

SAM BAI

PRODUCT ENGINEER

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PROFILE

Product engineer shipping production SaaS, AI tooling and systems software across TypeScript and Python.

EXPERIENCE

Founder & Product Engineer | Solynt Labs Limited 2026 - Present

Founded and run a New Zealand software studio; lead product discovery, architecture, implementation, deployment and client support.

TREKKY | Job-search product May 2026 - Present

- Built and operate a live Next.js/TypeScript product for job discovery, application tracking, contacts, AI preparation, outcome analytics and review-first automation.
- Added account-scoped MCP access, a Chrome MV3 capture extension and multi-source ingestion across NZ, Australia, the US and Singapore with duplicate detection and source history.
- Reduced initial dashboard JavaScript by 32% - from 341 KB to 233 KB gzip - through route-level code splitting and lazy loading.

SELECTED PROJECTS

ROOKHOLD | Open-source bounded code execution Aug 2026 - Present

- Released v0.8.0 of an MIT-licensed bounded job runner for short-lived Python, Node and Bash execution with server-controlled time, memory, process, file and output limits.
- Shipped a unified CLI, Python and TypeScript SDKs, MCP adapter and offline receipt verifier, plus multi-platform binaries and a guarded Linux profile using gVisor and cgroup v2.

BAIOS WORKBENCH | Open-source browser interface Dec 2025 - Present

- Built and deployed sambai.dev as a 16-app, three-workspace Next.js Workbench with multi-instance windows, searchable local archives, atomic browser state, cross-tab conflict handling and schema-validated backup/import.

OPEN SOURCE CONTRIBUTIONS

UPSTREAM OPEN SOURCE | 9 accepted changes across 5 public projects Aug 2026

- Betaflight Configurator (3 PRs): shipped WebCodecs MP4/WebM export for Blackbox logs, added validated backward-compatible workspace-layout exports, and fixed an asynchronous Vitest teardown race.
- EdgarTools (2 PRs): recovered pre-2013 SEC 13F CUSIPs lost to column drift - improving one filing from 5/217 to 215/217 rows - and stopped 497K prose footnotes becoming phantom fee records.
- HFlow & Omarchy Mac (2 PRs): added a conservative network-exposure warning for non-loopback IPv4/IPv6 binds and corrected macOS brightness-key labels in a keyboard-shortcut menu.
- Hermes Agent (2 changes): fixed native-Windows Bot Mode delivery by closing unused subprocess stdin and surfaced persistent Group Chat holds after reload; the maintainer merged both commits with authorship preserved.

TECHNICAL SKILLS

Languages & frameworks: TypeScript, JavaScript, Python, SQL, React, Next.js, Vue, Node.js, Vite, Hono, Tauri, Tailwind CSS, TanStack Query, Router, Table and Virtual

Data & systems: PostgreSQL (Neon), MongoDB Atlas, Redis, Drizzle ORM, IndexedDB/Dexie, WebCodecs, MCP, gVisor, cgroup v2, role/capability authorisation, vector/lexical retrieval

Cloud & testing: Cloudflare Workers, R2, Hyperdrive, Vercel, GitHub Actions, Vitest, Pytest, Playwright

EDUCATION

Bachelor of Applied Information Technology (Software Engineering) | Wintec 2024