Nguyen Duc An
Backend Software Engineer

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About Me

I have 2 years of experience as a Backend Software Engineer working on large-scale services, combining creativity and curiosity to turn big ideas into scalable solutions for users and businesses. With strong self-discipline and a sense of responsibility, I consistently take ownership of my work and collaborate effectively to achieve team goals.

Education

Bachelor of Computer Science - Honors Program Sep 2020 – Sep 2024
Ho Chi Minh City University of Technology (HCMUT)

- GPA: 3.85/4.0 – Ranked 10th across the university cohort in the major.
- Graduation classification: Very Good.
- Major: Honors Program - Software Engineer.

Experience

Middle Software Engineer, Zalopay – VNG, Vietnam Aug 2025 – Mar 2026

- **Live Activities**: Built a distributed backend powering iOS Live Activities for Tet countdown campaigns **(2M+ users)** and extended it to real-time flight ticket progress tracking. Leveraged Redis pub/sub, batch DB querying, and Redis-based idempotency to ensure ordered, scalable updates across multiple pods. Implemented high-concurrency Go workers and an HTTP/2 APNS dispatcher (JWT ES256, rate limiting, retry) for stable low-latency delivery under peak traffic.
- **Scan AI**: Designed and implemented an AI-driven object detection and recommendation system using **CLIP embedding model and FAISS-based similarity vector search (L2 distance)** on the **Qdrant vector database** to suggest top-K contextually relevant items across internal mini-apps and brand partners (e.g., Milo, Lavie, Strongbow). Integrated **LLMs (Qwen 3, Gemma 3)** for semantic text generation with use cases including palm analysis, traffic violation checking, and lottery ticket scanning.
- **A/B Testing Platform**: Developed and maintained a scalable experimentation platform enabling user-experience A/B testing and feature flag–driven rollout of new features across multiple business domains via traffic segmentation. Applied a **Weighted Round-Robin scheduling algorithm** to distribute users based on configurable rollout percentages (e.g., 1%, 25%, 50%, 100%), supporting controlled experimentation and gradual capacity expansion across variants.

Associate Software Engineer, Zalopay – VNG, Vietnam Apr 2024 – Aug 2025

- **Tracking Advertising Hub**: Designed and developed a high-throughput user behavior tracking platform capable of handling **10,000+** RPS, integrating with advertising conversion APIs (Firebase GA4, Appsflyer, TikTok, Meta) for attribution and analytics. Designed a Kafka-based event pipeline to ingest and stream events in real time and applied **Worker Pool patterns** and concurrency programming in Golang with channels and goroutines.
- **Mini App Platform:** Designed and maintained high-performance RESTful and gRPC APIs in Go for a mini-app platform serving **200+ internal and merchant mini apps**. Built an internal management platform to configure mini-app data and enforce RBAC-based access control.

Fresher Software Development, Zalopay – VNG, Vietnam Jan 2024 – Apr 2024

- Attended ZaloPay Annual Fresher Training Camp, one of 15 top Freshers out of 3,000+ applicants.
- **Zalopay Onelink Solution**: Designed and built the Onelink system from scratch in Go for 200+ mini-apps, enabling accurate deep linking across **1,000+** social campaigns. Optimized **redirect latency** to **under 10 ms** using Redis caching strategies. Integrated Kafka pipelines for high-throughput tracking of clicks, redirects, and drop rates in analytics dashboards. Also developed a back-office tool using React and Ant Design.

Technologies

- **Languages & Frameworks**: Golang, Java, Python, NodeJS, JavaScript, TypeScript, React.

- **Infrastructures**: MySQL, Redis, Kafka, Grafana, CDN.

- **Architecture & Design**: System Design, Cloud & AI, Microservice Patterns.

- **Background**: Computer Science Knowledge, Data Structures & Algorithms.

English Proficiency & Certificates

- TOEIC Listening & Reading: 860/990.

- TOEIC Writing & Speaking: 300/400.

Honors & Awards

Top 2 Zalopay Hackathon - AI Solutions - Scan Everything   Sep 2025
- Developed an AI-driven "Scan Everything" solution that enables users to perform image-based searches across the company's mini-app ecosystem. The system recommends Top-K relevant mini apps and items, unlocking opportunities for discovery and cross-selling mini apps.
- Tech stack: Vector Databases, Embedding Models, LLM Models (Qwen, Gemma3)

Top 8 NAB AWS Security Jam 2023 - The JamGuardians   Oct 2023
- We address security-related issues within AWS by utilizing AWS services, ranking among the top 8 out of over 30 teams.
- Tech stack: EC2, S3, Lambda, AWS KMS, AWS IAM, AWS VPC.

Top 4 GDSC Hackathon Vietnam 2023 - Pollunite   Mar 2023
- Out of 110 registration forms and 50 project ideas, we were proud to receive the Consolation Prize at the hackathon for our environmental initiative—raising awareness about littering and creating a system to reward local residents for collecting trash through community-driven fundraising.
- Tech stack: React Native, TypeScript, Firebase.

Projects

EduRPA Platform - Thesis (9.5/10)   github.com/edu-rpa
- Building a Platform as a service (PaaS) product for workflow automation that converts BPMN-designed processes into robotic automation code using ReactJS, NestJS, TypeScript, AWS RDS, AWS Lambda, AWS DynamoDB.
- Setting up GitHub Actions CI/CD pipelines and deployed the application to Amazon ECS services.
- Monitoring robot performance through analytics logs and EC2 instances using AWS CloudWatch.
- Applying pre-trained OCR AI models with RPA to enhance robot features, e.g. automatically grading for fill-in-the-blank questions in Vietnamese text-based exams.
- Tech stack: NestJS, NextJS, TypeScript, BPMN, OCR.