

Nguyen Thanh Long

Full-Stack Engineer

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SUMMARY

Full-stack engineer, 2.5 years, working in TypeScript on both ends of a production IoT platform: the Next.js dashboard partners use and the NestJS APIs behind it. I own that platform's cloud side end to end, so the same work also covers the database, the message pipeline and the deployments.

EXPERIENCE

Full-Stack Engineer at Rogo Solutions JSC Jan 2024 to present · Hanoi

Own the cloud side of a multi-tenant IoT platform end to end: the partner dashboard, the API, the message pipeline, and the deployments. It runs at a few million API requests a day with tens of thousands of concurrent MQTT connections.

- Build the partner dashboard in **Next.js** and TypeScript, with **React Query** for server state, Ant Design and Tailwind for the interface, and internationalisation. A single deployment serves multiple partner projects, configurable per project.
- **Attribute-based authorisation** in which the permission set is encoded into a compact **custom claim on the JWT**, so a request is authorised from the token itself instead of a database lookup on every call. The React app derives the same rules through **CASL**, so the interface and the API agree on what is allowed.
- Device state streaming on **Kafka** with **MQTT** ingestion: a consumer that coalesces repeated updates into batched writes and commits offsets after the write, autoscaled by **KEDA** on consumer group lag.
- Run the platform on **Kubernetes** and **AWS ECS**, with **Prometheus**, **Loki** and **Grafana** for metrics and logs across three clusters, and the staging to production path on GitHub Actions, GitLab CI and **ArgoCD**.

SELECTED PROJECTS

Educystal (Next.js, Supabase, Tailwind, PWA) · educystal.vercel.app
A guided crystal-growing app for children: step-by-step programs, a private photo diary, and a gallery a moderator approves. Access rules live in Postgres row level security rather than in the application, so a route cannot leak another child's diary. Installable as a PWA. Six months of work.

IoT Cloud MCP (TypeScript, NestJS, MCP SDK, Redis)
An MCP server for IoT cloud platforms, so an assistant can query and control devices through one interface rather than a separate integration per platform.

Novel Studio (NestJS, PostgreSQL with pgvector)
A long-form writing tool. The awkward part is that prompt cost grows with the story, so it keeps a canon store, a rolling summary and vector retrieval instead of resending history.

TECHNICAL SKILLS

Frontend	TypeScript, React, Next.js, Tailwind CSS, Ant Design, React Query, React Native (Expo)
Backend	Node.js, NestJS, Express, REST APIs, WebSockets
Data	PostgreSQL, MongoDB, Redis, MySQL
Infrastructure	Docker, Kubernetes, AWS (ECS, S3, Lambda), Terraform, GitHub Actions
Messaging & auth	Kafka, MQTT, Firebase Auth, Keycloak, JWT

EDUCATION & ADDITIONAL

B.Sc. in Software Engineering, FPT University 2022 to 2026

Final-year project: a real-time multiplayer game backend (ASP.NET Core, WebSockets, MySQL) using lag compensation to keep play fair across uneven network conditions.

Certifications: Project Management Principles (UC Irvine, 2025) · Software Development Lifecycle Specialization (University of Minnesota, 2024).

Coach competitive-programming students for national Informatics examinations, weekly since 2024. Freelance backend work alongside full-time employment. English: professional working proficiency.