

# Hoang Tran

(+1) 202-352-0158 | [hoangtl.cs@gmail.com](mailto:hoangtl.cs@gmail.com) | [linkedin/hoangtl289](https://www.linkedin.com/in/hoangtl289) | [github/lehoangtran289](https://github.com/lehoangtran289) | [hoangtl.space](https://hoangtl.space)

## SUMMARY

---

Backend-focused Software Engineer with strong experience in building large-scale systems. Specialized in high-concurrency, low-latency, cloud-native infrastructure and performance optimization. Delivered products that serve millions of users.

## EDUCATION

---

**George Mason University** (Expected) Dec 2026  
*M.S. in Computer Science | GPA: 3.86* Fairfax, VA, USA

**Hanoi University of Science and Technology** Aug 2017 – May 2021  
*B.S. in Information Technology | GPA: 3.62 (top 5% of cohort)* Hanoi, Vietnam

## EXPERIENCE

---

**Viettel Digital** May 2021 – Jun 2025  
*Backend Software Engineer* Hanoi, Vietnam

### Customer Engagement Platform

2023 – 2025

- Designed and implemented an **in-house marketing system** to support personalized campaigns via push notifications, in-app messaging, and rewards distribution, delivering **100M+ events** to end users daily.
- Optimized user segmentation creation throughput from **500 to 35,000 QPS**, reducing **p95 latency by 80%** by introducing **Roaring Bitmap-based solution** and multiple caching layers.
- Engineered **workflow automation module** using Camunda, including business process orchestration, rule evaluation, enabling non-technical operations teams to configure marketing workflows independently.
- Led a team of 4 backend engineers** across sprint planning, system design, and code reviews to continuously extend system functionality under growing product demands.
- Owned end-to-end system observability via **Grafana**, identifying performance bottlenecks and resolving them through configuration tuning, caching strategies, and microservices refactoring to improve system reliability and responsiveness.

### Data Tracking System

2022 – 2023

- Designed and delivered a high-throughput **in-house event tracking system** for mobile and web platforms using Java and Spring Boot, processing **150M+ events/day** and **eliminating third-party licensing costs**.
- Implemented an online tracking rule configuration module supporting 3,000+ dynamic rules, **reducing data-capture latency by 30%** via a decision tree-based validation engine that replaced linear rule processing.
- Engineered non-blocking, reactive APIs using **Spring WebFlux** to handle high-concurrency ingestion workloads with minimal thread overhead.

### Smart Authentication System

2021 – 2022

- Collaborated on the research and delivery of **SmartOTP** solution for **20M+ end users**, eliminating reliance on SMS OTPs, **saving over \$200K annually** and enhancing authentication reliability.
- Implemented secure key exchange, OTP generation, and digital signature mechanisms across critical APIs, strengthening authentication integrity and reducing unauthorized access risks.
- Hardened Android application security using native **C/JNI**, applying obfuscation and root/jailbreak/tamper detection, successfully passing enterprise-level security audits.

### User Contact System

2024

- Designed and implemented a backend module to collect and synchronize user contact data across multiple devices for the Viettel Money application, supporting **20M+ end users**.
- Optimized contact storage with Roaring Bitmap, reducing storage usage by **70%** and lowering user matching latency.

## TECHNICAL SKILLS

---

**Languages:** Java, Python, Go, C

**Backend:** Spring Framework, Spring Boot, Camunda, REST, gRPC, JUnit, Mockito, Testcontainers

**Infra & Data:** Apache Kafka, Redis, MySQL, MongoDB, Elasticsearch, MinIO, Clickhouse

**Platform & Ops:** Kubernetes, Docker, Jenkins, Grafana, ELK, K6, Linux, Bash, Git

**AI Tooling:** Claude, OpenAI Codex, Agentic Workflows, Prompt Engineering

## CERTIFICATES

---

AWS Certified Solutions Architect – Associate

Sep 2023

Oracle Certified Java SE Programmer

Apr 2023