Duc Huynh

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SUMMARY

Software Engineer with hands-on experience building and operating production systems used by thousands of users across backend engineering, full-stack applications, geospatial platforms, IoT systems, API integrations, SaaS products, databases, DevOps, and automation.

Experienced with TypeScript, JavaScript, React, Node.js, NestJS, Go, PHP, Laravel, Java, C#, PostgreSQL, MongoDB, Redis, Docker, Linux, AWS, and cloud infrastructure.

Strong practical experience in system architecture, API design, database transactions, asynchronous workflows, data synchronization, distributed systems, geospatial data, IoT pipelines, production troubleshooting, and third-party integrations.

Experienced working with commercial products and public-sector systems, including the Da Nang City Intelligent Operations Center and travel technology platforms serving international customers.

Comfortable working directly with business stakeholders, government teams, international partners, and clients to translate requirements into technical solutions, define integration scope, estimate development work, and deliver systems to production.

EDUCATION

BTEC FPT College of Danang
Information Technology, Good, GPA: 3.2 / 4.0 *2024*

EXPERIENCE

Software Engineer - Geospatial and Public-Service Systems Jul 2025
DA NANG CITY INTELLIGENT OPERATIONS CENTER (IOC) *Da Nang, Vietnam*

Worked on public-facing digital platforms for Da Nang City, including a city-wide mapping platform and a rainfall, flooding, and emergency response monitoring system.

- New Da Nang City Map — Designed and implemented the New Da Nang City Map following the administrative reorganization.
- Website: https://bando.danang.gov.vn/
- Built the frontend using React and Vite.
- Integrated Google Maps for interactive geographic visualization.
- Delivered the initial implementation in approximately 3 days under a highly time-sensitive requirement.
- Reached approximately 50,000 unique visitors during the first week.
- Designed the interface for rapid access to geographic information and map-based navigation.
- Worked with geographic data in a production public-service environment.
- Optimized application loading and performance for significant public traffic.
- Rain and Flood Monitoring Platform — Worked on a public monitoring platform for rainfall and flooding conditions across Da Nang.
- Key functionality: Rainfall monitoring; Flood-area monitoring; Flooded-road monitoring; Real-time and near-real-time station data; Emergency SOS reporting; Public warning notifications; Administrative monitoring dashboards.
- Technical Work: Developed frontend applications using ReactJS.
- Built backend services using Go.
- Developed a Go-based data ingestion service for distributed rain-monitoring IoT stations.
- Improved sensor data ingestion and persistence.
- Optimized reading, processing, validation, and storage of sensor data.

- Improved reliability and efficiency of high-frequency sensor processing.
- Connected IoT station data with backend services, admin dashboards, and public visualization.
- Worked with geospatial data for rainfall and flood visualization.

Software Engineer / Backend and Platform Engineer October 2023–Present

TRAVELTHRU *Da Nang, Vietnam*

Work across TravelThru's product ecosystem, contributing to backend services, product workflows, integrations, automation, infrastructure, and customer-facing technical solutions.

- Backend and Platform Engineering: Designed and implemented backend functionality for travel and transportation workflows.
- Worked with DDD-oriented backend architecture.
- Implemented transactional workflows using database transactions and MongoDB replica sets.
- Designed and optimized APIs to reduce unnecessary requests.
- Implemented pagination, synchronization, assignment workflows, and state-based processes.
- Worked with PostgreSQL, MongoDB, MariaDB/MySQL, and Redis.
- Driver and Supplier Management: Implemented automatic driver-supplier assignment logic.
- Built synchronization workflows between drivers and suppliers.
- Worked on driver event and state handling.
- Improved assignment, reassignment, and removal workflows.
- Booking and Travel Platform: Improved Booking Script functionality.
- Added invoice options.
- Added default date and time configuration.
- Reduced unnecessary API requests.
- Improved booking workflows.
- Worked on customer profile and loyalty functionality.
- Contributed to supplier pricing and performance workflows.
- Worked on airport and destination functionality.
- API and Partner Integrations: Designed and developed integrations with external travel technology providers.
- Integration areas included: Booking list retrieval; Pagination and total counts; Booking details; Booking acceptance and rejection; Driver assignment; Driver reassignment and removal; Driver events; Status and state transitions; Timestamp and timezone handling; Webhook-based synchronization; Error handling and state mapping.
- Also designed gateway-based integration approaches when suppliers did not provide a direct API.
- Worked directly with international partners on technical requirements, implementation scope, pricing, timelines, and delivery.
- Chat and Automation Infrastructure: Integrated Chatwoot with supporting automation infrastructure.
- Worked with n8n workflows.
- Implemented persistent Zalo token storage to prevent credential loss after workflow restarts or failures.
- Investigated production problems across application, database, Docker, and networking layers.
- Data and Automation: Built and maintained price crawler pipelines.
- Synced crawled pricing data into MongoDB.
- Worked on synchronization and processing across multiple systems.
- Infrastructure and Production: Deployed and operated containerized services with Docker and Coolify.
- Worked with Nginx, Traefik, Cloudflare, SSL/TLS, DNS, and Linux.
- Investigated deployment and networking failures.
- Managed VPS and cloud services.
- Troubleshot database, Docker, SSL, DNS, reverse proxy, and deployment issues.
- Web and SEO: Contributed to TravelThru website development and redesign.
- Published new website improvements.
- Worked on technical SEO.
- Developed airport pages.
- Improved image optimization and website performance.

