transactions, and distributed deterministic simulations across local nodes and up to eight workers.
- Benchmarked approximately 5,000 transaction variants per second using local-node IPC and parallel workers; public operator addresses show 400,000+ BNB Smart Chain transactions and 10,000+ Polygon transactions.
- Built Dockerized node infrastructure, transaction-construction and contract-execution workflows, automated profitability and safety controls, plus Datadog/Discord observability; advise clients on architecture, threat modeling, smart-contract design, and security review.

#### Votre (formerly Collar Networks) | Founding Protocol Engineer

Apr 2023 - May 2024

Remote / a16z CSX London

- Translated a liquidation-free, high-LTV lending product into end-to-end architecture spanning smart contracts, DEX execution, pricing and hedging workflows, and integration boundaries.
- Owned Solidity implementation, TypeScript integration tooling, correctness controls, automated testing, and technical delivery as the sole engineer through a16z Crypto Startup Accelerator Spring 2024; the company announced a \$1.1M pre-seed round.

#### Fei Labs | Founding Engineer, Solidity Developer & Security Lead

Jun 2021 - Oct 2022

San Francisco, CA / Remote

- Designed, shipped, and reviewed 20+ production smart contracts and TypeScript tooling across FEI stablecoin issuance and redemption, TRIBE governance, protocol-controlled asset management, and administrative operations; helped operate \$3.5B in peak protocol-controlled value.
- Implemented role-based permissions and safety controls, including multi-role authorization, guardian/governor workflows, constrained destinations, rate limits, and permanent privilege revocation; authored 96 pull requests, including 83 merged.
- Built governance and deployment automation, transaction-calldata generation, mainnet-fork simulation, protocol-state validation, and parallel CI; reduced end-to-end CI runtime to approximately four minutes.
- Built OpenZeppelin Defender/PagerDuty monitoring and hourly invariant checks; administered the ImmuneFi bug-bounty program and coordinated high- and critical-severity triage; interviewed and mentored engineers as the team grew by five hires.

## EARLIER RELEVANT EXPERIENCE

---

### **Hypernet Labs | Lead Solidity Engineer**

May 2020 - May 2021

Redwood City, CA / Remote

- Architected Layer 2 payment-channel systems for metered and subscription compute, integrating off-chain application state with Ethereum finality through Connex.
- Built Solidity contracts and TypeScript/Node.js middleware for transaction settlement, payment-lifecycle orchestration, and distributed application-to-chain integration.

### **Arboreum | Project Lead & Solidity Expert**

Sep 2019 - Mar 2020

Remote

- Led architecture and delivery of an Ethereum carbon-credit tokenization, verification, and marketplace platform, shaping asset representation, verification flows, and exchange integration.

### **Rising Line Labs Ltd / Zethr | Founder, CTO & Lead Blockchain Engineer**

Nov 2017 - Oct 2018

Remote

- Led a distributed team of nine engineers building a production platform composed of 20+ interoperable smart contracts, a dynamic bankroll/accounting system, and a Vue.js/Web3 frontend.
- Developed Solidity contracts and automated tests with Truffle and Ganache; implemented monitoring and alerting for anomalous activity and exploit attempts.

### **Nead Werx, Inc. | Quality Assurance Automation Engineer**

May 2017 - Jul 2019

Atlanta, GA

- Built a Node.js/WebdriverIO automated test platform integrated with BrowserStack and CI for enterprise warehousing and inventory software supporting Home Depot operations.
- Created commit-triggered and hourly smoke tests, process documentation, operational dashboards, and high-priority error alerting.

## SELECTED PROJECTS

---

### **Meta Archive Explorer** | Python, FastAPI, SQLite, Alembic, React, TypeScript, LanceDB

Built a local-first API and relational data platform for a 40+ GiB export: inventoried 80K+ source files, indexed 1.3M+ messages, preserved source provenance, and added cursor-paged browsing, lexical/vector retrieval, and guarded deletion/recovery workflows.

### **Hexagons Bestagons Tower Defense** | TypeScript, Vitest, Playwright

Built a deterministic 60 Hz backend-authoritative simulation with queued command/snapshot APIs, axial pathfinding and rerouting, and automated browser and unit testing.

### **Mineable Gem Tokens** | Solidity, ERC-721

Won the 2018 Atlanta DappHack by adapting ERC-918 proof-of-work mechanics to ERC-721 collectibles with a working GPU miner and marketplace prototype.

### **Spearbot** | TypeScript, Solidity, HNSW, LangChain

Built a composable code-analysis pipeline that ingests Solidity and Markdown, produces hierarchical summaries, indexes local semantic context, and supports repeatable retrieved-context analysis of smart-contract code.

## EDUCATION

---

### **Georgia Institute of Technology | B.S. Computer Science**

2017

Focus: Networks and Systems Architecture