

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: 9.14 / 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++, 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

Projects

- Orantio** | *NodeJS, Apollo GraphQL, MongoDB, Docker* Jun 2024 - Dec 2024
- Designed and implemented core backend functionalities for a Discord-like application, including messaging, server management, role-based permissions, a friend system, and payment system, in collaboration with a 4-member team.
 - Built key features such as authentication, user profiles, server, and channel management, and a messaging system capable of handling search queries and supporting **40-50 concurrent users** with an **average response time of less than 100ms**.
 - Developed a secure **payment system** using the **VNPay services**, including database table design, logging, pricing, and premium subscription management, while exposing critical APIs for integration.
 - Integrated backend and frontend components using React and Apollo Client to ensure seamless data flow and better user experience.
- Crossy Road** | *C++, Raylib* Dec 2023 - Jan 2024
- Partnered with a team of 4 members to replicate the game Crossy Road using C++ and Raylib, focusing on gameplay mechanics and user experience.
 - Applied **Object-Oriented Programming** principles and utilized **design patterns** to create a maintainable, scalable codebase for game development.
 - Delivered key features including a scoring system, dynamic difficulty adjustments, character customizability with different skins, and an intuitive menu interface.
- Word Dictionary** | *C++, Raylib* Aug 2023 - Sep 2023
- Collaborated with a team of 4 members to develop a cross-platform word dictionary application using C++ and Raylib, supporting searches for Vietnamese-English (VI-EN), English-Vietnamese (EN-VI), and emoji-English (emoji-EN) translations.
 - Designed and implemented efficient data structures, including a **Trie** and **Hashmap**, to optimize word search and storage, allowing quick lookup times for various translation queries.
 - Implemented customizability features allowing users to add their own data sets to the dictionary.