Brian Sakal

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Main Skills/Technologies

Javascript/Typescript ·React ·Next.js
·Node.js ·Express.js ·Docker ·MySQL
·Clickhouse ·DevOps ·Kubernetes
·Linux ·Cloudflare ·Vercel ·S3

Have Used

PostgreSQL ·Elasticsearch ·Redis
·RethinkDB ·Helm ·nginx ·React
Native ·Swagger

Employment *(Most recent)*

Lead Developer (Full-Stack),TorahAnytime.com, Flushing, NY   *June 2022-Present*
- General full-stack work (frontend implementation in Next.js, adding endpoints to api, running database migrations in MySQL, updating Clickhouse with those schema changes, etc.)
- Architected and implemented an in-house transcoding/content-delivery system based on Temporal, Cloudflare, and Backblaze B2 to replace Vimeo; saving $70k/year.
- Setup generic events analytics system in Clickhouse to replace MySQL, Redis, and (eventually) Google Analytics, for faster and more granular analytics over arbitrary events and event payloads; significantly improving query times from minutes to milliseconds
- Legacy code maintenance/incremental refactoring
- Consolidated various async jobs (e.g. notifications, daily/weekly digest, delayed release, etc.) into type-safe Temporal workflows, enhancing developer experience and setting conventions for easy implementation of future workflows
- Designed and deployed a multi-instance tRPC server for type-safe endpoints for the frontend
- Adapted Agile/Scrum to accomodate stakeholder expectations of simultaneous planned and unplanned (i.e. during a Sprint) throughput and turnaround, while keeping longer-term goals predictable.
- Crafted multi-stage Dockerfiles to leverage layer caching in various projects
- Reduced deployment time from 5 minutes to 15 seconds by implementing locally-runnable deploy scripts, besides setting up Github Actions CI/CD pipelines.
- Developed a custom IVR phone system for dynamically browsing our content.
- Deployed and configured various supporting services in Kubernetes such as Grafana, private Docker & NPM registries.
- Implemented OpenTelemetry tracing visualized in Grafana, resulting in 50% decrease in legacy transcoder troubleshooting time.
- Designed various parameterized Grafana dashboards for at-a-glance analysis of user stats.
- Implemented two integrations: MySQL-Clickhouse sync (using Clickhouse primitives), and MySQL-Salesforce sync (on Temporal).
- Transitioned legacy Cloudflare/nginx TLD site to Vercel, while maintaining custom nginx routes on the TLD and hosting the entire legacy site under a subdomain.

Projects/Hobbies

Token-Efficient AI Chat
Vike ·Hono ·React ·Cloudflare Pages ·https://ai.sakal.us ·[Code]
Calendar Optimizer project
Stock options research platform ·Preact ·trpc ·Clickhouse ·https://calendar-optimizer-frontend.sakal.us ·[Code]
This Résumé
Vike ·React ·Cloudflare Pages ·https://resume.sakal.us ·[Code]
Personal coding blog
Astro ·Cloudflare Pages ·https://blog.sakal.us ·[Code]
Self-host email for the sakal.us domain
Vultr-Hosted ·Postfix for SMTP ·Dovecot for IMAP
Self-host a Kubernetes cluster
k3s ·Private Docker image registry ·cert-manager ·Private coding projects
Self-host a Gitea code repository
Deployed within the above Kubernetes cluster. ·https://git.sakal.us

Education

B.S. in Aerospace Engineering,University of Michigan, Ann   *Sept. 2006–April 2009, Sept. 2010,*
Arbor, MI   *April 2011*