

# Tuan Ngo

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## Education

VNUHCM - University of Science

October 2022 - October 2026 (expected)

Bachelor of Science, **Advanced Program in Computer Science** (GPA: 9.25 / 10.00)

Ho Chi Minh City, Vietnam

- **Relevant Coursework:** Data Structures and Algorithms, Object Oriented Programming, Computer Systems, Introduction to Database Systems, Software Design and Analysis

## Technical Skills

- **Programming Languages:** C++, GoLang, Java, Python, Javascript
- **Technologies and Tools:** NodeJS; MongoDB, Git, Docker, AWS; Linux
- **Spoken Languages:** English, Vietnamese

## Awards

- **Rank 133 out of 415**, The 2023 ICPC Vietnam National Programming Contest  
ICPC is a global competitive programming competition. Competed in teams of 3 to solve 10-13 programming challenges in 5 hours
- **Consolation Prize**, The Vietnam **National Olympiad** in Informatics 2022
- **Rank 25 out of 358**, The 2021 ICPC Vietnam National Programming Contest - High School Division
- Vallet Fellowship 2022 by Rencontres du Vietnam for Excellent Students

## Experience

Le Hong Phong Online Judge (LHPOJ)

Sep 2020 - Present

Co-Founder & Lead System Administrator

Ho Chi Minh City

- Architected and deployed a scalable competitive programming platform (DMOJ/VNOJ-based) serving **1,000+ active users** using Django and Python.
- Optimized system concurrency to handle **100+ submissions/minute** during peak contests by fine-tuning Nginx reverse proxy and Celery workers.
- Customized the open-source platform for educational needs, serving as the primary training hub for the school's National Olympiad in Informatics team.

## Projects

E2EE Signal Protocol Chat Engine | GoLang, WebSocket, Signal Protocol, tvview

Jul 2025 - Aug 2025

- Built an end-to-end encrypted chat application implementing **Signal Protocol specification** for secure messaging with a team of 3.
- Implemented **Double Ratchet Algorithm** with client-side encryption/decryption and key rotation mechanisms to ensure **forward secrecy**.
- Developed real-time messaging system using **WebSocket** supporting direct messages, group chat rooms, and user status tracking.
- Created cross-platform **terminal UI** with login system, room management, and online/offline presence indicators using tvview library.

Skybox | GoLang, MongoDB, Docker, Elastic Search, AWS S3

Jul 2025 - Aug 2025

- Built a secure, scalable cloud storage platform (Google Drive-inspired) with a 4-member team, featuring file upload/download, folder organization, sharing, and version control.
- Designed system architecture including data flow, download pipeline, and JWT-based authentication; implemented database schema with **MongoDB** and **AWS S3** integration for file storage.
- Optimized system to handle **100+ concurrent file uploads/downloads** with minimal latency using Go's concurrency primitives.

Orantio | NodeJS, Apollo GraphQL, MongoDB, Docker

Jun 2024 - Dec 2024

- Developed backend for a Discord-like social platform with a 4-member team, implementing user authentication, server/channel management with role-based permissions, messaging with search functionality, and friend system.
- Built messaging system supporting **40-50 concurrent users** with **average response time under 100ms** using **GraphQL API** with Apollo and React for frontend integration.
- Implemented premium subscription system with **VNPay payment gateway**, including database schema design, transaction logging, and API endpoints for payment processing and subscription management.
- Configured **AWS S3** with CDN caching for efficient storage and retrieval of user-uploaded media; containerized application using **Docker** for deployment.