

PHUONG NGUYEN DUY

Senior Software Engineer · Full-stack (.NET 8 + Vue 3) · Azure · Product Engineering

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PROFESSIONAL SUMMARY

Senior Full-stack Engineer with 7+ years building **in-house SaaS products** on .NET and Vue. Currently lead engineer on Mantu's internal product platform serving **8,000+ employees globally**, where I own 8+ products end-to-end across roadmap, architecture, delivery, and long-term adoption. Strong track record of measurable impact: cut API p95 latency **82% (14s → 2.5s)**, reduced sync-job database load by **~99%** (10,000+ queries to 4-5), and led full V1→V2 platform migrations preserving 100% data integrity. Comfortable shipping AI-powered features with Azure OpenAI (tool_calls, structured outputs, RAG/embeddings) and driving cross-team technical handovers. Open to Senior / Lead roles in product companies.

TECHNICAL SKILLS

Backend	.NET 8 / 6 / .NET Framework 4.8, ASP.NET Core, Minimal API, Entity Framework Core, MediatR, FluentValidation, Hangfire, Background Services, Web API, RESTful, GraphQL
Architecture	Clean Architecture, CQRS, Domain-Driven Design, Microservices, Event-driven (Service Bus), State Machine, Performance optimization at scale
Frontend	Vue 3, Quasar, TypeScript, Pinia, Angular 2+, HTML/CSS, Tailwind, Reusable component library design
Cloud / Azure	App Services, Service Bus, Storage, Azure OpenAI (tool_calls, function calling, embeddings), Application Insights + KQL, DevOps Pipelines, Entra ID
AI / ML	Azure OpenAI integration, prompt engineering for structured output, tool_calls / function calling, RAG & embeddings (text-embedding-3-small), LLM-powered product features
Auth & Security	OAuth 2.0, OpenID Connect, Entra ID / Azure AD, Multi-tenant authentication, OWASP Top 10
Databases	SQL Server (performance tuning, schema migration, query optimization), PostgreSQL, MongoDB, MySQL, Dapper
Observability	Application Insights, KQL diagnostics, distributed tracing, structured logging, production debugging across distributed services
Testing & DevOps	XUnit, NUnit, SpecFlow, Unit / Integration testing, Git, Azure DevOps, CI/CD, Docker
Languages	Vietnamese (native), English (professional working proficiency)

PROFESSIONAL EXPERIENCE

Mantu — Senior Software Engineer (In-house Product Team)

May 2023 – Present

Internal Product Platform · 8,000+ employees globally as users · Ho Chi Minh City

In-house product engineer owning **8+ internal SaaS products** (SurveyV2, THOR, ITAccess, HouseOfApps, Location API, MessageHub, XFiles, Guardian, CDN). Full lifecycle ownership: roadmap, architecture, development, deployment, user adoption, and long-term maintenance. Stack: .NET 8, Clean Architecture + CQRS/MediatR, Vue 3 + Quasar + TypeScript, Azure.

- **Survey V2 — flagship product, lead engineer.** Owned end-to-end migration from legacy V1 (5+ year-old ASP.NET MVC monolith) to V2 (.NET 8 Clean Architecture with CQRS/MediatR). Preserved **100% data integrity** across thousands of historical surveys, responses, and permissions with zero user-reported data loss. Drove product adoption by shipping AI-assisted survey creation (Azure OpenAI tool_calls for structured question generation), reminder-email flows, and in-app notifications. Currently designing RAG / embedding-based semantic caching (text-embedding-3-small) to cut LLM cost while improving question quality.
- **Location API — 82% p95 latency reduction (14s → 2.5s).** Parallelized Google Places / Geocoding external calls using SemaphoreSlim-controlled concurrency, reducing tail latency by ~5.6x for an API consumed by 8+ downstream products. Added address-migration background service with telemetry, deduplication, and export. Packaged the UI as a reusable NuGet (*Location.Ul.Mvc*) adopted by other internal teams.
- **Sync-job optimization — ~99% query reduction.** Cut 10,000+ database queries per run down to 4-5 by pre-loading lookup sets into Dictionary / HashSet in memory and converting per-row queries to bulk reads. Job runtime dropped from hours to minutes, freeing scheduling capacity for downstream pipelines.
- **THOR (ErpDocument) — reusable component library & lifecycle automation.** Built ThorCascader (multi-level folder picker) and ThorSelect Quasar components adopted across multiple modules, accelerating feature delivery for the team. Implemented document template lifecycle automation (expiration reminders, auto-archiving, overdue rejection) via HostedService background workers. Integrated SharePoint CSOM for folder structure sync and ODIN for portal/category management.
- **Production debugging across distributed services using KQL.** Root-caused: a FluentValidation concurrent-collection threading bug in ITAccess (parallel validators corrupting Dictionary writes), GDPR delete 403s across Service Bus consumers, MessageHub timeouts, and Guardian multi-branding 500 errors (Unity DI lifetime mismatch) — correlating Application Insights traces across 3-4 services.

