Noah Khamliche

qolacin@gmail.com
+1 (650) 420-5089
Indianapolis, Indiana, United States
linkedin.com/in/noah-khamliche-14749111a

Profile

Senior Blockchain Engineer with 7+ **years of end-to-end smart contract development** experience across DeFi, security auditing, and wallet infrastructure. Specialized in **Solidity/EVM development**, cross-chain wallet protocols, upgradeable architectures, **gas optimization**, **security testing (unit, integration, fuzz, invariant)**, and **DeFi protocol integrations (Uniswap, Aave, Compound)**. Skilled in **web3 full-stack dApp engineering** with **React/TypeScript/ethers.js**, CI/CD automation, and **AI-powered security tooling**. Recognized for delivering **high-integrity, production-ready smart contracts** that manage **hundreds of millions in TVL** while collaborating with world-class audit teams.

Professional Experience

Senior Blockchain Engineer 10/2024 – Present

Fun.xyz

Fun.xyz provides wallet abstraction + onboarding infrastructure, powering **millions of non-custodial wallets** with **cross-chain compatibility**.

- **Architected and implemented account abstraction smart contracts** supporting ERC-4337-style wallet operations, modular signature validation, and meta-transaction relayers.
- Built **multi-chain deployment pipelines** (Ethereum mainnet, Polygon, Arbitrum, Optimism) with automated upgrade proxy governance, ensuring contracts remain versioned and upgradable with backward compatibility.
- Engineered **gas-optimized Solidity libraries** for batch transactions, signature aggregation, calldata compression, and ERC-20/ERC-721 transfers — reducing transaction costs by up to **35%**.
- Designed **cross-chain wallet bridge contracts** integrating LayerZero + Axelar messaging to enable seamless token + NFT transfers between EVM chains; stress-tested bridge mechanics with fuzz + invariant testing.
- Developed **DeFi adapters** for Uniswap v3 + Aave v3, enabling users to swap, lend, borrow, and stake assets directly from Fun.xyz wallet UIs without leaving the platform.
- Integrated **AI-powered contract analyzers** into the CI/CD pipeline to automatically detect gas inefficiencies, common vulnerability patterns, and unused storage variables before deployment.
- Designed an **AI anomaly detection system** to monitor on-chain events and wallet behaviors in real time, flagging reentrancy attempts, oracle manipulations, or irregular liquidity withdrawals.
- Collaborated with the data team to train **ML models on on-chain activity** (transaction clustering, MEV patterns, slippage prediction) to enhance wallet routing and gas optimization strategies.
- Applied **AI-assisted fuzzing** frameworks to generate edge-case transactions and increase test coverage across bridging, ERC-4337, and DeFi adapter contracts.
- Delivered **end-to-end testing coverage** with Foundry + Hardhat: unit tests, fuzz tests, invariant assertions, integration against forked mainnet state, and simulation of multi-sig governance upgrades.
- Integrated **on-chain monitoring pipelines**: event indexing via The Graph + Prometheus, anomaly alerts for reentrancy attempts, oracle manipulation, or failed signature checks.
- Collaborated with frontend engineers to ship **React/TypeScript dApps**: wallet onboarding SDK, multi-chain balance dashboards, transaction history explorers, and custom gas estimator widgets.
- Authored **security playbooks and best practices**; mentored engineers on reentrancy resistance, proper use of delegatecall, preventing storage collisions in upgradeable proxies, and invariant preservation.
- Partnered with audit firms (e.g., Trail of Bits, OpenZeppelin) for pre-release audits; resolved **100+ findings** across severity levels.

Blockchain Security Analyst 02/2024 – 08/2024

OpenZeppelin

- Performed **deep audits** on DeFi lending pools, staking vaults, AMM DEX contracts, and NFT marketplaces, identifying vulnerabilities in access control, upgradeability, and oracle integrations.

- Built **custom fuzz test harnesses** (Echidna + Foundry) validating economic invariants (e.g., collateral ratio, slippage bounds, governance quorum safety).
- Extended OpenZeppelin's **Contracts Wizard** tooling to auto-generate secure boilerplate contracts (ERC-20/721/1155 + access controls), reducing developer onboarding friction.
- Created **gas benchmarking suites** comparing proxy patterns (Transparent vs UUPS) and SafeMath vs Solidity built-ins, optimizing internal templates.
- Collaborated with DeFi protocol teams post-audit: delivered patches, gas optimizations, and mitigations against flash loan exploits + reentrancy vectors.
- Helped design security modules for **multi-sig wallet governance**, ensuring safe protocol parameter upgrades (interest rates, fee multipliers).

