

Quan Hoang | Curriculum Vitae

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Employment

10/2021–
07/2024 **Instructor**, *Faculty of Mathematics, Mechanics and Informatics*,
VNU University of Science, Hanoi, Vietnam

Education

08/2024–
present **PhD student**, *National University of Singapore*, Singapore

2017–2021 **Bachelor**, *VNU University of Science*, Hanoi, Vietnam

Talented Program in Mathematics

GPA: 3.72/4 Grade: High Distinction

Thesis title: Starter balanced tournament designs: construction and applications

Supervisors: Dr. Nam-Dũng Hoang and Prof. Moshe Rosenfeld

Area of Interest

- Quantitative finance
- Integer programming
- Operations research
- Recreational mathematics

Industrial projects

09/2023–
present **Member**, *Timeseries forecasting for F&B industry*
Developed models using time series analysis to predict numbers of customers in restaurants on daily basis.

12/2022–
present **Member**, *Personnel timetable scheduling for dairy production*
Designed scheduling algorithms to promote labor fairness between personnels with various requirements on skills suitability, absence schedules, and shift preferences.

01/2021–
06/2022 **Member**, *Inventory optimization*
Built inventory planning algorithms for a large electronics retailer in Vietnam, resulting in a 14% decrease in overall inventory costs while preventing retail shortage.

Teaching experience

2022–2024 **Python programming**, *VNU University of Science*

2022–2024 **Optimization**, *VNU University of Science*

2021–2024 **Analysis 1**, *VNU University of Science*

Academic research

- 10/2020–
08/2021 **Researcher**, *Starter Balanced Tournament Designs*
Supervisors: Dr. Nam-Dũng Hoang and Prof. Moshe Rosenfeld
Proposed and built integer programming models for constrained one-factorizations of K_{2n} (also known as Round Robin tournament schedules) in which every one-factor is a starter.
- 10/2018–
09/2019 **Researcher**, *Bacterial Motility Near a Smooth Surface*
Supervisors: Dr. Nam-Dũng Hoang, Prof. Hoa Nguyen, and Assoc. Prof. Orrin Shindell
Analyzed three-dimensional motion of *E. coli* reconstructed from two-dimensional images generated by total internal reflection fluorescence microscopy.
Conducted research at Trinity University from 06/2019 to 08/2019.

Presentations and talks

- 08/2022 Recreational chess puzzles and integer programming, *HUS-VAST-HPU joint mathematical meeting for young researchers 2022*
- 07/2022 Analog clocks and mathematical inspirations, *VIASM Summer School for high school students*
- 06/2021 Starters Balanced Tournament Designs, the 34th Conference of the European Chapter on Combinatorial Optimization 2021
- 08/2020 Bacterial Motility Near a Smooth Surface: Experiments and Analysis, *Society of Mathematical Biology Annual Meeting 2020*

Publications

- (submitted) Nam-Dũng Hoang, **Quan Hoang**, Moshe Rosenfeld.
Starter Factorization of K_{2n} .

Activities

- 2023, 2024 **Jury member**, Vietnam Math Modeling Competition
Taught introductory sessions on optimization modeling using Python and Gurobi Optimizer for a group of 20-30 students.
Evaluated submissions from participants and provided feedback for their performance.
🌐 <https://vm2c.viasm.edu.vn/>
- 07/2022–
09/2022 **Instructor**, *MIMPython summer class*
Instructed undergraduate students on a Introduction to Python programming course with a proactive learning environment through practical exercises.
🌐 <https://mimpython.github.io/>
- 12/2020 **Instructor**, International Math and Science Olympiad (IMSO)
Led exploration sessions in problem-solving strategies for Vietnam's IMSO Mathematics Team, consisted of 12 top secondary school pupils.
- 11/2020 **Mentor**, Math Open Day 2020 (VIASM)
Provided support to attendants exploring mathematical concepts, ensuring their comprehension and successful problem-solving.
🌐 <https://www.facebook.com/viasmmod/>
- 2017–2018 **Organizer**, *content team*, Math Modeling Contest
Designed mathematical problems inspired from real-world events.
🌐 <https://www.toanmohinhvn.com/>

Academic Honors, Awards, and Grants

- 07/2019 Trinity University Undergraduate Fellowship
Award amount: \$5,715. Covered travel expenses, meal per diem, guest house cost during research duration at Trinity University, Texas, USA.
- 05/2019 First Prize at Student Scientific Research Conference, VNU University of Science, Hanoi
- 04/2019 First Prize in Analysis, National Mathematical Olympiad for University Students
- 04/2018 First Prize in Algebra, National Mathematical Olympiad for University Students
- 04/2018 Second Prize in Analysis, National Mathematical Olympiad for University Students
- 01/2017 Third prize (Bronze Medal), *Vietnam Mathematics Olympiad*
- 01/2016 Third prize (Bronze Medal), *Vietnam Mathematics Olympiad*

Languages

- Vietnamese Mother-tongue
- English Intermediate, TOEFL IBT 96/120

Miscellaneous

- Writing: \LaTeX
- Version control: git, Github
- Programming: Python, Mathematica
- Operating system: Ubuntu

References

- Dr. Nam-Dũng Hoang, VNU University of Science, Hanoi, Vietnam
✉ hoangnamdung@hus.edu.vn
- Prof. Moshe Rosenfeld, University of Washington Tacoma, Tacoma, Washington, United States
✉ moishe@uw.edu
- Prof. Hoa Nguyen, Trinity University, San Antonio, Texas, United States
✉ hnguyen5@trinity.edu