Minh Thiên Hoàng

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Education

High School for the Gifted, VNUHCM HCMC, Vietnam
Student of Specialized Interdisciplinary Informatics class *Aug. 2024 – Present*

Honors and Awards

Excellent student at city competition. HCMC, Vietnam
Third prize *Mar. 2023*

Projects

TGB Event | *Nuxt, ASP.NET, PostgreSQL, Redis, Docker* June 2025 – Present
- Developed an event registration system capable of handling approximately 1,000 concurrent users.
- Implemented comprehensive backend optimizations using Entity Framework Core and advanced caching techniques.
- Achieved a Lighthouse score of 99 for the frontend on both mobile and desktop, as per PageSpeed Insights.
- Gained valuable experience in project leadership and optimizing both frontend and backend components effectively.

simd-research | *C++* May 2025 – June 2025
- Conducted an experiment to optimize the MCQs scoring process using AVX2 and AVX512 instructions available on modern x86_64 CPUs.
- Achieved a performance improvement from 2x to 9x over the unoptimized scalar version.
- Gained experience in using CMake, optimizing with compiler intrinsics, and automating testing and benchmarking with Google Test and Google Benchmark.

Thanh Sắc Việt website | *Nuxt, anime.js* Apr. 2025 – Present
- A website to introduce Vietnamese musical cultural activities.
- This is a Fulbright Spring STEM Mentorship project.
- Reached the Lighthouse score of 96.
- Helped me learn how to animate the website elements, how to optimize the performance, and how to prevent issues with SSR vs. normal SPA development.

tgboj-v2, tgboj-v2-docker | *Python, Docker, Caddy* Feb. 2025 – Present
- An online judge platform forked from VNOJ.
- The NGINX setup was migrated to Caddy to reduce maintenance hassle.
- This platform is now running smoothly at **oj.giftedbat.edu.vn**. The entire system was migrated to a new server, updated with new features, and the old data was migrated in approximately 8 hours of work.

ubuntu-post-install | *Ansible YAML* Feb. 2025 – Present
- A post-install Ansible playbook for Ubuntu Desktop and Server.
- This project was used in production in the tgboj-v2 project mentioned above.

PTNK IDE | *Vue, ASP.NET Core, Docker* Dec. 2024 – Present
- I'm the main developer of the project.
- Developed for non-Informatics-specialized students of my school to reduce device setup hassle and maintain consistency between judging and testing environments.
- This project was developed in about 50 hours of code (monitored with WakaTime).

PTNKOJ | *Python, Docker*   Nov. 2024 – Present
- I'm one of the platform's judge maintainers and main assistant.
- My job was assisting with VPS maintenance and file synchronization across judges.

mowfymy.netlify.app | *Vue, TailwindCSS, Astro*   June 2023 – Present
- A blog website developed for my foreign English teaching assistant.
- Post and media managed via Sanity Studio and deployed using Netlify.
- Support dark and light themes.
- My first project ever for external customers (but it's developed for free).

access-c6-game, **access-self-check-game** | *Vue, TailwindCSS, Socket.io*   Nov. 2023
- Improved version of "quiz-game" and "history-quiz-game" for use in my English presentations to review my class lessons.
- Client-server interactivity via WebSocket using Socket.io.
- Currently only supports LAN connections.
- Helped me learn how to establish and maintain real-time connections between devices.

quiz-game, **history-quiz-game** | *Vue, TailwindCSS*   Feb. 2023 – Sep. 2023
- Quiz games for use in literature presentation ("quiz-game" - the original version) and improved version ("history-quiz-game") for use in history presentation in my class.
- Random wheel embeddable via the "iframe" element.
- Crossword-like to make the game more attractive.
- Reusable by configuring quizzes inside the "quizes.ts" file (JSON file not yet supported).
- Helped me perfect my web development skills for use in production (in front of 40 people).

fedora-post-install-script | *Python, Bash*   Nov. 2021 – Dec. 2022
- A post-install script for Fedora Linux.
- The first version was written in Python, now in Bash.
- TUI-supported.
- This is the first project I created when I began the Linux journey.

TECHNICAL SKILLS

Languages: x86 ASM, C / C++, C#, HTML, CSS, SCSS, JavaScript, TypeScript, Go, Python, Bash
Frameworks: Vue.js, NestJS, Nuxt, Astro, WPF, AvaloniaUI, Flutter, ASP.NET Core
Developer Tools: Git, Docker (and Docker Compose), Ansible, GitHub Actions, Netlify, Supabase, Firebase, VS Code, Visual Studio, JetBrains IDEs, Android Studio, Caddy
OSes: Fedora Linux, Ubuntu Linux, Windows, macOS

OTHER SKILLS

Languages: Vietnamese (first language), English (intermediate)
Skills: Google Workspace, LaTeX, some knowledge of networking and electrical engineering, basic understanding of Machine Learning (with Kaggle certificates)
Interests: Listening to music, reading books (about the economy and IT, especially O'Reilly released ones like "Designing Data-intensive Applications" or "Software Engineering at Google"), reading online blogs (related to IT optimization problems or scaling big systems like the Discord Engineering Blog and Daniel Lemire's blog)