- **CDN download service migration.** Migrated from .NET Framework 4.8 to .NET 8 Minimal API, including a public file-access statistics dashboard (KQL + charts) supporting millions of records. Fixed 307 redirect loop and ZIP-streaming flow with AllowSynchronousIO.
- **Technical leadership signals.** Authored ITAccess technical handover documentation on Azure DevOps Wiki, enabling another team to take full ownership without ramp-up loss. Active in the team's AI best-practices channel; piloted Claude Code + MCP / Azure DevOps integration to improve team developer experience.

Positive Thinking Company — Senior Software Engineer

Jun 2022 – May 2023

McK CostGauge (Diagnostic Tool) · UK client

- Refactored a legacy monolith toward microservices, enabling independent feature teams to deploy without coordinating releases — improving horizontal scalability and release cadence.
- Introduced GraphQL alongside REST for diagnostic queries, reducing over-fetching and simplifying frontend query composition.
- Raised code coverage from **40% to 85%** by backfilling unit/integration tests on critical business logic and wiring coverage gates into CI.
- Optimized Excel import/export with NPOI + Azure Storage streaming, cutting processing time roughly in half for large report uploads.
- Stack: .NET 6, PostgreSQL, GraphQL, Hangfire, Hasura.

Saigon Technology — .NET Developer

Jul 2021 – Jun 2022

Idealpos Portal (POS System) · Australia client · Team of 7

- Designed a reusable framework-component library that became the default starting point for new modules in the portal, noticeably reducing feature delivery time.
- Led legacy-codebase refactoring to modern .NET Core 3.1 / Angular 5 standards, paying down technical debt and unblocking further feature work.
- Authored client-facing documentation and training materials, strengthening client relationship and closing the handover loop.

NashTech Limited — Software Engineer → Senior Software Engineer

Aug 2019 – Jul 2021

Promoted to Senior in Jan 2021 · TV Benchmarking (Ebiquity UK, team of 35) & internal management systems

- Mentored 4 fresh graduates through the Golden Rookies program on .NET fundamentals, code quality, and code-review practices — helping them ramp onto production teams.
- Optimized large-file import pipelines with layered caching strategies, sustaining throughput as client data volumes grew.
- Built SQL Server ↔ MongoDB synchronization and designed schemas for the benchmarking dataset.
- Shipped OWASP Top 10 hardening on internal management tools and led technical code reviews for the team.

Devinition Software — Associate Developer

Aug 2018 – Jul 2019

ECO2 (OnePeterson, USA — IoT) & ITJobs (TOG Recruitment, Netherlands) · Team of 5

- Built Web APIs, web applications, and SOAP services across two projects on .NET Framework and .NET Core 2.1.
- Developed IoT features for ECO2, an industrial controlled-atmosphere system used worldwide for chemical-free pest control in commodity storage.
- Designed databases, built responsive UI, gathered business requirements with clients, and set up CI/CD for deployment.

EDUCATION & RESEARCH

University of Science (VNU-HCM) — B.Sc. Software Engineering

2012 – 2016

Research: Vietnamese Automatic Speech Recognition & Speech Separation — contributed to the VN-SpeechMix dataset for Vietnamese speech processing.