

PHAM HAI MINH

COMPUTER SCIENCE

PROFESSIONAL SUMMARY

Highly motivated Computer Science student at NUS with strong foundations in **full-stack development**, **test automation**, and **quantitative analysis**. Demonstrated expertise in developing automated solutions and AI- integrated applications through research assistant roles.

Proven track record in mathematical modeling and algorithmic problem-solving, ranking **19th** in NUS Alphathon 2024 and achieving multiple national-level mathematics awards. Experienced in building scalable applications using **React**, **Express.js**, **Golang**, **PostgreSQL** and modern testing frameworks such as **Playwright**, **Selenium**.

CONTACT

Phone: +65 9845 6996
Email: phminh2105@gmail.com

Address: 10 Kent Ridge Drive, Singapore 119242
Links: [GitHub](#), [LinkedIn](#)

WORK EXPERIENCE

Research Consultant

Nov 2024 - Present

WorldQuant BRAIN, Remote

- Created and optimized **100+** quantitative financial models (Alphas) using WorldQuant's BRAIN platform to predict market movements effectively.
- Conducted extensive data analysis, leveraging a database of over **120,000 fields** across diverse financial instruments and regions.
- Enhanced skills in quantitative analysis and finance through continuous learning opportunities, including webinars and in-depth resources.

Junior Research Assistant (QA)

Sep 2024 - Present

National University of Singapore, TeleHealthCore, Singapore

- Engineered a **Full-Stack web application** using **React** and **Express.js**, integrated Anthropic's Claude AI API with robust error handling and validation and designed responsive **UI/UX** using **Tailwind CSS** and established **RESTful API** architecture
- Developed comprehensive automated QA testing framework using **Playwright** for critical features.

INDIVIDUAL PROJECT

Student Hub Singapore - Academic Web Forum

Dec 2024 - Jan 2025

Individual Full-stack Project | GitHub ([Frontend](#) + [Backend](#)) | [Link](#)

- Engineered a **full-stack** academic forum platform using **React**, **TypeScript**, **Go**, and **PostgreSQL**, serving **3 specialized discussion categories** for university students
- Implemented secure authentication with **JWT tokens** and **bcrypt**, integrated with **Supabase** for database management
- Built responsive UI using **Tailwind CSS** and **Framer Motion**, featuring real-time updates and optimized performance
- Deployed frontend and backend on **Vercel** with automated CI/CD pipeline, achieving **99%** uptime

ACADEMIC HISTORY

National University of Singapore

Aug 2024 - Present

Bachelor of Computing in Computer Science

- Programming Methodology (A), Discrete Mathematics (A), Calculus for Computing (A-), Economics of AI and IT (B+)

CERTIFICATION

NUS Alphathon 2024

WorldQuant BRAIN

- Ranked **19th** in NUS Alphathon 2024, a quantitative finance competition by WorldQuant BRAIN

International Math Modeling Competition 2023

Consortium for Mathematics and its Applications

- Worked with a mentor (Nguyen Trung Hieu, PhD. at Vietnam National University - Hanoi University of Science) to evaluate and design a **quantitative metric** to achieve best land use for a real **3-square-kilometer** area located in Syracuse, USA
- Built a **math algorithm** to put weight on each factor including: Business Profit, Environmental Impact, Community Value and Feasibility
- Received **Honorable Mention research paper** in International Math Modeling Competition

Vietnam Math Modeling Competition 2023

Vietnam Institute for Advanced Study in Mathematics

- Developed a math model that successfully generates **optimal** drone routes for spraying in agriculture based on **50+ map** data
- Built a math algorithm that computed drone battery usage based on its weight and speed and conducted a comprehensive re-evaluation of the algorithm's metrics.
- Ranked among the **top 8 finalists** in Vietnam Math Modeling Competition, receiving **commendation** from the Specialist Department of Vietnam Institute for Advanced Study in Mathematics

