

Nguyen Duc Hien



Date of birth Nov 26, 2000
Gender Male
Phone +(84)35-3895-912
Email mynameishieenf@gmail.com
Address Da Nang, Vietnam
Website <https://hiengnguyen.io/>

PROFESSIONAL SUMMARY

Fullstack Engineer (React / NestJS) | AI Systems & Developer Tooling

3+ years building production systems — from client-facing platforms to AI-powered tools and developer utilities.

- Built end-to-end AI systems: RAG chatbot with vector search (OpenAI embeddings + Lambda), AI-assisted code review server (tsserver integration), and Gemini-powered DOM analysis.
 - Created developer tooling: CLI tool (impact-trace) for PR impact analysis using AST-based reverse dependency graphs with interactive D3 visualization.
 - Full-stack ownership: 5 solo products in 2025 covering Chrome extensions, microservices (NestJS/Go), GCP/AWS deployment, and CI/CD pipelines.
- Technical strengths: System architecture, React/NestJS ecosystems, TypeScript AST tooling, AI integration (OpenAI, Gemini), GCP/AWS deployment, prompt engineering & AI workflow optimization.

PROJECTS

Impact Trace

(3/2026 - present)

Customer	—
Description	<ul style="list-style-type: none">- CLI tool that analyzes PR impact by building a reverse dependency graph from React/Next.js projects and tracing changed files to affected pages.- Answers: "Which pages need manual testing after this PR?" <p>Impact: Eliminated guesswork in QA — developers instantly know which pages to test, reducing regression risk and speeding up release cycles.</p>
Team size	1
My position	Fullstack Developer, PM, Devops
My responsibilities	<ul style="list-style-type: none">- Designed architecture: GitReader → IndexBuilder → ImportGraph → BFS Traverser → PageDetector → Reporter pipeline.- Built AST-based import parser (ts-morph) supporting path aliases, barrel re-exports, and dynamic imports.- Implemented dual analysis modes: file-level (fast, ~0.5s) and symbol-level (precise, AST-diffing changed exports).- Created interactive D3 visualization (self-contained HTML) with hierarchical tree, color-coded nodes, sidebar filters, and dark mode.- Built incremental caching system with hash-based invalidation (tsconfig changes, tool version, TTL).
Technologies used	TypeScript, ts-morph (AST), D3.js, Node.js CLI (Commander), Vitest, tsup, pnpm.

Reference Tool Server (Smarter Code Review)

(12/2025 - 2/2026)

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Customer	—
Description	<ul style="list-style-type: none"> - Developer tooling server that provides code-aware reference and definition lookup for AI-assisted code review workflows. - Integrates TypeScript's tsserver to analyze real codebases, powering PR review automation with precise symbol tracing. <p>Impact: Enabled AI code review agents to understand cross-filereferences, improving review accuracy and reducing human review time.</p>
Team size	1
My position	Fullstack Developer, PM, Devops
My responsibilities	<ul style="list-style-type: none"> - Designed Express API server with `POST /tool/lookup` endpoint supporting both "reference" and "definition" query modes. - Built LanguageClient SDK wrapping TypeScript's tsserver for real-time symbol resolution across multi-file workspaces. - Created ReferenceAnalyzer with dual query modes: patch-based (for PR diffs) and cursor-based (file + line + offset). - Implemented RepoWorkspaceResolver for dynamic workspace manage (webhook-driven PR checkout, touch-based TTL, cron cleanup). - Built SnippetBuilder with auto-expand logic for full definition extraction and configurable context radius.
Technologies used	NestJS, Express, TypeScript, tsserver SDK, pnpm workspaces, GitHub Webhooks.

O****my Knowledge Chatbot

(9/2025 - 11/2025)

Customer	—
Description	<ul style="list-style-type: none"> - AI-powered help center chatbot — crawls knowledge base articles, generates vector embeddings, and delivers semantic-search-powered conversations via an embeddable React widget. - End-to-end pipeline: sitemap sync → HTML crawling → GPT-4o-mini content generation → embedding indexing → chat API (Lambda). <p>Impact: Replaced static FAQ pages with intelligent, context-aware support — reducing support ticket volume.</p>
Team size	1
My position	Fullstack Developer, PM, Devops
My responsibilities	<ul style="list-style-type: none"> - Architected pnpm monorepo with 3 packages (Index Builder, Backend, Chat Widget). - Built the indexing pipeline: crawl help center via sitemap, parse HTML content, generate AI-optimized descriptions with GPT-4o-mini, then create vector embeddings (text-embedding-3-small) stored in SQLite. - Developed Lambda-based backend with semantic search (cosine similarity) and tool-calling AI chat endpoint. - Created reusable React chat widget library (Zustand + Tailwind v4) with configurable theming and positioning — embeddable in any React app.
Technologies used	React 19, Tailwind CSS v4, Zustand, Express, EJS, Drizzle ORM, SQLite, AWS Lambda, OpenAI GPT-4o-mini, text-embedding-3-small, pnpm workspaces.

