NGUYEN HOANG PHUC
19/10/1996

CONTACT INFO

Hanoi, Vietnam

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SKILLS

Core Technical Skills

Java, Dart
Quarkus, Spring WebFlux
MongoDB, PostgreSQL,
MariaDB

Prometheus, Grafana
Reactive Programming
Cloud Native, Kubernetes
Kafka, RabbitMQ
Drools, Rule Engine
VictoriaMetrics, OpenTelemetry
JVM, Compiler

Leadership & System Design

Clean Architecture
Microservices, Event-driven
IoT, Edge-computing
Technical Mentoring
Code Review
Cross-functional Collaboration

English:

B1+

Updated **19 Oct 2025**

SUMMARY

About me

Experienced leader specializing in scalable backend systems, distributed computing, and tech-driven logistics platforms. Proven track record in leading cross-functional teams to build cloud-native microservices, IoT ecosystems, and enterprise transportation systems at national scale.

EXPERIENCES

Present
|
06/2024

Viettel Post Co., Ltd.

Department Manager
Project: TMS, Smart IoT

• Led a cross-functional department of 20 engineers, defined technical roadmap and microservice architecture, ensuring scalability and cost efficiency across nationwide logistics operations.

• Design and develop **Transportation Management System** enhances logistics operations through advanced route optimization and real-time shipment tracking of 6.000 vehicles and 11.000 users.

  - Vehicle Routing Optimization: streamlines load planning to maximize vehicle capacity and reduce **5-10% transportation costs**, while minimizing operational workload through automated route planning and real-time decision support.

  - GPS Monitoring and Tracking: Tracks 6.000 vehicles location across 10+ GPS providers in real time and automatically records trip histories, enabling complete visibility of routes, performance analysis, integrates with payroll systems, using activity data as the primary input for driver compensation.

• The **Smart IoT Project** utilizes ThingsBoard IoT to orchestrate a network of devices, including 2.500 AI-cameras, 1.200 fire protection kits, 1.400 IoT Locks, truck sensors, and warehouse sensors.

  - Camera AI: Leverages AI-powered cameras to detect vehicle events, monitor driver behavior, enhancing safety, compliance, and operational efficiency. Provides continuous 24/7 video surveillance and playback capabilities, ensuring real-time incident detection, traceability, and enhanced security across all transport operations.

  - Smart IoT Lock: Implements intelligent IoT-based locking systems that enable remote access control, real-time status monitoring, and secure cargo management throughout the transportation process.

  - The IoT devices had been fed into a **Digital Twin System** for enhanced predictive analytics and decision-making, helpfully optimizes resource management and improves safety and efficiency across logistics operations.

Viettel Post Co., Ltd.

Tech Leader (fulltime - 9 months)
Project: Warehouse Sorting System (Robot, Crossbelt, DWS)

- Developed a large-scale **Warehouse Sorting System** for logistics and warehousing, featuring crossbelt sorters, DWS (dimensioning, weighing, scanning) systems, and robotic automation across Viettel Post's sortation centers and customers.

- Applied microservices and edge computing to optimize the distributed system capable of handling over **20,000 goods per minute** in 4 Mega SOC across nationwide.

- Developed a Digital Twin System that simulates comprehensive **Intralogistics Operations** — including goods receiving, picking, putting, storing, and inventory verification, while tracking the movement of people, goods, and machines in realtime through integrated technologies such as RFID, IoT sensors.

- Applies a dynamic **Rule Engine** to perform intelligent parcel sorting, automatically adjusting sorting logic in real time based on destination, priority, and operational conditions.

- Implemented base projects, core platforms, and libraries for Viettel Post's internal systems, adopting cloud-native standards such as OpenTelemetry, fault-tolerant architecture, and distributed tracing to enhance scalability, resilience, and observability across all services.

https://vtv.vn/cong-nghe/ung-dung-cong-nghe-tu-dong-chia-chon-hang-hoa-thong-minh-tai-viet-nam -20240619155209617.htm

Aargauische Kantonalbank

Backend Development Engineer (remote - 5 months)
Project: Endpoint Security System

- Implement multi-tenancy mechanism for incoming requests, support routing to several databases each tenant.

- Develop and maintain API serving security system using Spring MVC, interact with SQLServer, MySQL by MyBatis.

Viettel High Technology Industries Corporation

Backend Development Engineer (fulltime - 3 years)
Project: NFV Management and Orchestration System

- Developed the 99.99% uptime system which monitors more than a million data points per second of 1000 applications, 200 physical servers, 1000 virtual machines using **Prometheus** and **VictoriaMetrics**, implement and optimize flexible PromQL queries for statistic, performance report via email, subscription. Autoconfigure alerting and scraping of difference monitored targets.

- Implemented Clustering mechanism for ~50 instances of all microservices in system adapted from scalability, high availability and keep consistency in distributed system using **Raft Consensus Protocol/Algorithm**.

- Transformed all microservices from Java **JIT to AOT** by using GraalVM (profiling, agent tracing) to build applications with ~50x startup faster, ~5x lower memory footprint and spending less time doing garbage collection.

- Integrated RabbitMQ as the central messaging broker, ensuring reliable delivery and buffering of ~200 messages per second per microservice, maintaining system stability and fault tolerance.

- Developed a web-based monitoring portal, enabling system-wide configuration management and visualization, including key features such as real-time alerts, metric dashboards, and visualized monitoring topology.
- Developed a management microservice to monitor and control all system microservices, leveraging Jenkins for CI/CD automation on Kubernetes with support for Canary deployment strategies.

Aspired Inc

11/2021 | 06/2020

Mobile Application Developer (remote - 1 year 6 months)
Project: The Aspired
iOS/Android, Social, E-commerce Application
- Develop The Aspired iOS/Android Application by cross-platform Flutter on mobile/tablet. Working with Jira and Agile, Scrum
- Non-profit project

SAMSUNG Mobile Vietnam R&D Center

10/2019 | 09/2018

Software Engineer
Project: SAMSUNG MyFiles
Android P/Q/R, File Manager
- Develop SAMSUNG MyFiles Application on Android P/Q/R platform.
- Joined via SAMSUNG Talent Program.

EDUCATION & AWARD

Viettel Programming Challenge 2024

2024

Silver medal - VTP Transportation   ☐ Hanoi, Vietnam
- Viettel Group
- https://viettelfamily.com/news/thoi-su/viettel-programming-challenge-tro-lai-voi-giai-thuong-hap-dan

Application of Algorithm Certificate

2018

Ranked 104th overall in the international contest   ☐ SAMSUNG Lab
- Samsung Electronics Vietnam

Engineer's Degree

2018 | 2014

Post and Telecommunications Institute of Technology   ☐ Hanoi, Vietnam
- Major: Software Engineering

SAMSUNG Talent Program

2017

Selected as 1 of only 13 recipients of the Scholarship from PTIT   ☐ Hanoi, Vietnam
- SAMSUNG Vietnam Mobile R&D Center