Full-stack Developer / Technical Consultant

Visit Mauritius Paradise

Built and maintained a complete digital platform for a Mauritius-based transfer and travel business.

- Designed and developed the company website.
- Developed airport transfer booking functionality.
- Implemented customer-facing booking workflows.
- Focused heavily on technical SEO.
- Optimized website structure, content organization, landing pages, and performance.
- Integrated business workflows into the booking platform.
- Website: https://www.visitmauritiusparadise.com/

Full-stack Developer / Technical Consultant

Hue Happy Travel

Developed digital systems for a travel and transfer business.

- Built the company website.
- Developed transfer booking functionality.
- Implemented booking workflows.
- Worked on website architecture and SEO.
- Optimized pages for organic search.
- Connected customer-facing functionality with transportation operations.
- Website: https://www.huehappytravel.com/

Full-stack Developer / Technical Consultant

VN Day Trip

Built and maintained a website and booking platform for a travel and transfer company.

- Developed the customer-facing website.
- Built transfer and trip booking functionality.
- Implemented booking workflows.
- Designed the system around travel and transportation operations.
- Implemented SEO-focused website architecture.
- Improved technical performance and search discoverability.
- Website: https://www.vndaytrip.com/

PROJECTS

Travel Technology Integration Platform | Designed solutions connecting TravelThru with external travel suppliers and technology partners.

- Responsibilities: API architecture; Integration specifications; Partner communication; Booking synchronization; Driver assignment; State and event mapping; Error handling; Webhook design; Technical estimation; Delivery planning.
- Technologies: REST APIs, Node.js, NestJS, MongoDB, PostgreSQL, Docker

Automated Driver Assignment System | Designed and implemented automated workflows connecting drivers and suppliers.

- Key areas: Driver-supplier synchronization; Assignment rules; State transitions; Event handling; Booking lifecycle; API synchronization.
- Focus: reliability, automation, consistency, and reducing manual operational work.

Price Crawler and Data Synchronization | Developed a pricing crawler and synchronization pipeline.

- Key areas: Data extraction; Data normalization; MongoDB persistence; Synchronization; Background processing; Production operation

Chatwoot / n8n / Zalo Integration | Worked on communication infrastructure integrating Chatwoot, Zalo, and n8n.

- Implemented persistent credential and token storage to prevent integration failures caused by workflow restarts.
- Technologies: Chatwoot, n8n, MongoDB, Docker

Contractor Platform | Contributed to a contractor management platform using Domain-Driven Design.

- Worked on: Domain modeling; API architecture; MongoDB replica-set configuration; Transaction support; Backend service organization; Production deployment

TimBoss - Lost Pet Community Platform | Built a community platform designed to help people in Vietnam find lost pets.

- Role: Founder / Developer
- Responsibilities: Product concept; Full-stack development; Backend; Database; Deployment; Infrastructure; Product maintenance
- The project was created as a community-oriented product to help pet owners recover lost animals.

Personal SaaS and AI Platform Research | Exploring the architecture of a platform for solo founders and startups that coordinates AI agents across product development workflows.

- Research areas: Multi-agent systems; Agent coordination; Long-term planning; Persistent state; Governance; Evaluation; Workflow orchestration; Agent memory; Human-in-the-loop systems; Product lifecycle automation; AI engineering infrastructure
- Technical focus: infrastructure that allows specialized agents to collaborate toward long-running product objectives rather than functioning as isolated chatbots.

