Gaganpreet Kaur Kalsi

Frontend Platform Engineer | Web Infrastructure

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SUMMARY

Frontend platform engineer, four years scaling a 30,000+ module React application serving 2,500+ schools worldwide. Cut production builds from 30+ minutes to 10, eliminated all open dependency vulnerabilities, and reduced circular dependencies from 6,000 chains to under 500. Lead a three-person web infrastructure team and approve every dependency change to the product. Four promotions in four years.

EXPERIENCE

Toddle — K-12 teaching and learning platform used by 2,500+ schools worldwide. Remote.

Software Engineer 2 Jul 2025 – Present

- Lead a three-person web infrastructure team owning build systems, release pipeline, dependency health and codebase architecture; approve every dependency change to the product.
- Reduced production build time from 30+ minutes to approximately 10 via thread-loader, replacing Terser with SWC, upgraded CI machines and a custom compression plugin built under my direction.
- Designed and shipped a build promotion pipeline so tested pre-production artifacts deploy straight to production, cutting release pipelines from 30-35 minutes to 10-15 and establishing a mandatory release gate.
- Led Google CASA 2026 end to end, running Software Composition Analysis (SCA) and Static Application Security Testing (SAST) in house for the first time; required annually to retain Google API access.
- Removed dead code across 3,000+ files and advised other teams on frontend architecture, including bundler selection and day-one guardrails for a greenfield product.

Software Engineer Jul 2024 – Jun 2025

- Reduced circular dependencies from approximately 6,000 chains to under 500, and built a CI guardrail blocking pull requests that introduce new ones, ending a pattern where prior cleanup regressed.
- Eliminated global lodash usage by adding explicit imports and disabling AMD support, closing a security exposure; evaluated and rejected lodash-es after analysis showed both copies would ship.
- Evaluated alternative build tooling including Vite, Nx and webpack Module Federation, identifying circular dependencies and use-before-define patterns as the blockers to migration.
- Delivered training to the engineering organisation on package management (approximately 200 attendees) and circular dependencies (approximately 20 senior engineers and team leads).

Associate Software Engineer Jul 2023 – Jun 2024

- Eliminated all open dependency vulnerabilities by removing approximately 50 unused packages, upgrading vulnerable dependencies, and completing the webpack 4 to 5 migration.
- Directed a lazy compilation initiative for the local development server, built by an engineer I mentored, cutting initial compile time by approximately 50 percent and memory use by 40 percent.
- Built localisation into the design system, led the Storybook upgrade, became a code owner and began conducting technical interviews.

Frontend Developer (Internship, converted to full time) Jul 2022 – Jun 2023

- Extended Table, the most complex design system component, to support n-level nested headers with inherited sticky columns and multi-level sort and filter dropdowns, became sole owner.
- Led the React 16.9 to 17.0.2 upgrade across a two-phase rollout validated by testers from five teams, resolving fewer than 10 issues before production release.
- Owned the MathLive Equation Editor until August 2025, adding chemistry support, drag support and cross-browser fixes. Became the first engineer on a newly created web infrastructure team.

OPEN SOURCE

- Layer5 / Meshery contributor: built the meshery.io integrations page from scratch, a 3D table view in Three.js, and collaborated on the Meshery documentation site revamp.

SKILLS

Build and infrastructure: Webpack, Vite, SWC, Nx, Module Federation, npm, dependency management, bundle and chunk optimisation, CI/CD, build pipelines

Languages and frameworks: JavaScript, TypeScript, React, Redux, GraphQL, Apollo, Node.js, HTML, CSS, Sass/SCSS

Security, quality and practice: Google CASA (SCA, SAST), vulnerability remediation, code review, performance benchmarking, web accessibility (WCAG), design systems, localisation, mentoring

EDUCATION

Chandigarh University — BE, Computer Science and Engineering (AI/ML specialisation), CGPA 8.6 2019 – 2023