SEAN BEHAN

Senior Full-Stack Developer · TypeScript & Rust

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Senior full-stack and systems developer, open to full-time work — remote, or hybrid in the Greater Toronto Area. I ship serverless bots and web apps on Cloudflare Workers, write Rust for Wayland compositors, and keep my machines reproducible with Nix. Professional software and IT experience since 2018; open-source work since 2021.

EXPERIENCE

Independent Developer · Open Source — **2021 – Present**

- Built and run a paid live-streaming service: OBS WHIP ingest, browser WHEP playback and RTMPS relay to five providers
- Runs it on Cloudflare Workers, Durable Objects, D1 and LiveKit, with prepaid Stripe credit and per-customer reconciliation across 18k lines of tested TypeScript
- Wrote @codebam/cf-workers-telegram-bot, a TypeScript bot framework for Cloudflare Workers (214 forks, 120 npm releases), then moved my own bots off it onto grammY
- Write Rust for Linux userspace across eight public repositories, including a Wayland compositor whose desktop shell is a web page; 273 public repositories overall, on NixOS daily

Frontend Web Developer · AssetDash — **Apr. 2021 – Oct. 2021**

- Rebuilt the company site on Next.js, TypeScript and React with a Firebase backend, cutting bounce rate 15% and raising user engagement 20%

Assistant Automation Coordinator · Elections Canada — **Oct. 2019**

- Kept polling-station computer systems online through the 2019 federal election alongside a team of 10+

Development Intern · AVROD — **Sept. 2019 – Apr. 2020**

- Built a web store with Django and MySQL, as a course placement at the company

IT Student Advisor · Trent University Information Technology — **May 2018 – Apr. 2020**

- Diagnosed and repaired student and faculty machines at the library front desk across Windows and macOS

SELECTED WORK

Live Streaming Control Plane — **stream.seanbehan.ca**

- Cloudflare-native control plane for multistreaming, with a Durable Object per provider relay owning that relay's lifecycle
- Two channels of prepaid credit — destination-hours and browser viewer-hours — allocated FIFO in D1 and reconciled per customer as usage accrues, with durable refund handling
- Publisher epochs, relay generations and resource-bound capabilities fence every path, so a stale relay can never attach to a replacement broadcast

Tux Robot · Telegram Bot on Cloudflare Workers — **github.com/codebam/tux-robot**

- AI chat bot built on grammY in TypeScript on a single Cloudflare Worker, with a Svelte 5 web app, Cloudflare AI, Tavily search and document retrieval; live at t.me/TuxRobot

Viewport · Wayland Compositor — **github.com/codebam/viewport**

- Compositor in Rust on Smithay where the whole shell — wallpaper, dock, window frames and titlebars — is a web page, behind five interchangeable engine backends: WPE, WebKitGTK, Chromium, CEF and Servo, with the same shell page under each

- Zero-copy path from engine to screen: DMA-BUF frames, drm_syncobj fences and real vblank pacing, so no pixel is copied through the CPU
- Tiling is a tree of CSS flexboxes, so the browser computes every window rectangle and the shell only measures the result; packaged in a Nix flake that builds WPE WebKit from source

Pastebin-R2 · Serverless Snippet Service — github.com/codebam/pastebin-r2

- Pastebin on Cloudflare Workers in TypeScript with Hono, storing objects in R2 behind a small REST API — create, update, list, info, delete — with syntax-highlighted and plain-text views
- Pastes carry a TTL in R2 custom metadata, enforced on every read and swept by an hourly cron trigger; web UI, Nix flake for dev and build, live at paste.codebam.ca

SKILLS

LANGUAGES

Expert: TypeScript & JavaScript · Rust · Python · Nix · Shell

Proficient: C · Lua · SQL · Java · HTML & CSS

PLATFORMS AND FRAMEWORKS

Web: React & Next.js · Svelte 5 & Astro · Hono · Web Extension API · WHIP, WHEP & RTMPS

Systems: Wayland & Smithay · Linux (12 years) · Nix & NixOS · Docker & Podman

Cloud: Cloudflare Workers & Pages · Durable Objects & D1 · R2 & KV storage · LiveKit · Stripe billing

EDUCATION

Trent University — Peterborough, ON | 2016 – 2023

- Coursework toward an Honours B.Sc. in Computer Science

AWARDS AND CERTIFICATES

- Overleaf Most Interesting Talk, Trent Mathematics and Statistics Conference 2019
- Project Management Award, Electric City Hacks Hackathon 2016
- Ontario Worker Health and Safety Awareness Certificate
- AWS Educate Application Developer Certification

EXTRA CURRICULAR

Sysadmin and Moderator · mstdn.ca — Jan. 2024 – Present

- Run a Mastodon instance: upgrades, federation troubleshooting and moderation across the Fediverse

President · Trent Computer Science Society — Sept. 2019 – May 2020

- Led the society's speaker series and socials for the CS cohort

Founder and President · Trent Innovate — Nov. 2018 – Nov. 2019

- Founded a campus innovation group and ran its executive team

Director · Electric City Hacks — Nov. 2016 – Nov. 2019

- Went from participant to volunteer to organizer to director of the hackathon over four years

INTERESTS

Serverless and edge runtimes · Compositors and windowing · Declarative builds with Nix · Linux kernel development · Applied AI