

# Evan Purkhiser

Staff Software Engineer

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LANGUAGES / LIBRARIES		TOOLS / SOFTWARE			EDUCATION
TypeScript / React	Python / Django	MacOS / Linux	git	Redis	<b>B.S. Computer Science</b>
NodeJS	Postgres / SQLite	Agentic Coding	Neovim	Nginx	The University of Akron
Golang	PHP	GitHub Actions	Datadog	Docker	2009 – 2013
Rust	Framer Motion	Ansible	Bash	Figma	

## EXPERIENCES

### Sentry Senior Software Engineer

August 2017 – Present

#### Product Development

- Architected and launched Uptime Monitoring product end-to-end from conception to production, designing HTTP request validation with custom headers/body/assertions, real-time status tracking with incident detection and flapping prevention, automated domain ownership verification via RDAP/WHOIS, and comprehensive uptime percentage calculations with timezone-aware downtime tracking.
- Led multi-year evolution of Cron Monitoring system processing 15MM+ check-ins daily, architecting Kafka-based clock-tick consumers for distributed processing, implementing volume anomaly-based incident detection with tick-based decision making, and building check-in timeline visualizations with timezone awareness and quantization.
- Engineered environment-based monitor muting with 4-stage dual-write database migration strategy ensuring zero-downtime deployment, including bidirectional writes, backfills, constraint updates, and deprecated column removal across production database.
- Designed detector-based workflow engine as unified abstraction layer for monitors and alerts, building detector validator framework, lifecycle hooks, query APIs with filtering/pagination, and automatic migration path from legacy monitors to new detector system.

#### Integrations Platform

- Architected organization-level integrations platform enabling rapid development of third-party integrations, building core infrastructure for OAuth flows, provider serialization, feature detection, and permissions management.
- Built Slack integration from ground up with workspace token architecture, message unfurling for issue/incident links, interactive actions (assign/resolve/ignore/archive), DM support, and user identity linking, growing to 20k+ organizations.
- Implemented GitHub Enterprise and GitHub Apps integrations with commit linking, code mapping for stack trace source linking, repository management, automatic token refresh, and issue creation workflows.
- Developed JIRA/JIRA Server and Bitbucket integrations with issue creation/linking, external form error mapping, field validation, and consistent installation flows across integration types.

#### Frontend Infrastructure & Migrations

- Led company-wide React Router 3→6 migration across 750+ files and 100+ route definitions, developing backward-compatible SentryRouteObject abstractions, compatibility shims, and feature flag rollout strategy enabling zero-downtime production deployment.
- Spearheaded testing modernization initiative migrating 200+ test files from Enzyme to React Testing Library, establishing new testing patterns focused on user behavior over implementation details and improving test reliability across engineering organization.
- Drove TypeScript adoption converting 300+ JavaScript files to TypeScript across critical modules (forms, UI components, settings, authentication), establishing type safety best practices and migration patterns organization-wide.
- Refactored legacy codebase converting 100+ class components to functional components with hooks, removing deprecated form systems and unsafe React lifecycle methods, standardizing component patterns across application.
- Modernized build infrastructure upgrading Node.js 16→18 LTS, webpack 5, Babel 8, TypeScript 4.x, implementing code splitting and lazy loading for improved initial page load performance.
- Led Python 2→3 migration fixing 100+ compatibility issues across integrations, plugins, and tests, correcting byte/string encoding, pickle serialization, and HTTP client usage for cross-version compatibility.

#### Search & Discovery

- Implemented parsing expression grammar via peg.js producing fully-typed AST for incremental parsing of Sentry's custom event search

- Architected global command palette (cmd+k) for navigation and actions, building multi-source fuzzy search across routes, commands, API docs, help articles, and organizations with result ranking and caching.
- Migrated saved searches from project-level to organization-level with visibility controls via 4-stage database migration (add columns, backfill, migrate constraints, remove deprecated columns), widening permissions for member access.

## Auth & Security

- Rebuilt entire WebAuthn/Passkey authentication system replacing legacy U2F, implementing passkey enrollment and biometric authentication flows, focus-aware triggers, and upgrading backend to cbor2 protocol support.
- Built comprehensive 2FA enforcement system with requirement checks before organization invites, authenticator management UI, sudo modal with WebAuthn support, and recovery code generation.
- Implemented SAML2 integration with metadata endpoints, form handling, CSRF exemptions, and error display for SSO provider integration.

## Database & Performance

- Optimized database performance eliminating N+1 queries in monitor serializers through select\_related optimizations and refactoring computed properties to reduce database load.
- Implemented Redis-based volume history tracking for incident detection with clock-tick decision recording, 15-minute windows, pipeline-based operations, and TTL-based state management.
- Executed multi-stage schema migrations for critical tables ensuring zero-downtime deployments through bidirectional dual-write patterns, backfills, and careful constraint management.

## Developer Experience & Tooling

- Implemented node-canvas backend chart rendering service for email and Slack notifications, enabling shared rendering implementations between backend services and frontend chart components.
- Improved CI infrastructure with multi-stage GitHub Actions implementing docker test image caching between unchanged dependencies, reducing build times by 40%.
- Built comprehensive form system with 50+ field components including validation, error handling, state management, disabled state propagation, and pretty value formatting.
- Enhanced accessibility standards adding comprehensive ARIA labels, semantic HTML elements (nav/header/main), improved keyboard navigation, and proper modal/dialog markup across settings and navigation.

## Organizational Impact

- Led Frontend Technical Steering Committee accomplishing complete migration to TypeScript, organization-wide code quality initiatives, React Router modernization, and testing infrastructure improvements across 7+ product teams.
- Mentored engineers across teams on SDLC best practices, modern React patterns, TypeScript adoption, testing strategies, and frontend architecture decisions.
- Established engineering standards and best practices through 7,400+ commits over 8 years, with peak productivity of 900+ commits annually, demonstrating sustained technical leadership and execution.

## Crunchyroll / VRV Senior Software Engineer

August 2014 – August 2017

- Designed and developed high-performance APIs using golang to serve video content metadata.
- Full-stack implementation of a "content partner" portal for video content management. Developed using React + Redux. Collaborated with designers to produce a polished, branded UI with an emphasis on usability.
- Promoted quality coding standards, git best practices, review best practices, automated style lint tooling, and improved developer environment tooling throughout the organization for a high quality developer experience.

## Acadaware Lead Web Applications Developer

March 2011 – July 2014

Developed a web application for managing Experiential Education programs. Responsibilities included all stages of development, from initial requirement gathering to deployment and configuration of a production server environment via Chef.

## PERSONAL HIGHLIGHTS

### Prolink Tools

<https://prolink.tools>

 prolink-tools

 prolink-connect

 rekordbox-parser

Proprietary low-level UDP/TCP protocol reversal and implementation as a TypeScript Library. Electron app implemented with mobx IPC and React websocket based OBS overlay. Allows DJs to live-stream real-time track titles with configurable animated transitions.

