

Ronald Sarmiento

Senior Full Stack Engineer — Blockchain & Web3

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SUMMARY

Senior Full Stack Engineer with 8+ years of experience building software end to end — from requirements and architecture to development, testing and production. Spent almost six years building cross-chain infrastructure between Bitcoin and Rootstock (EVM): native bridges, swap aggregation and trust-minimized protocols. Experienced in layered and event-driven architectures, Bitcoin standards (PSBT, BIP-32/44), hardware and MPC custody wallets, and secure development practices (OpenSSF, SonarCloud, coordinated vulnerability disclosure). Works with TypeScript, Vue, React/Next.js and Node.js, and uses AI-assisted development daily.

EXPERIENCE

Senior Full Stack Developer — Rootstock Labs (formerly IOV Labs)

Sep 2022 – Sep 2026 | Remote

Cross-chain infrastructure between Bitcoin and Rootstock (EVM-compatible sidechain): a native two-way bridge, a multi-provider swap aggregator and a trust-minimized bridge built on BitVMX. Owned research and platform architecture tasks in a 6-person Scrum squad.

- Designed and built layered REST APIs in Node.js (LoopBack, NestJS) and event-driven services with message queues (AWS SQS).
- Built block-processing pipelines that index Bitcoin (Blockbook) and Rootstock to track cross-chain transaction state in MongoDB.
- Built modular frontends (Vue 3, React/Next.js) with adapter-based wallet services, so new wallets and providers plug in without changing core flows; contributed to reusable TypeScript SDKs for transaction building, swaps and wallet providers.
- Implemented Bitcoin transaction flows with PSBT (BIP-174), UTXO selection, fee estimation and HD key derivation (BIP-32/44).
- Integrated hardware wallets (Ledger, Trezor), WalletConnect/Reown and MPC institutional custody (Fireblocks, Fordefi); EVM integration through the EIP-1193 standard and ethers.js, including Rootstock's precompiled bridge contract.
- Implemented fast transfers through liquidity providers and HTLC atomic swaps, including fund recovery flows.
- Remediated reported vulnerabilities through coordinated disclosure (GitHub Security Advisories) and maintained CI pipelines under OpenSSF Scorecard and Best Practices, SonarCloud quality gates and CodeQL code scanning.
- Promoted code review and automated testing (Jest, Vitest, Mocha), onboarded and mentored new team members, and worked daily with AI-assisted development (Claude Code, custom skills, lightweight agents).

Development Engineer — TRU Group

Feb 2020 – Jul 2022 | Bogotá, Colombia

- Assigned to IOV Labs (Rootstock) as a core developer of its native Bitcoin ↔ Rootstock bridge web app, from the first commit (Dec 2020) to the mainnet launch (Jan 2022): Bitcoin peg-in transactions signed with Ledger, Trezor and Liquidity wallets, and real-time confirmation tracking.
- Developed blockchain products for decentralized finance (a DeFi protocol on Rootstock), proof of humanity and document verification.

Junior Developer — ViveLab Bogotá

Aug 2019 – Nov 2019 | Bogotá, Colombia

- Developed, through Universidad Nacional de Colombia, a blockchain pilot to track every step of the procurement process of the Colombian public-school meal program (PAE), supporting the preventive work of the Attorney General's Office (Procuraduría General de la Nación).

Computer Analyst — Indudata

Nov 2017 – Aug 2019 | Bogotá, Colombia

- Specified requirements for enterprise software projects.
- Built data models and architectural representations in Enterprise Architect, maintaining architecture documentation and traceability between models.

SKILLS

- **Languages:** TypeScript, JavaScript, Python, Solidity
- **Frontend:** Vue 3, Vuetify, React, Next.js
- **Backend:** Node.js, NestJS, LoopBack, Express, REST APIs, Prisma
- **Architecture:** Layered and event-driven architectures, message queues, block-processing pipelines, adapter-based modular frontends, SDK design
- **Data & Infra:** MongoDB, PostgreSQL, Docker, AWS (SQS, Secrets Manager), GitHub Actions, Sentry, Prometheus
- **Bitcoin & Web3:** PSBT (BIP-174), HD wallets (BIP-32/44), UTXO, bitcoinjs-lib, Blockbook, HTLC atomic swaps, BitVMX, EVM (EIP-1193, ethers.js, web3.js, Hardhat), Ledger, Trezor, MPC custody (Fireblocks, Fordefi), WalletConnect/Reown
- **Security & Quality:** OpenSSF Scorecard and Best Practices, SonarCloud, CodeQL, coordinated vulnerability disclosure, Jest, Vitest, Mocha/Chai, Cypress, Playwright
- **AI tooling:** Claude Code, custom skills, agent orchestration
- **Practices:** Software architecture, technical research, requirements engineering, code review, Scrum

EDUCATION

B.S. Systems and Computing Engineering — Universidad Nacional de Colombia

2021

Smart Contracts on Blockchain (Practical Course) — Universidad Nacional de Colombia

2019

LANGUAGES

- **Spanish:** Native
- **English:** Professional working proficiency (B2+)