Ashu Ghildiyal

Senior Software Engineer · Go & Distributed Systems · React & TypeScript · Observability

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Summary

Full-stack engineer with 6 years shipping features end-to-end — **React/TypeScript** on the client, **Go** and **PostgreSQL** on the server. Currently a **Senior Software Engineer at SigNoz**, working on the **alerting** platform of an open-source, OpenTelemetry-native observability product. Previously a core maintainer of **Headlamp** (7k+ GitHub stars), the Kubernetes project's official recommended dashboard, where I owned the frontend platform and worked in the Go backend: OIDC/OAuth2 authentication for enterprise SSO, API and service layers, and the LangChain service behind its AI assistant. Earlier rebuilt the data layer of a production update service used by Akamai, Azure, and Google Cloud. Comfortable owning a feature from database schema and API contract through to the rendered component.

Experience

Senior Software Engineer **Oct 2026 – Present**
SigNoz (Open-Source Observability Platform) *Remote — India*

- Working on **alerting** for **SigNoz**, an open-source, **OpenTelemetry**-native observability platform unifying metrics, traces, and logs — across the **Go** backend and **React/TypeScript** frontend.
- Building and improving **alert rule creation and evaluation** for metrics, logs, and traces — threshold and query-based conditions, evaluation windows, and alert state handling (firing, resolved, muted).
- Working on **notification delivery** and routing to channels such as **Slack, PagerDuty, email, and webhooks**, focused on reliable, low-noise alerts that on-call engineers can act on quickly.

Software Engineer II — Full Stack **Jun 2021 – Sep 2026**
Microsoft (Azure Linux & Open Source) *Remote — India*

- Core maintainer of **Headlamp**, the **official recommended Kubernetes dashboard** (Kubernetes SIG UI, **7k+ GitHub stars**) — a **React/TypeScript** client on a **Go** backend. Owned the frontend architecture and design system, and contributed across the Go server: authentication, API handling, and cluster connectivity.
- **Backend — authentication:** implemented **OIDC/OAuth2** authentication in the Go backend end-to-end — provider configuration, token exchange and refresh, and session handling — making the product deployable in enterprises with **Dex, Keycloak, and Azure AD** as identity providers, and unblocking adoption at organizations that require SSO.
- **Backend — AI services:** built the **Headlamp AI Assistant** end-to-end — a **LangChain**-powered service that translates natural-language questions into Kubernetes API queries, streamed to a React chat interface over an incremental response protocol. **Featured in the KubeCon EU 2026 keynote**.
- Designed and shipped the **extensible plugin architecture** — versioned **TypeScript** API contracts, reusable React components, and runtime hooks — so external teams could ship integrations (**Helm, Flux, Karpenter, KEDA, Knative, Strimzi**) **without changes to core**, turning a single product into an ecosystem of **15+ community plugins**.
- Cut render time for large clusters by **60%** using list virtualization (react-window), route-level code splitting, lazy loading, and memoization/state-normalization patterns — keeping the UI responsive on clusters with tens of thousands of resources.
- Architected the **Electron cross-platform desktop app** from the ground up: one React codebase shipping to **Linux, macOS, and Windows**, with native system tray, auto-updates, and deep linking wired to the Go backend process.
- Built and maintained the **design system**: **20+ production React components** with full TypeScript definitions, Storybook docs, responsive layouts, dark/light theming, and **WCAG-compliant accessibility** — the standard UI layer for every plugin in the ecosystem.
- Maintainer of the **Dalec VS Code extension**, developer tooling for container build specifications (**Go** toolchain, editor integration).
- **Mentored 6 CNCF mentorship projects** (5 LFX + 1 GSoC); every mentee shipped a production-quality plugin into the ecosystem (**Volcano, Cluster API, Kubeflow, Knative**).

Full-Stack Engineer (Go & React) **Jul 2020 – May 2021**
Kinvolk *Berlin, Germany — Remote*

- Worked across the stack on **Nebraska**, a **Go** service backed by **PostgreSQL** that coordinates OS update rollouts across distributed fleets of **Flatcar Container Linux** machines — running in production at **Akamai, Microsoft Azure, and Google Cloud**.
- **Backend:** migrated the Go data layer off a legacy ORM to the **goqu** query builder with **lib/pq**, replacing scattered raw SQL with type-safe, composable queries — reducing a class of runtime query bugs and making the persistence layer far easier to extend.
- **Backend:** tuned **PostgreSQL** query and schema performance for large Flatcar fleets, where a single deployment tracks update state for tens of thousands of instances.
- Led the **frontend modernization**: migrated the entire codebase from JavaScript to **TypeScript** on a modern React component architecture, added **UI virtualization** for thousands of instance rows, a full **theming system** (CSS-in-JS /

Material-UI), and **PWA** support.
- Cut bundle size and improved load time and Lighthouse scores via **code splitting, tree shaking**, and swapping heavy dependencies (moment.js → date-fns).

Open Source, Talks & Community

- **Speaking: FOSSASIA Summit 2026 —** speaker, *Build Your Own Kubernetes Dashboard*; **KubeCon EU 2026 keynote** (Headlamp AI Assistant); **KubeCon NA 2023 —** interactive React dashboards for the **Inspektor Gadget** plugin (eBPF observability: live traffic visualization, DNS debugging, resource monitoring).
- **Upstream contributions: 50+ merged PRs** across **vega-editor, p5.js, CodeMirror**, and Mozilla projects.
- **Community:** CNCF/LFX and Google Summer of Code mentor; author of the public plugin API documentation and contributor guides used by external developers.

Technical Skills

- **Languages:** Go, TypeScript, JavaScript (ES6+), SQL, HTML5, CSS3/SCSS
- **Backend & APIs:** Go (Gin, goqu, lib/pq), Node.js, REST API design, GraphQL, OIDC/OAuth2 & SSO (Dex, Keycloak, Azure AD), LangChain, streaming/incremental responses, Kubernetes API
- **Observability:** OpenTelemetry, alerting (rule evaluation, notification channels), metrics, traces & logs
- **Data:** PostgreSQL (schema design, query tuning, migrations), type-safe query builders, ORM migration
- **Frontend:** React, Next.js, Redux, MobX, Context API, Material-UI, Tailwind CSS, CSS-in-JS, design systems, plugin architectures, micro-frontends
- **Performance & Build:** React virtualization (react-window), code splitting, lazy loading, memoization, Webpack, Vite, Lighthouse profiling, Electron
- **Quality:** Jest, React Testing Library, Storybook (docs + interaction tests), ESLint, Prettier, WCAG accessibility, CI/CD
- **Infrastructure:** Docker, Kubernetes, Helm, Flux, Git, GitHub Actions

Education

B.Tech, Computer Science and Engineering — **2016 – 2020**
Guru Gobind Singh Indraprastha University — *Delhi, India*