

# BRAD BURCH

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## SUMMARY

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Software engineer with 7 years building and shipping production full-stack systems and LLM agents (Claude, MCP, OAuth 2.0 + PKCE), backed by heavy test coverage and automated deploys. Recent work runs on Cloudflare's edge stack (Workers, D1, KV, R2) with TypeScript on Hono and React 19. Owns systems from schema design through ship and on-call.

## SKILLS

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**Languages:** TypeScript, JavaScript, Python, Go, Java, Scala, SQL

**Frameworks & Runtimes:** React 19, React Router 7, Node.js, Hono, Spring, Play, Cloudflare Workers

**Infrastructure:** Cloudflare (Workers, D1, KV, R2), AWS (DynamoDB, SQS), PostgreSQL, MSSQL, SQLite, Docker

**AI / LLM:** Claude (Haiku, Sonnet), Vercel AI SDK, Model Context Protocol (MCP), agentic tool loops, LLM evals, streaming SSE, AI-assisted development (Claude Code, Cursor)

**Auth & Security:** OAuth 2.0, PKCE (RFC 7636), JWT (HS256), SAML 2.0, refresh token rotation, CSRF and XSS hardening

**Testing & Delivery:** Vitest, Playwright, GitHub Actions, CI/CD, Jenkins, structured JSON logging, production monitoring & alerting

## EXPERIENCE

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### Founder & Software Engineer

Sept 2022 - Present

*Brad Paws, San Francisco, CA*

- Architected a production TypeScript monorepo (React Router 7 client portal, Hono API Worker, scheduled sync Worker, shared domain package) across 437 source files and a 19-table D1 schema on Cloudflare Workers, D1, KV, R2, and Workflows with no origin server.
- Built a full OAuth 2.0 authorization-code flow with PKCE (RFC 7636) from scratch for an MCP server: dynamic client registration, S256 verification, single-use codes, refresh token rotation, IP rate limiting, and hashed-token audit logging.
- Shipped a production AI chat agent (Claude Haiku, Vercel AI SDK, 10 tools) with streaming, two-phase confirmation on mutations, per-user rate limits, daily token budgets, and a circuit breaker that bounds API spend without dropping availability.
- Built a multi-source payment pipeline (Notion API, Venmo CSV from R2, Gmail) normalized into idempotent events with per-source cursor commits, and re-architected a fragile calendar backfill into a Cloudflare Workflows fan-out/fan-in with per-window retries and exactly-once finalization.
- Wrote 1,500+ tests across 159 files (server coverage near 100%) with Playwright end-to-end suites, gated by a CI pipeline that runs type generation, typecheck, ESLint, Prettier, and tests on every push.

### Software Engineer

May 2022 - Aug 2022

*Front, San Francisco, CA*

- Shipped a Node.js REST API for account-based email rules that drove a 30% increase in feature adoption across enterprise customers.
- Performed a security upgrade on the core JavaScript email library responsible for 200K+ outbound messages per month.

### Software Engineer

May 2019 - Aug 2021

*Total Brain, San Francisco, CA*

- Designed and shipped a Scala backend integration for Apple, Google, and Facebook authentication, contributing to a 60% lift in new user sign-ups.
- Migrated user data from a legacy MSSQL database to DynamoDB with a redesigned NoSQL schema, cutting average API response times by 50%.
- Built an in-memory caching layer in front of DynamoDB that increased query throughput by 50%; standardized SAML 2.0 and JWT for enterprise SSO.
- Built a Jenkins CI/CD pipeline and bash-based release automation, increasing deploy frequency by 75% and adding structured logs for production observability.

### Software Engineer

July 2017 - August 2018

*Salesforce.com, San Francisco, CA*

- Built automated testing frameworks on a developer-productivity team, including a persistent test-state repository in Java, PostgreSQL, and EclipseLink.
- Built an OAuth2 security filter for microservice API access control with remote identity validation.
- Built a React management UI that internal engineers used to configure, launch, and inspect microservice test runs.
- Served as technical lead on a config builder and validator, coordinating milestones and stakeholders to ship on schedule.

## EDUCATION

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DePauw University, Bachelor of Arts in Computer Science 2017