

Gyan Prakash Karn

Senior Full-Stack Engineer

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Senior full-stack engineer with **~7 years of experience** in Go, TypeScript, and React. I like the early phase of a product most: figuring out what to build, shipping a first version fast, then making it solid as it grows. At Customer.io I often get the new, unclear projects, and I carry them through backend, frontend, and production myself. Outside work I keep starting new things, because **building is what I enjoy most**.

Experience

Customer.io

Mar 2022 – Present

Senior Software Engineer

In-App Messaging → Technology Advancement Group

Sep 2025 – Present

- Led **geofences and geosets** from schema to launch across 7+ repos: PostGIS nearest-fence lookups (**13s p50 to ~5ms at 1M fences**), Temporal-backed CSV and GeoJSON imports up to 10k fences per workspace, campaign triggers, segments, a fast map UI, and launch dashboards and alerts.
- Built Customer.io's **Vercel Marketplace integration** end-to-end: OAuth exchange, an install popup with sign-up, log-in, and workspace connect, API key minting, env var sync to Vercel projects, and uninstall webhooks.
- Own and extend Customer.io's **external MCP server and OAuth surface**; added AI-driven test sends across **9 channels** (email, SMS, WhatsApp, LINE, Slack, push, in-app, inbox, webhook), Prometheus metrics, dashboards, and auth hardening; cut **~48% of MCP traffic** by turning off idle SSE streams.
- Built the first production version of the **Customer.io MCP server**, its companion OAuth server, and **15+ AI tools**, enabling Claude, Cursor, and other clients to operate the platform securely.
- Made Customer.io's in-product AI agent more reliable: automated eval fixtures with results published from main, a check that repairs worked before the agent reports success, a prompt-cache fix that stopped re-billing full history on every tool turn, and streaming fixes across Anthropic and Gemini.
- Kept the geofences map and tables fast at 10k fences per workspace: marker clustering from raw data, server-side search and paging, and CSV and GeoJSON parsing moved to a Web Worker.
- Built the backend for **AI campaign suggestions**: a Temporal scan workflow, a MySQL-backed store, and UI API endpoints feeding an in-product panel that hands work to the agent.
- Built **in-app form submissions** from scratch: API and schema design, content validation, CRUD and export APIs, usage metrics, and the submissions UI.
- Brought the new inbox message channel to campaigns, broadcasts, and transactional sends: editor, live preview, workflow actions, activity logs, and Node SDK support.
- Shipped in-app tooltips across the editor, API, and the open-source gist-web browser SDK, with viewport-aware positioning; migrated gist-web and its renderer to TypeScript with unit tests.
- Found and fixed OAuth2 security issues in the MCP server, including unsafe dynamic client registration and an open redirect in the authorize endpoint.
- Launched custom domains for the link shortener with **automated TLS certificate management**, then extended the orchestration to email link-tracking domains.
- Moved into Customer.io's cross-squad **Technology Advancement Group** after building the MCP server; first shipped agent usage metering and pricing controls across Go services and the account UI.
- Built per-person agent usage reporting and threshold tracking that powered a pricing experiment and showed product teams real adoption.
- Added draft-gated publish effects to campaigns, so side effects of edits are captured, merged, and applied only when a draft is published.

Software Engineer III · Full-Stack

In-App Messaging

Oct 2024 – Sep 2025

- Designed and launched a **link shortener processing 10M+ links per day** on Bigtable, unlocking SMS and WhatsApp link tracking across the platform.
- Built custom roles and permissions with fine-grained access controls, across the API, permission checks, and account settings UI.
- Built anonymous in-app conversion tracking (event, merge, and identify based), a metrics dashboard, frequency controls, and exports for a new messaging channel.
- Reworked the architecture of real-time in-app delivery, cutting tail latency and making the system simpler to operate.
- Prototyped an internal MCP server for querying data and flipping feature flags from AI coding tools; it led to the production MCP platform.
- Migrated 30+ UI components to the Pluma design system and rebranded SMS white-label flows across 15+ screens.

