

# Stephen Sagarino Jr.

Software Engineer · Tech Lead · Backend & Distributed Systems

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## SUMMARY

Software Engineer and Tech Lead with **3+ years** across backend, distributed, full-stack, mobile, and embedded systems. Architected a **Rust BFT blockchain from scratch**, mentor a team of engineers, and contribute to open source (merged PRs in **Orval** and **Zoomable**). Strongest in TypeScript, Scala, Rust, and PostgreSQL on Docker, Linux, and AWS.

## EXPERIENCE

### SKLoud | Software Engineer / Tech Lead

Oct 2025 – Present

**Tech:** Rust, TypeScript, Nuxt.js, Laravel, PostgreSQL, Docker, AWS

- Architected and built a **custom Rust blockchain from scratch** for transparent financial transactions, public records, and document verification, writing **17,000+ lines of Rust**.
- Designed a **Byzantine Fault Tolerant (BFT) consensus** layer inspired by Tendermint/CometBFT, covering validator communication, transaction validation, and network sync; validated it on a **20-validator** internal network.
- Built tamper-resistant audit trails by anchoring document hashes and metadata on-chain for government-related records.
- Lead technical direction for the SKLoud App within a **15-member** engineering org; directly mentor **3 engineers** through code reviews, task assignment, and sprint planning.
- Established engineering workflows and architecture standards, and introduced AI-assisted workflows to cut repetitive work.

### Lanex Corporation | Firmware Engineer

May 2026 – Sep 2026

**Tech:** C, C++, Python, Bash, Linux

- Wrote a Python automation script that cut string-generation time from **15 minutes to 2 seconds**.
- Built Bash tooling to deploy binaries from the build server to a Linux simulator, cutting a **5-minute** task to **~5 seconds**.
- Supported debugging, testing, and integration workflows for printer firmware development.

### Vauldex Technologies | Software Engineer / iOS Developer

Jul 2024 – Jan 2026

**Tech:** Scala 3, Play Framework, Apache Pekko, Swift, SwiftUI, TypeScript, Vue.js / Nuxt.js, PostgreSQL

- Designed a real-time **WebSocket architecture** in Play Framework (Scala) with Apache Pekko Actors and Command-Event.
- Architected a new Play Framework service with a focus on scalability, clean structure, and multi-developer workflows.
- Strengthened type safety with **Scala 3 opaque types** and **TypeScript branded types** to enforce domain rules at compile time.
- Optimized an infinite-scroll iOS view, cutting memory usage **75% (400 MB to 100 MB)** and smoothing scroll performance.

### Megaland Realty | Backend Developer

May 2023 – Dec 2023

- Designed and built the company website's backend from scratch with Node.js and Express, serving a Vue.js frontend.

## OPEN SOURCE

- Orval** (OpenAPI-to-TypeScript generator, **6.4k stars**): merged a feature making its TypeDoc dependencies optional. [PR #4146](#)
- Zoomable** (Swift, **180+ stars**): merged macOS 14+ support into a library that previously supported only iOS. [PR #8](#)
- tttui** (author, **120+ stars**): terminal typing test, migrated from Python to Rust; listed in *awesome-tuis* (20k+ stars). [Repo](#)
- InfiniteScrollView** (SwiftUI): merged a refactor adding `@ViewBuilder` support to the content initializer. [PR #1](#)
- SwiftNetworkKit** (author): Swift networking library for HTTP requests and WebSocket communication. [Repo](#)

## PROJECTS & HACKATHONS

- DAPPropTech: Grand Finalist, PropTech Sinulog Hackathon** (Jan 2026): built mobile and full-stack components for an app combining passport NFC verification, AI contract analysis, and blockchain-backed document signing.
- Check Me** (Nov 2024 – Jun 2025): real-time collaborative checklists with **CRDT** sync, built on Play Framework and Nuxt.js.
- 1st Place, Pre-ICT Congress 2024**: engineered the backend of a youth barangay scoring system.

## SKILLS

**Languages:** TypeScript, JavaScript, Rust, Scala, Swift, Python, C, C++, PHP, Java, Kotlin, Bash

**Frameworks:** Node.js, Express, Play Framework, Apache Pekko, Laravel, Vue.js, Nuxt.js, React, SwiftUI

**Data & Infra:** PostgreSQL, MySQL, SQLite, Docker, Linux, AWS, GitHub Actions

**Concepts:** Backend Architecture, Distributed Systems, BFT Consensus, WebSockets, CRDTs, Testing & Debugging

## EDUCATION

**B.S. Computer Science** | University of Cebu – Main, Cebu

2020 – 2024