

# Ta Quang Tung

SOFTWARE ENGINEER

Thanh Nhan Street, Hai Ba Trung District, Ha Noi

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## Education

### Hanoi University of Science and Technology

Ha Noi, Vietnam

GIFTED STUDENT TRAINING PROGRAM (KSTN), BACHELOR OF COMPUTER SCIENCE

August. 2015 - 2020

- GPA: 3.51/4.0

## Skills

<b>Programming</b>	Go, Python, C++14
<b>Web</b>	gRPC & RESTful API, React, HTMX
<b>Databases</b>	MySQL, PostgreSQL, Memcached, Elasticsearch, Zookeeper
<b>Languages</b>	Vietnamese (Mother tongue), English (Intermediate)
<b>Other Skills</b>	TLA+, TDD, Docker, Kubernetes, LaTeX

## Experience

### Singapore-based Hedge Fund

Ha Noi, Vietnam

FULL-STACK DEVELOPER

Apr. 2024 - Present

- (Key Member) Developed & maintained Service for Managing Trading Data
- Written in Go + gRPC (Backend) & HTMX (Frontend)
- Used PostgreSQL database (core), and multiple SQLite instances
- Managed more than 1PB trading & other data, distributed across multiple data-centers
- Used by other developers and researchers for writing and reading
- Helped to simplify permission control, data synchronization, complex data deletion & reading rules
- Scattered data to multiple storage disks to help improve read & write performance
- Applied TLA+ formal model checking to help design & implement multiple parts of the system, to avoid race conditions and data lost
- TLA+ source code: <https://github.com/QuangTung97/tla-plus/blob/master/USS/USS.tla>

### Teko Vietnam

Ha Noi, Vietnam

BACKEND DEVELOPER

Nov. 2022 - Apr. 2024

- (Key Member) Developed & maintained User-Facing Product Searching & Listing Service
- Written in Go & gRPC & gRPC Gateway
- Taken ownership since December 2023
- Highest traffic service of Teko ERP
- Used Elasticsearch for complex searching & filtering logics
- Developed a sharding mechanism to distribute data on multiple Elastic clusters without downtime
- Multiple tenants can be stored & read from the same or different Elastic clusters
- Applied Memcached with lease mechanism for consistent caching to reduce x5 P95 latency
- Cache hit rate > 99%
- Used MySQL database

### Open Source Projects

Ha Noi, Vietnam

BACKEND DEVELOPER

Dec. 2022 - Present

- Developed a caching library with strong consistency & high performance
- Support memcache lease for consistent caching
- Support complex batching to improve performance
- Support cache replication for high availability & easily restarting memcached instances without affecting performance
- GitHub source: <https://github.com/QuangTung97/memproxy>
- GitHub source: <https://github.com/QuangTung97/go-memcache>
- Applied for two high-traffic services of Teko & VNPay

## Teko Vietnam

### BACKEND DEVELOPER

- (Key Member) Developed & maintained Voucher Service for VNPAY QR & Bank Cards
- Implemented core promotion logic, listing & searching vouchers
- Written in Go with gRPC & gRPC Gateway
- Used MySQL database
- Used Elasticsearch for searching vouchers & near by shops
- Deployed on Kubernetes with CI/CD
- Taken ownership since July 2022

*Ha Noi, Vietnam*

*May, 2021 - Present*

## Hanoi University of Science and Technology

### RESEARCHER

- (One Member) Developed a simple compiler for the Extended PL/0 Language
- Written in C++11
- Used Flex & Bison

*Ha Noi, Vietnam*

*Aug. 2018 - Dec. 2018*

## Interests

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**Logic, Mathematics, Distributed Systems, Programming Languages, Functional Programming, Database Technologies**