

Patrick McClain II

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Senior software engineer with 7+ years modernizing production web and cloud systems, most recently the safety-critical pharmacy platform at H-E-B. Creator of SPARC, an evidence-driven software factory where AI agents pin down intent, iterate quickly, and ship proven code.

Experience

H-E-B, Houston, TX (hybrid)

04/22 - present

Senior Software Engineer

RxEVO: H-E-B's in-house pharmacy platform, running intake, clinical safety checks, insurance billing, pickup and delivery for 300+ pharmacies. Modernizing its 20-year-old Java core into Angular and GCP services.

- Building H-E-B's new cloud Central Fill Service to route prescriptions to off-site automated fulfillment centers: stood up its GCP/GKE infrastructure in two days and designed its vendor-neutral API.
- Built Red Flags end to end as its lead developer (Angular, Swing, Spring Boot), a chain-wide alert system for suspicious patients and prescribers that guards H-E-B against drug diversion and DEA compliance risk.
- Core engineer on replacing the Swing desktop client with Angular, embedding new screens panel by panel and rolling each out store by store behind feature flags, so any change could be rolled back.
- Rebuilt the pickup and counseling workflows every H-E-B pharmacist uses at the counter, adding per-vial scan verification to stop wrong-prescription handoffs and Batch Counsel so pharmacists counsel a whole visit at once.
- Strengthened H-E-B's disaster readiness: helped build RxEVO Lite, the backup app pharmacies switch to if the core system goes down, and wired it into on-call monitoring so it's ready when needed.
- Secured patient data crossing from on-prem to the cloud with Vault transit encryption, for the notifier service that sends customers' pickup texts and emails.

Frost Bank, San Antonio

05/19 - 04/22

Software Engineer II (09/21 - 04/22) • Software Engineer I (05/19 - 09/21)

- Led Frost Online's migration from AngularJS to Angular as its main developer; introduced TypeScript and wrote the conversion guide the other engineers followed.
- Merged two critical back-office tools into one Angular and NgRx app in a year-plus, multi-team effort, and developed the web front end for a critical external app integration.

Tata Consultancy Services, San Antonio

01/19 - 05/19

Software Engineer

Projects

SPARC (Personal Project), Houston

06/25 - present

Creator

- Architected a software factory where Claude Code and Codex agents turn a request into approved intent, plan only as far as the next proven step, and merge work only on independent evidence.
- Replaced a hierarchy of LLM coordinator agents with a pure-function kernel and a crash-safe executor over an append-only SQLite event log, so every decision is deterministic and auditable.
- Specified critical behavior in 18 TLA+ models tied to the running code by trace replay; each model had to catch a planted bug before it counted.
- Cut write-lock holds from ~50 s to ~20 ms, busy-pass CPU 40× and memory 10× (1.9 GB to ~170 MB) with optimistic concurrency and incremental views, even as history grew over 2×.
- Created a real-time isometric 3D monitor in three.js and WebGL2 that shows every agent, story and merge as a working factory, with replay to any moment in the event log.

Skills

Languages: TypeScript, JavaScript, Java, Rust, SQL, Python

Front end: Angular, React, three.js and WebGL, HTML, CSS and Sass, design systems

Back end: Node.js, Spring Boot, GraphQL, PostgreSQL, GCP, GKE and Kubernetes, Terraform, Vault, Pub/Sub

Delivery: GitLab CI, feature flags (Unleash), Datadog, PagerDuty, Locust load testing

Agentic engineering: SPARC, Claude Code, Codex, Copilot CLI, multi-agent orchestration, MCP, event sourcing, TLA+

Education

University of Houston, B.S. in Computer Science, GPA 3.7

05/18