



Nguyen Tri Quang

Software Engineer (Full-Stack) |
Aspiring System Architect

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Professional Summary

Full-Stack Software Engineer experienced in building end-to-end IoT ecosystems from concept to production, integrating devices, backend services, and web/mobile applications.

Strong in system thinking, backend architecture, and full lifecycle ownership (design → implementation → deployment), with hands-on experience in real-time data processing and integrated system workflows.

Apply AI-assisted workflows to accelerate development and explore solutions beyond current familiarity, while maintaining control over system design and implementation. Seeking a product-driven environment to deepen expertise in distributed systems, scalability, and system reliability, toward becoming a System Architect.

Education

Major: Information Technology

2019 - 2024

Can Tho University

Work experience

HPK Vietnam Tech & Training JSC

Dec 2024 - Present

Full-Stack Engineer

- Designed backend architecture and database schemas to support scalable application features.
- Implemented real-time communication between IoT devices and backend systems using MQTT (EMQX).
- Deployed and maintained production services using Nginx and PM2.
- Built and maintained full-stack systems independently from design to deployment.
- Contributed to improving system structure, maintainability, and deployment workflow.

Freelancer

Dec 2023 - Dec 2024

Full-Stack Developer

- Designed and developed 2 end-to-end e-commerce systems, including product management, order processing, and authentication modules.
- Built scalable RESTful APIs using Node.js and Express.
- Designed frontend architecture using React and TailwindCSS.
- Structured MongoDB database for flexible product and order data handling.
- Managed full development lifecycle from system design to deployment.

Besoft Co., Ltd

Sep 2023 - Dec 2023

Collaborator

- Scan and edit documents according to the project's requirements.
- Teamwork spirit, practical work environment.

Projects

AI-Assisted Development Workflow

Jan 2026 - Present

Experiment deployment | AI tool integration

Utilized AI tools (ChatGPT, Claude, Cursor, Windsurf) to support development workflow and accelerate learning in unfamiliar areas.

Applied AI for:

- exploring implementation approaches and system ideas
- generating initial code drafts and debugging support
- reviewing and understanding existing codebases

Leveraged AI to iterate quickly on features and expand beyond current technical familiarity, while maintaining manual validation and refinement of final implementations.

Focused on using AI as a support tool for faster iteration and deeper understanding, rather than as a replacement for core engineering decisions.



Technical Skills

Frontend	React, JavaScript (ES6+), TailwindCSS, HTML5/CSS3
Backend	Node.js, Express.js, RESTful API Design, Authentication (JWT), SpringBoot (Java), Python
Database	MongoDB, MySQL, PostgreSQL (basic)
Tools & Deployment	Git, Linux, Docker (basic), Nginx, PM2, Redis, MQTT (EMQX), Vercel, Render
AI agent	ChatGPT, Claude, Windsurf, Antigravity, Cursor



Certifications

English Certificate	B1 Level
Driving License	B



Links

GitHub: github.com/NgTrQuang
 Portfolio: profile-me-delta.vercel.app

Interests

- Exploring open-source projects.
- Building experimental web applications.
- Reading books and listening to music.

Selected Implementations:

- Dynamic Card Creator: <https://dynamic-card-creator.onrender.com>
- Weather App: <https://the-weather-point.vercel.app>
- Chatflow: <https://chatflow-seven.vercel.app>
- Financial Statistics : <https://financial-asset-statistics-website.vercel.app>

School Management & Attendance System (HPK EDU)

Aug 2025 - Dec 2025

Web System | RBAC, API Validation, System Integration

- Analyzed initial requirements and defined system flows for a student attendance platform integrated with real-time recognition data from a desktop application.
- Designed and refined role-based access control (RBAC) logic to ensure correct permission handling across user roles.
- Defined and validated attendance logic based on recognition data to ensure accurate and consistent tracking.
- Reviewed backend APIs and identified issues such as inefficient queries, lack of pagination, and excessive response payloads.
- Proposed and enforced improvements (e.g., pagination, data limiting, optimized responses) to reduce server load and improve system performance.

RTSP Video Processing & Human Recognition System

Jun 2025 - Dec 2025

Desktop Application | Python, OpenCV, PostgreSQL

- Designed and developed a desktop application to process RTSP camera streams for real-time monitoring and human recognition.
- Implemented optimized video streaming pipeline using sub-streams to reduce resource usage while maintaining stable performance.
- Built human recognition functionality using embedding vector techniques with PostgreSQL for identity matching.
- Designed processing flow for streaming, detection, and recognition from a single input image dataset.
- Exposed API endpoints for integrating recognition data with external systems.
- Leveraged AI-assisted workflows to explore unfamiliar technologies (Python, vector-based recognition) and accelerate development, with manual validation of system behavior and results.

Real-Time IoT Communication System (HPK eSMART)

Dec 2024 - Jun 2025

Full-Stack | Node.js, React (Web), Flutter (Mobile), MongoDB, MQTT (EMQX), Nginx, PM2

- Designed and built a complete real-time IoT system from concept to production, integrating device communication, backend services, and web/mobile applications for monitoring and analytics.
- Implemented MQTT-based communication (EMQX) to enable reliable data transmission between devices and server.
- Designed real-time data pipeline for ingestion, processing, and visualization of device data.
- Developed backend APIs and user-facing dashboards to support real-time monitoring and reporting.
- Deployed and maintained the system in a production environment using Nginx and PM2, ensuring stability and continuous operation.

E-Commerce Platforms (2 Systems)

Dec 2023 - Dec 2024

Full-Stack | Node.js, React, MongoDB

- Designed and developed 2 end-to-end e-commerce systems from scratch.
- Implemented core modules: product management, order processing, authentication (JWT).
- Built RESTful APIs using Node.js and Express.
- Designed responsive UI using React and TailwindCSS.
- Structured MongoDB database for flexible product and order data handling.
- Managed full development lifecycle: system design → implementation → deployment.