



Kevin Karsopawiro

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Profile

Principal-level engineer with 12+ years of experience building secure, high-performance backend, trading, blockchain, AI, and graphics systems. Specialized in low-latency trading, custom protocols, distributed systems, DeFi, LLM tooling, and graphics programming. Skilled across Rust, TypeScript, and Python with deep understanding of smart contracts, cryptography, low-level networking (UDP, TCP, QUIC, FIX), AI runtime components (inference, agents, data pipelines), and GPU-driven graphics. Proven ability to deliver complex systems end-to-end and lead architecture across frontend, backend, ops, and product teams.

Experience

Senior Rust Engineer / IC (full-time)	<u>Synonym</u>	July 2025 - Present
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Building censorship-resistant infrastructure in Rust and WebAssembly. Developing cryptographic identity systems with threshold signing, Mainline DHT-based record publishing via PKARR, and low-level network programming. Focused on networking, decentralized storage and interoperability.

Stack: Rust, WebAssembly, TypeScript, PostgreSQL, GCP

AI Infrastructure Engineer (freelance)	Independent	July 2025 - Present
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Built a Rust-based LLM inference server with batching, streaming, KV cache, quantization, and GPU/CPU fallback. Developed an agent runtime with tool calling, planning, memory, and sandboxed execution. Created a data pipeline for ingestion, cleaning, embeddings, vector search, and automated evals.

Stack: Rust, React, TypeScript, PostgreSQL, AWS

Director of Engineering (full-time)	<u>Satoshi</u>	July 2024 - July 2025
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Lead Engineer (part-time)		August 2023 - July 2024
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Led engineering for a Bitcoin super app integrating wallet, Lightning, and lending. Scaled backend and mobile stack from 0 to 20k users. Built low-level Bitcoin & Lightning features (UTXO construction, SegWit/Taproot, channels, BOLT11/12), and a lending system. Managed AWS infra, pipelines, technical partnerships, hiring and mentorship.

Stack: React Native, Node.js, TypeScript, Swift, Kotlin, PostgreSQL, AWS

Director of Engineering (part-time)	<u>Rigly</u>	June 2023 - July 2024
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Lead Engineer (full-time)		March 2023 - June 2023
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Built Bitcoin hashrate auction platform with real-time bidding system. Developed custom Stratum protocol proxy combining multiple miner streams into single outgoing pool connections. Led technical strategy for marketplace mechanics and pricing algorithms. Mentored a small engineering team.

Stack: React, Next.js, Python, Django, PostgreSQL, AWS

Lead Engineer (contracting)	<u>Chaincode Labs</u>	January 2023 - October 2023
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Contributed to open-source Bitcoin education platform development. Built a custom trusted execution environment similar to Replit for interactive Bitcoin programming tutorials. Responsible for AWS infrastructure and system architecture. Mentored small engineering team.

Stack: React, Next.js, Node.js, PostgreSQL, AWS

**Senior Software Engineer (full-time)****Injective Labs****May 2022 - January 2023**

Built Helix, a web3 decentralized exchange with support for spot and derivatives trading. Implemented an on-chain order book using Cosmos network. Developed multiple open-source libraries for the Injective ecosystem. Integrated various web3 components like WalletConnect, Metamask, etc.

Stack: Vue, Nuxt.js, Go, PostgreSQL, GCP, Cosmos, CosmWasm

Senior Software Engineer (full-time)**Thalex****September 2021 – May 2022**

Built prototype high-frequency cryptocurrency derivatives exchange with nanosecond latency requirements. Implemented real-time market data visualization and order entry systems. Collaborated on Rust-based matching engine integration. Developed a reusable frontend component library. Built a custodial asset management system with support for Bitcoin and Ethereum.

Stack: Vue, Rust, PostgreSQL, AWS, Bitcoin, Ethereum

Software Engineer II (full-time)**Newfold Digital****January 2018 – August 2021**

Built white-label website and email creation tools serving millions of users worldwide. Contributed to Creative Email WordPress plugin with 800,000+ active installations. Developed core UI libraries used across multiple product teams. Created development tools that improved team efficiency.

Stack: React, C#, MySQL, Azure

Founder / Full-stack Engineer (contracting)**Tegra Development****January 2012 – January 2018**

Founded software development consultancy, handling everything from client acquisition to deployment and maintenance. Built real-time applications with WebSocket/WebRTC communication. Designed and implemented both relational and NoSQL database architectures. Identified workflow inefficiencies and delivered custom solutions for SMB clients.

Stack: HTML, CSS, JavaScript, WordPress, Node.js, MySQL, PostgreSQL, AWS

Technologies used

Languages/Runtimes - Rust, Go, C++, C#, Python, PHP, JavaScript, TypeScript, SQL, Kotlin, Swift, Node.js, Bun

Frontend - React, React Native, Vue, Next.js, Nuxt.js, Tailwind CSS, HTML5, CSS3

Backend - Axum, Actix, Gin, Chi, Express, NestJS, Django, Laravel

AI & ML Infrastructure - LLM inference (Rust), tokenizers, embeddings, vector search, RAG pipelines, agent systems

Transport Protocols, APIs, Query Layers - TCP, UDP, QUIC, FIX, WebSockets, WebRTC, gRPC, GraphQL, REST, OpenAPI

APIs & Data Interchange - gRPC, protobuf, GraphQL, REST, OpenAPI

Data & Storage - PostgreSQL, MySQL, SQLite, MongoDB, Redis, Neo4J

Blockchain & Web3 - Bitcoin, Bitcoin Script, Ethereum, Solidity, Hardhat, MetaMask, Cosmos, CosmWasm, Web3.js, Ethers.js

Distributed Systems & P2P - Mainline DHT, IPFS, libp2p, Nostr, Pubky

Rendering & Graphics - HTML Canvas, WebGL, WebGPU, WGSL, DirectX, OpenGL, Vulkan

Cloud & DevOps - AWS, GCP, Azure, Hetzner, Cloudflare, Docker, Kubernetes, Nginx, CI/CD, Terraform, GitHub Actions, GitLab CI

Build, Testing & Tooling - Cargo, Webpack, Vite, Gulp, Jest, Cypress, Puppeteer, Postman, Hardhat, Polar

Desktop & Native - Electron, Tauri, Dioxus, React Native, Ionic, Cordova

Education

Bachelor of Science (Comp Sci)

Application Development

NHL Stenden University

ROC Friesland

Netherlands

Netherlands

Sept 2017 – Jan 2018

Aug 2015 – Jul 2017

Languages

English – Professional proficiency

Dutch – Native



Interests

Peer-to-peer networks | Applied cryptography | Distributed identity & payments | Smart contracts | Web3 infrastructure | Zero-knowledge protocols | Threshold and multisignature schemes | Distributed reputation systems | Payments | AI infrastructure | LLM systems | Agent runtimes