TRẦN NHẤT LONG

Backend / Data Engineer

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PROFESSIONAL SUMMARY

Software Engineering student at FPT University Đà Nẵng on a 100% scholarship, focused on backend and data engineering. Shipped an AI candidate-evaluation platform to production on Google Cloud, owning its Python/FastAPI AI service, ASP.NET Core modules and deployment. Works in C#/.NET, Python and SQL with a bias toward correctness — point-in-time data modelling, compiler-validated output, and tests that fail loudly rather than pass quietly.

TECHNICAL SKILLS

Languages: C#, Python, Java, TypeScript, JavaScript, C++, SQL

Backend: ASP.NET Core (.NET 8/10), Entity Framework Core, FastAPI, REST APIs, OAuth 2.0, microservices

Databases & Data: PostgreSQL, Microsoft SQL Server, Redis, database design, schema migrations, data pipelines

AI & LLM: Claude API, LLM integration, retrieval-augmented generation (BM25 + dense embeddings, RRF, MMR), document extraction (PDF/DOCX/OCR), prompt engineering, static analysis

Infrastructure: Docker, GitHub Actions, CI/CD, Nginx, Linux, Google Cloud, AWS EC2, MinIO, Git, Maven

Testing: pytest, xUnit, JUnit 5, Vitest, Testcontainers, unit and integration testing

ENGINEERING EXPERIENCE

CVerify — AI-Powered Candidate Evaluation Platform

May – Jul 2026

Academic capstone, 5-person team · FPT University · Production · Live: cverify.io.vn

- Ported the AI layer from C# stubs into a Python/FastAPI microservice, building agents, orchestrators and a versioned prompt registry across three Claude-API pipelines — candidate evaluation, job-description matching and repository intelligence — covered by 45 unit tests.
- Implemented backend modules — Profiles, Auth, SourceCode, JD and Intelligence — in ASP.NET Core (.NET 10) with Entity Framework Core and PostgreSQL, including the schema migrations behind them.
- Built the document-extraction path converting PDF, DOCX and OCR input to Markdown, with tolerant JSON parsing so a malformed model response degrades instead of failing the request.
- Migrated the production deployment from AWS EC2 to Google Cloud: Nginx reverse proxy, SSL renewal, PostgreSQL and MinIO backups, health checks and three GitHub Actions CI/CD workflows.
- Diagnosed and fixed production defects: container logs not reaching Cloud Logging, an OAuth callback dropping its state cookie, and one page issuing 22 redundant requests.

SELECTED PROJECTS

PQT — Personal Quantitative Research Terminal

Aug 2026 – Present

Personal project · In development (Phase 1 of 20) · Repository: github.com/TNL293107/PQT

- Designing a modular monolith for Vietnam-market (HOSE/HNX/UPCOM) quantitative research — ASP.NET Core backend, React/TypeScript terminal, separate Python and C++ toolchains — with each significant decision recorded as an ADR.
- Implemented the instrument identity model so a security keeps one canonical identity regardless of how a data provider spells its symbol, treating provider tickers as aliases rather than primary keys.
- Built readiness endpoints performing real PostgreSQL round-trips and Redis checks per dependency, covered by 163 tests across four suites (xUnit, Vitest, pytest, CTest) running in CI against live containers via Testcontainers.

DotCoder — Offline Retrieval-Augmented Coding Assistant

Aug 2026

Personal project · Python, .NET 8, Roslyn, llama.cpp, BM25, sqlglot, pytest

- Built a fully offline RAG assistant for .NET 8, C#, WPF and SQL in Python 3.12, serving quantized GGUF models via a local llama-server with VRAM-aware profile selection for a 6 GiB budget.
- Implemented hybrid retrieval pairing a BM25 lexical arm with dense embeddings, fused by reciprocal-rank fusion with MMR for diversity, and measured it against a golden set on every change — recall@8 of 0.962 against a 0.85 target.
- Validated every generated C# artifact through a Roslyn compiler sidecar with a bounded repair loop that feeds diagnostics back to the model, and enforced offline operation with a test that fails the build on any non-loopback socket.

FU-Autokit — Browser Automation Extension

Aug 2023 – Present

Personal project · Released (v3.4) · Repository: github.com/TNL293107/FU-Autokit

- Built a Manifest V3 Chromium extension automating authentication and repetitive workflows across nine university portals plus Coursera and Studocu, using 34 site-specific content scripts coordinated by a background service worker.

- Implemented GPA calculation, grade entry and form autocomplete with Vietnamese/English internationalisation, keeping credentials in chrome.storage with no backend; covered the manifest, service worker, storage layer and GPA arithmetic with 33 tests in GitHub Actions CI.

EDUCATION

FPT University, Đà Nẵng, Việt Nam 2024 – Present
Bachelor of Software Engineering — 100% full scholarship

CERTIFICATIONS

Software Engineering Specialization — The Hong Kong University of Science and Technology 2026
Generative AI in Software Development — Amazon 2026
CCNA: Introduction to Networks — Cisco Networking Academy 2025
AI For Everyone — DeepLearning.AI 2025
IELTS 7.0 (English) — IDP Vietnam 2023