Solidity Engineer 08/2021 – 08/2023

0x Labs

- **Engineered core decentralized exchange smart contracts**, including token swap routers, multi-hop path finders, staking reward modules, and liquidity pool factories, powering millions in daily trading volume.
- Implemented **order settlement contracts** supporting off-chain signed orders with **EIP-712 typed structured data signatures**, enabling gas-efficient, trustless order execution.
- Developed **router contracts** to support complex multi-hop swaps across Uniswap v2/v3 liquidity pools, Curve pools, and 0x's native liquidity sources; optimized for calldata compression and gas usage.
- Designed **staking and liquidity mining reward contracts** with variable emission rates, time-weighted lockups, penalty mechanics, and claimable rewards across multiple ERC-20 assets.
- Led development of **upgradeable exchange modules** (EIP-1967 Transparent Proxy) enabling seamless protocol upgrades while preserving state consistency.
- Applied **gas optimization techniques** (inline Yul assembly for hashing, calldata packing, unchecked arithmetic, optimized storage layout) achieving up to **30% reduction in execution costs**.
- Built **event indexing systems** for liquidity/volume/trading activity, exposed through The Graph subgraphs and consumed by analytics dashboards.
- Developed **comprehensive test suite** with Hardhat + Foundry, covering >90% branch coverage across unit, integration, forked-mainnet simulations, and fuzz/invariant tests for slippage bounds and liquidity ratios.
- Collaborated with internal security team + external auditors to remediate **critical vulnerabilities** (e.g., signature replay, frontrunning vectors, slippage miscalculations, access control bypasses).
- Mentored junior Solidity developers on **best practices in reentrancy prevention, SafeERC20 usage, role-based access control, and modular contract design**.

Smart Contract Integrations Developer 05/2021 – 08/2021

API3

- Developed and deployed **Airnode-enabled Solidity adapters** for integrating off-chain APIs directly into on-chain smart contracts, enabling verifiable and trust-minimized data feeds.
- Implemented **secure oracle consumer contracts** for lending/borrowing protocols, insurance primitives, and synthetic asset platforms, validating API responses with failover and circuit-breaker logic.
- Built **multi-sig governed upgrade flows** for oracle contracts, ensuring transparent, secure parameter updates for API providers.
- Performed **integration testing** across Ethereum mainnet + Polygon testnets, simulating oracle downtime, API latency spikes, and fallback behaviors.
- Designed **gas-optimized aggregation functions** to combine multiple off-chain data sources, minimizing redundancy while protecting against oracle manipulation attacks.
- Collaborated with DevOps team to integrate oracle deployments into **CI/CD pipelines**, with automated contract verification (Etherscan), linting, and Hardhat + Foundry test suites.
- Delivered internal dashboards (React + Node.js) to monitor oracle uptime, gas costs, API latency, and fallback activations in real-time.
- Documented best practices for **oracle security, slippage handling, and data source redundancy**, providing guidelines for downstream DeFi integrators.

Software Engineer 09/2018 – 05/2020

Indiana University–Purdue University Indianapolis

- Contributed to the **development of campus-wide data analytics systems**, building backend APIs (Node.js/Express + PostgreSQL) for course enrollment, student services, and faculty resource allocation.

- Designed and implemented **role-based access control** mechanisms for web applications, ensuring compliance with FERPA and university security standards.
- Integrated **secure file handling and reporting systems**, enabling faculty and staff to generate analytics reports from millions of historical student records.
- Built **React.js frontends** for administrative dashboards: data visualizations, filtering pipelines, and secure authentication workflows (OAuth2 + SAML).
- Introduced **unit and integration testing** with Jest and Mocha, improving code quality and reducing production bugs by ~25%.
- Collaborated with infrastructure team to migrate legacy services into **containerized environments (Docker + Kubernetes)**, with CI/CD pipelines (GitHub Actions) for automated deployments.
- Assisted in designing **ETL pipelines** that processed large academic datasets, optimizing query performance and storage with PostgreSQL indexing and caching strategies.
- Mentored undergraduate assistants on **Git workflows, API design, and full-stack development best practices**, contributing to faster iteration cycles across multiple projects.

Skills

Smart Contract Development ● ● ● ● ●
Solidity ⩾0.8.x, Hardhat, Foundry, Brownie, Truffle, OpenZeppelin Contracts, ERC-20, ERC-721, ERC-1155, ERC-4626, Governor, upgradeable proxies (Transparent/UUPS/Beacon), modular contract factories, gas profiling, inline assembly (Yul)

Security & Audits ● ● ● ● ●
Formal verification (Certora, Echidna, Manticore), invariant testing, symbolic execution, reentrancy guards, access control layers, fuzzing (Foundry + Echidna), static analyzers (Slither, Mythril, MythX), audit remediations

DevOps & Infrastructure ● ● ● ● ○
CI/CD (GitHub Actions, Jenkins), containerization (Docker, K8s), deployment automation (Hardhat scripts, Foundry scripts, Terraform for infra), logging/monitoring (Prometheus, Grafana), gas usage dashboards

AI in Blockchain ● ● ● ● ○
AI-assisted audits (CodeQL + AI reasoning), anomaly detection on on-chain events, AI-powered devtool integrations (linting + refactoring suggestions), gas optimization advisors

DeFi Protocol Engineering ● ● ● ● ●
Uniswap v2/v3 integrations (swaps, pools, routers), Aave lending/borrowing adapters, Compound cToken integrations, liquidity incentives, staking, yield farming vaults, AMM & orderbook hybrids

Web3 Full-stack Development ● ● ● ● ○
React, Next.js, TypeScript, ethers.js, viem, wagmi, WalletConnect, MetaMask SDK, GraphQL (The Graph subgraphs), REST/GraphQL APIs, serverless middlewares (Node.js, NestJS)

Other Chains & Interoperability ● ● ● ○ ○
Rust (Solana Programs, CosmWasm), Substrate (ink!), Cosmos IBC primitives, cross-chain bridges (LayerZero, Wormhole, Axelar)

Education

Bachelor of Science (BS), Computer Science 08/2015 – 05/2020
Purdue University