NHAT NGUYEN

Software Engineer · Full-Stack & AI

Dallas–Fort Worth, TX | **soaringeagles168@gmail.com** | **nhatportfolio.netlify.app** | Hybrid · Remote · Open to relocation

SUMMARY

Full-stack software engineer building **production AI systems over governed enterprise data**. Two years at CBRE shipping conversational analytics agents end-to-end — React/TypeScript frontends through agentic Claude tool-use backends with row-level security, deterministic output validation, prompt caching, and per-turn LLM telemetry. Daily practitioner of **AI-assisted engineering** (Claude Code, ChatGPT, Gemini) with a disciplined human-in-the-loop workflow — current on the latest tooling, never blindly dependent on it. Known for finding the real problem behind stakeholder concerns and delivering carefully, collaboratively. Two-time hackathon finalist: **Top 5 of 300+** (CBRE Innovate 2026) and **Top 10 of 189 globally** (2025).

PROFESSIONAL EXPERIENCE

Software Engineer | **CBRE** · Dallas, TX — **Jul 2025 – Present**

Converted from vendor contractor to CBRE full-time after one year of embedded delivery.

P&L Advisor — Conversational Financial Analytics Agent · *In production · Top 5 of 300+ teams, CBRE Innovate 2026*

END-TO-END BUILD — Primary engineer of a ~40k-line codebase (≈86% of commits, backend + frontend, under an architect lead): FastAPI agentic Claude tool-use loop writing row-level-secured Snowflake SQL, streamed over SSE to a React/TypeScript SPA — natural-language P&L variance analysis for director-through-SVP users, with executive delegation and a proposed C-suite rollout.

AI RELIABILITY — Eliminated wrong-sign and NULL-variance financial errors with 5 deterministic backstops that validate model-generated SQL before execution, backed by live-Snowflake regression tests and production probe runbooks.

SECURITY & RLS — Enforced per-user row-level security on a shared service account via a Snowflake stored-procedure wrapper with lock-serialized sessions; designed an alternative per-user pooled-engine RLS model on a sister app.

COST & TELEMETRY — Cut LLM cost and latency with Anthropic prompt caching (static skill blocks cache-marked, dynamic blocks isolated from cache keys); per-turn tokens, cache hits, SQL, and latency persisted to a Snowflake agent-trace table.

DELIVERY — Playwright-driven PDF/PPTX export and a deterministic dashboard fact-slice reconciled against agent answers.

Enterprise AI Platform & Workforce Assistant

PLATFORM — Engineered a custom httpx transport routing the Anthropic SDK through CBRE's WSO2 OAuth2 gateway to AWS Bedrock (URL rewriting, body adaptation, pre-emptive token refresh) — adopted by **all five** of the org's applications, unblocking Claude inside a locked-down network.

FRONTEND OWNERSHIP — Owned the UI (99% of commits, ~33k lines) of a workforce-analytics AI assistant — manager insights, compensation, 1-on-1 briefs, deck.gl atlas — contributing backend features on an 11-engineer team.

INTEGRATION — Unified the Workforce assistant and P&L dashboard into one multi-domain shell with prefetch and fact-slice caching for instant domain switching, delegation wiring, and graceful authorization handling.

ENABLEMENT — Authored deployment automation, an email-to-Azure-DevOps AI parser, a 507-line Git onboarding guide, and an intern-handoff runbook.

Software Engineer | **Anblicks** (Client: CBRE) · Addison, TX — **May 2024 – Jul 2025**

FINANCE ASSISTANT Owned the React/TypeScript frontend (94% of commits) of CBRE's first conversational finance-analytics assistant on a 12-engineer product — SSE-streamed chat and dynamic charting — over a LangGraph generate → validate → execute → heal SQL pipeline (Azure OpenAI).

PROCUREMENT AI Built the procurement assistant frontend (75% of commits) with Azure MSAL auth, Microsoft Graph, and an interactive supplier-reference UX — **Top 10 of 189 teams, CBRE 2025 global hackathon**; later supported its migration from LangGraph to a direct Claude tool-use agent loop.

GSST PLATFORM Owned the supplier survey & feedback area of GSST, a global supplier platform **built from scratch to replace the third-party Zycus system for 2,000+ users** (14-engineer team; 39 REST endpoints, Redis warm caching, scheduled survey lifecycle, FULL/LITE RBAC); helped stand up its Playwright + pytest-bdd E2E suite validating RBAC parity across environments.

Software Engineer Intern | **National Circuit Assembly** · Garland, TX — **Jun – Sep 2022**

- Improved a manufacturing workflow-management tool (PHP Laravel, MySQL, Bootstrap) in an Agile team, redesigning the UI and resolving 15+ critical defects.

PROJECTS

CD Sync · One platform replacing an 11-person music ministry's scattered tools · Sole developer · 234 commits · 60k+ LOC — **2026**

CONSOLIDATION Built after watching the team juggle five disconnected tools — shared-drive folders, chat threads, finance spreadsheets, desktop video editors, and hand-transposed paper scores — into one React 19 / FastAPI platform: searchable song library with AI transposition, drag-and-drop setlists with real-time co-editing, receipt-to-ledger expense tracking, automated lyric-video production, and a 35-tool Claude assistant — on the Google Drive/Gmail the team already uses.

AI VERIFICATION Cross-vendor OMR pipeline: Gemini reads scanned scores, a Claude vision judge verifies measure-by-measure against the original, safety-tiered patch rules gate corrections — silent failures became a supervised loop.

CI/CD & COMPUTE Offloaded heavy FFmpeg rendering to GitHub Actions (job polling, artifact retrieval); operate 4 CI/CD workflows incl. a self-hosted runner and scheduled health checks.

TECHNICAL SKILLS

AI ENGINEERING Agentic tool-use loops (Anthropic SDK), LangGraph/LangChain, RAG with citation enforcement, prompt caching & cost engineering, deterministic output validation (sqlglot), promptfoo evals, LLM telemetry, multi-provider (Claude, Azure OpenAI, Gemini)

AI-ASSISTED DEV Claude Code, ChatGPT & Gemini as force multipliers — spec-driven repo guides (CLAUDE.md), decision logs, output gated by human review, tests & validators; adopts what proves useful

LANGUAGES Python, TypeScript, JavaScript, SQL (Snowflake, MSSQL, PostgreSQL), HTML/CSS

FRONTEND React 18/19, Vite, Zustand, TanStack Query, Tailwind CSS, Material-UI, Recharts, ECharts, deck.gl, SSE/WebSocket streaming UX

BACKEND FastAPI, Pydantic v2, async Python, SSE & WebSockets, Redis, APScheduler, REST API design, JWT/JWKS validation, RBAC & row-level security

CLOUD & DEVOPS Azure (AD/MSAL, App Service, AI Search, Blob, Key Vault), AWS Bedrock, Docker (multi-stage), GitHub Actions CI/CD, nginx, Caddy

QUALITY pytest, Vitest + Testing Library, pytest-bdd (Gherkin), live-env regression testing, mypy strict, ruff

EDUCATION

B.S. Software Engineering — UT Dallas — 2023

A.S. Computer Science — Dallas College, Richland — 2021

Languages — English, Vietnamese

AWARDS & ACTIVITIES

- **Top 5 / 300+** — CBRE Innovate 2026 (P&L Advisor, in production)
- **Top 10 / 189 global** — CBRE 2025 Hackathon (Procurement AI)
- Youth Leader — Vietnamese Eucharist Youth Movement