TECHNICAL SKILLS

Backend Engineering
Full-stack Web Development
REST API Design & Integration
System Architecture
Domain-Driven Design
Distributed Systems
Event-Driven Architecture
Transactional Systems
Idempotency and Reliability
Data Synchronization
Background Jobs
Automation
Production System Development
Node.js / NestJS
Go
PHP / Laravel
Java
C#
PostgreSQL
MongoDB
MariaDB / MySQL
Redis
Supabase
Database Transactions
MongoDB Replica Sets
Query Optimization
Data Pipelines
High-frequency IoT Data Processing
React
React Native
Expo

Vite
TypeScript
JavaScript
Responsive Web Applications
Administrative Dashboards
SEO-focused Web Development
Docker
Docker Compose
Linux / Ubuntu
Windows Server
Nginx
AWS EC2
Coolify
Cloudflare
CI/CD
VPS Infrastructure
SSL/TLS
Reverse Proxies
Containerized Deployments
Production Troubleshooting
REST APIs
GraphQL
tRPC
Webhooks
OAuth / Authentication
Postman
n8n
Chatwoot
Third-party API Integrations
Payment Integrations
Travel Technology Integrations
Google Maps Platform
Mapbox
Mapbox GL JS
OpenStreetMap
PostGIS
QGIS
Nominatim
Overpass API
GeoJSON
Spatial Data Processing
Road Network Data
Interactive Mapping
IoT Data Pipelines
Sensor Data Processing
Real-time Monitoring
Data Ingestion
Data Persistence

Arduino
Blynk Cloud
MQ-2
DS18B20
DHT22

CERTIFICATIONS

HackerRank - JavaScript (Intermediate) Certificate - November 2023
https://www.hackerrank.com/certificates/aecfa756d4a9

LANGUAGES

Vietnamese - Native English - Professional working proficiency

ARCHITECTURE AND ENGINEERING KNOWLEDGE

Domain-Driven Design; Clean Architecture; Modular Monolith Architecture; Microservices; Distributed Systems; Event-Driven Architecture; Saga Pattern; Outbox Pattern; Eventual Consistency; Idempotency; Database Transactions; Distributed State; Caching; API Gateways; Webhooks; Background Jobs; Message-driven Workflows; Data Synchronization; Cursor and Offset Pagination; IoT Data Ingestion; Real-time Monitoring Systems; Geospatial Systems; Reliability Engineering; Production Debugging; Container Orchestration Concepts

BUSINESS AND PRODUCT EXPERIENCE

Translating business requirements into technical specifications; Working with international technology partners; API integration negotiations; Defining integration scope; Estimating development effort; Preparing technical proposals; Defining implementation timelines; Communicating with non-technical stakeholders; Working directly with clients; Evaluating third-party platforms and APIs; Designing integration strategies where direct API access is unavailable; Product and MVP planning; SRS and PRD analysis; Technical research and technology evaluation; Delivering production systems under tight deadlines

PROFESSIONAL INTERESTS

Backend and distributed systems; Developer infrastructure; AI agents and multi-agent systems; Autonomous software engineering; SaaS architecture; API ecosystems; Cloud infrastructure; Geospatial systems; IoT and real-time data; Automation; Developer tools; Product engineering

SELECTED STRENGTHS

Systems Thinking: Able to reason across application code, databases, APIs, infrastructure, data pipelines, external integrations, and operational requirements as one system.

End-to-End Ownership: Comfortable moving from requirements and architecture through implementation, deployment, debugging, optimization, and production maintenance.

Integration Engineering: Strong experience connecting systems that were not originally designed to work together, including third-party APIs, communication platforms, automation systems, IoT infrastructure, and travel technology providers.

Geospatial and Data Systems: Practical experience building public-facing mapping platforms, GIS applications, flood and rain monitoring systems, and IoT data ingestion pipelines.

Product Mindset: Able to connect technical decisions to business requirements, user workflows, operational efficiency, public-service needs, and commercial constraints.

Rapid Delivery: Experienced in delivering production software under aggressive deadlines, including completing the initial implementation of a public city mapping platform in approximately three days.

Practical Architecture: Focuses on architecture that solves real operational problems rather than architecture for its own sake.

REFERENCES

Available upon request.