Software Engineer II · Full-Stack

Mobile & In-App Messaging

Mar 2022 – Sep 2024

- Launched the Parcel visual editor for in-app authoring and led frontend delivery for anonymous messaging through GA, shipping product experiences across a **7,000+ customer** platform.
- Rebuilt the campaign list with multichannel metrics, token-based sorting, and saved custom views.
- Shipped MMS support and unified the transactional push and micro-survey interfaces across the product.

SendWorks

Jul 2020 – Mar 2022

Software Engineer · Full-Stack

Jul 2021 – Mar 2022

- Led end-to-end development of **SendHealth.io** and built an authenticated SMTP relay for SendPost.
- Engineered an SMTP relay for SendPost with Postgres-backed authentication and TLS support.
- Automated BadgerDB maintenance and expanded the SendPost API with cc/bcc and attachment support.
- Contributed to the product and engineering work that supported the acquisition of SendX.

Software Engineer Intern

Jul 2020 – Jan 2021

- Core contributor to SendPost.io, building previews, domain verification, and the onboarding flow.
- Built an internal CRM the team used to track and resolve subaccount and IP incidents.

Amazon

May 2020 – Jul 2021

Software Development Engineer Intern

Amazon Pay

Jan 2021 – Jul 2021

- Migrated FASTag recharge from WebView to React Native and built the Send to Self flow for Amazon Pay.

Software Development Engineer Intern

May 2020 – Jun 2020

- Built a React Native expense splitter with a Spring Boot backend; shipped ahead of schedule and earned a **pre-placement offer**.

Crio.Do

Software Engineer Intern

Oct 2019 – Apr 2020

- Built workspace infrastructure on Docker and AWS EKS and automated EC2 and container lifecycle operations.
- Optimized the Jenkins user-purge job, improving execution time by 15×.

Core skills

Languages

TypeScript, Go, SQL, Python, Rust

Frontend

React, TanStack, Next.js, Ember.js, Tailwind CSS, Base UI, React Native

Backend & data

Postgres, PostGIS, MySQL, Bigtable, Redis, Temporal, Kafka, gRPC

Platform & AI

MCP, OAuth, Docker, AWS / GCP, Cloudflare Workers, Prometheus, Grafana

Recognition

Innovation Pioneer Award

Customer.io · company summit 2026

Two consecutive CEO ESOP grants

Customer.io · performance recognition

Employee of the Month

Customer.io · Jun 2024

ACM ICPC Asia Regionals

Ranked 20th of 115+ teams

Projects

karnstack

[karnstack.com](#)

Technical course platform built and operated solo, including auth, payments, analytics, content, and deployment. Courses ship with tagged companion repos and build-your-own starter templates in Go, TypeScript, and Python.

TanStack Start · Cloudflare Workers · D1

flue

[flue.sh](#)

Open-source daemon and web app that keeps Claude Code, Codex, and terminal sessions alive across every machine you own and continues them from desktop, phone, or tablet. Go and TypeScript, CI with coverage, released through Homebrew and an install script.

Go · TypeScript · WebSockets · Cloudflare Workers · E2E encryption

reins

[reins.tech](#)

Open-source CLI and Manifest V3 extension that gives coding agents control of the real, logged-in Chromium browser a developer already uses. Published on npm and the Chrome Web Store.

TypeScript · Chrome extension · CLI · Agent tooling

dowel

[dowel.sh](#)

Opinionated React component library on Base UI and StyleX. Every component keyboard tested, axe checked, and contrast tested to WCAG 2.2 AA in light and dark.

React · StyleX · Base UI · npm

karngyan.com

[github.com/karngyan/karngyan.com](#)

Personal site and blog template on TanStack Start, React 19, and Tailwind v4, deployed to Cloudflare Workers. 369 stars.

TanStack Start · React 19 · Tailwind v4

gomantics

[gomantics.dev](#)

Open-source Go libraries designed around small, composable developer APIs.

Go · Open source

Education

B.E. in Information Technology

Birla Institute of Technology, Mesra · 2017–2021