Guide maker

(7/2025 - 10/2025)

Customer	—
Description	<ul style="list-style-type: none"> - Browser extension + backend system that records user actions and automatically generates step-by-step guides (screenshots, descriptions, and HTML exports). - Developed with AI coding agents to accelerate system design and implementation, while the final logic remains rule-based and deterministic. <p>Impact: Automated documentation workflow, saving manual recording time and improving product knowledge base.</p>
Team size	1
My position	Fullstack Developer, PM, Devops
My responsibilities	<ul style="list-style-type: none"> - Designed full microservice architecture connecting Chrome extension with Go backend services.

	<ul style="list-style-type: none"> - Leveraged AI-assisted development to speed up implementation while maintaining focus on service integration, security (Signed URLs, IAM), and deployment architecture. - Built video microservice (Cloud Run + FFmpeg) for real-time MP4/GIF conversion. - Implemented step management: create/update/delete, drag-to-reorder, and attach/replace step screenshots; automated HTML export.
Technologies used	React 19, TailwindCSS 4, Go 1.24+, FFmpeg, Docker, GCP (Cloud Run, Cloud Functions Gen2, GCS, IAM, Cloud Build).

Web diff system

(2/2024 - 2/2025)

Customer	—
Description	<ul style="list-style-type: none"> - Internal QA automation platform that detects and visualizes UI changes after deployments. - Designed to automate regression testing and streamline quality assurance across product releases. <p>Impact: Reduced manual UI verification workload and improved deployment reliability.</p>
Team size	3
My position	Fullstack Developer, PM, Devops
My responsibilities	<ul style="list-style-type: none"> - Led a 3-member team to develop and maintain the web-based comparison tool. - Implemented screenshot and diff comparison engine, integrated with RxJS job queue. - Added Stripe payment integration and webhook syncing for internal usage tracking. - Deployed backend on GCP (Cloud Run & Functions) with Docker-based CI/CD pipelines.
Technologies used	Next.js 15, React 19, Go, RxJS, Stripe, Docker, GCP (Cloud Run, Cloud Functions), Playwright.

A*****.jp

(10/2022 - 02/2024)

Customer	A*****.jp
Description	<ul style="list-style-type: none"> - Japanese gifting platform allowing users to design, customize, and send personalized gifts online. <p>Impact: Enhanced user experience and product reliability, supporting thousands of Japanese users and increasing customer retention.</p>
Team size	10
My position	Front-end Developer
My responsibilities	<ul style="list-style-type: none"> - Designed and optimized the canvas-based design editor (text/image CRUD, layout properties, drag & drop). - Built chat with infinite scroll. - Improved Next.js performance via Webpack optimization and image compression. - Implemented Cypress end-to-end tests for production stability.
Technologies used	Next.js 12, React 18, NestJS, TypeScript, Redux Toolkit, Fabric.js, Cypress, AWS S3, MySQL.

WORK EXPERIENCE

Oct 2022 - Present

Corize Inc.

Fullstack Developer

Client Projects (2022 – 2023)

- Developed a custom design editor for a gifting platform (canvas CRUD, drag-and-drop, chatbox).
- Optimized Next.js builds with Webpack, improving page load times.
- Converted Figma to responsive landing pages, implemented asset optimization (WebP, caching).

- Delivered end-to-end Cypress tests and automated QA scripts.
- Collaborated directly with Japanese clients, gathered requirements, and iterated on UX.

In-house Products (2024 – Present)

- Led development of the Web Diff System: detects UI changes after deployments, integrated Stripe payments, automated regression testing with Nodejs and RxJS.
- Built the Guide Maker System: Chrome extension and IndexedDB store + Go microservices for video/GIF creating, and secure GCS uploads with Signed URLs.
- Designed cloud architecture with Docker, Cloud Run, Cloud Functions, GCS, IAM; set up CI/CD pipelines with Cloud Build.
- Maintained performance & reliability: Clinic.js profiling, logging/error tracking, automated deployment.
- Prepared and delivered technical seminars to the outsourcing team, creating slide decks and sharing knowledge on system architecture, cloud deployment, and development best practices.

SKILLS

Language

- English
- Japanese

Technical Skills

- Technical Skills: React 19, Next.js 15, NestJS 11, Go, TypeScript, PostgreSQL, GraphQL Worker, Docker, GCP (Cloud Run, Cloud Functions, IAM, GCS), Playwright, Cypress.
- AI & Automation Workflow: Cursor, ChatGPT, Gemini Studio, PromptManager, pgvector / Supabase RAG pipeline, Brevo automation, RxJS job orchestration.
- DevOps & Tools: Stripe, SendGrid, GA4, GTM, WordPress, Brevo, Cloud Build CI/CD, CircleCI.

Soft Skills

- Cross-cultural collaboration
- Problem solving
- Leadership in small teams

CERTIFICATIONS

12/2024	JLPT N3
8/2024	Hackerrank Node (Basic) Certificate
8/2024	Hackerrank JavaScript (Basic) Certificate
8/2024	Hackerrank React (Basic) Certificate
8/2024	Hackerrank Frontend Developer (React) Certificate
2/2022	B1 English level (CEFR)
11/2021	B2 Japanese level (CEFR)

EDUCATION

Oct 2018 - May 2022

Hue University of Foreign Languages
Major: Language and Culture of Japanese
GPA: 3.12/4

REFERENCES

Available upon request.
