

Truong Vu-Quang

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Personal Statement

Dedicated AI researcher with a strong foundation in computer science and a focus on developing cutting-edge solutions in computer vision, especially efficient object detection. Graduated top of my class, I aim to deepen my expertise in artificial intelligence, contributing to groundbreaking research and technological advancements.

Education

Hanoi University of Science and Technology (HUST)

Hanoi, Vietnam

Bachelor of Computer Science, Talented Program.

2019 - 2023

- **CGPA:** 3.90/4.0. Graduated #1 in the program.
- **Thesis:** SPARTA-GEMSTONE: A two-phase approach for efficient node placement in 3D wireless sensor networks under Q-Coverage and Q-Connectivity constraints.

Experience

VinAI Research

Hanoi, Vietnam

AI Resident - Supervisor: Prof. Minh Hoai Nguyen

02/2023 - Present

- **Efficiency-preserving Scene-adaptive Object Detection:** Developed a framework for multi-camera video streams, achieving state-of-the-art precision-efficiency trade-offs (4.65 mAP improvement). Accepted for oral presentation at BMVC 2024.
- **Low-Rank Prompt Adaptation for Open-Vocabulary Object Detection:** Pioneered a framework that optimizes textual prompts, achieving state-of-the-art performance across five datasets with minimal annotation requirements.
- **Unidentified License Plate Detection:** Built a detection pipeline for obscured license plates, integrating OCR, and awarded Best Applied Rotation Project in Q2 2024.

MSO Lab, HUST

Hanoi, Vietnam

Member - Supervisor: Assoc. Prof. Thi Thanh Binh Huynh

10/2020 - Present

- Conducted research on target and area coverage problems in wireless sensor networks (WSNs) and mentored new lab members. Two papers accepted in *Journal of Network and Computer Applications* (Q1, IF 7.7).

FPT Software

Hanoi, Vietnam

AI Engineer Intern

08/2022 - 02/2023

- Developed a chatbot using Rasa to assist the IT Helpdesk team, automating user inquiries and improving support response times.

Publications

Conference Proceedings

1. Z. Zhang, **V. Q. Truong**, and M. Hoai, "Efficiency-preserving scene-adaptive object detection," in *35th British Machine Vision Conference 2024*.

Journal Articles

1. **Q. T. Vu**, P. T. Nguyen, T. H. Nguyen, T. T. B. Huynh, V. C. Trinh, and M. Gidlund, "Striking the perfect balance: Multi-objective optimization for minimizing deployment cost and maximizing coverage with harmony search," *Journal of Network and Computer Applications*, vol. 232, p. 104 006, 2024.
2. N. T. Hanh, H. T. T. Binh, **V. Q. Truong**, N. P. Tan, and H. C. Phap, "Node placement optimization under q-coverage and q-connectivity constraints in wireless sensor networks," *Journal of Network and Computer Applications*, vol. 212, p. 103 578, 2023.

Under review

1. **V. Q. Truong**, T. T. Minh, N. T. Hanh, et al., "SPARTA-GEMSTONE: A two-phase approach for efficient node placement in 3D WSNs under Q-Coverage and Q-Connectivity constraints."
2. Z. Zhang*, **V. Q. Truong***, and M. Hoai, "Low-rank Prompt adaptation for open-vocabulary object detection."

Awards and Achievements

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| Best Applied Rotation Project of Quarter 2, VinAI Research | 2024 |
| Third prize , AI Hackathon: Face Analysis Challenge, Pixta Vietnam | 2024 |
| 2 times Sumitomo Sponsor Scholarship , HUST | 2023, 2020 |
| Best Presentation Award for the graduation thesis in the Optimization committee, HUST | 2023 |
| First prize , SoICT Hackathon, Tiki Track | 2023 |
| Consolation Prize , SoICT Student Research Conference | 2022 |
| 3 times Study Encouragement Scholarship , HUST | 2022, 2021 |
| Top 6 in National High School Exam with Math, Physics, and English combination | 2019 |

Certifications

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| IELTS Academic: 8.0 (Reading 9.0, Listening 8.5, Writing 7.0, Speaking 6.5), British Council | 2024 |
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Skills

Technical: Java, Python, C/C++, SQL, LaTeX, MySQL, PostgreSQL, SQLite

Language: Proficient in English (reading, writing, speaking)

AI Expertise: Computer Vision

Others: Academic research, teamwork, presentation skills

References

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|---|---|
| 1. Minh Hoai Nguyen , <i>Professor</i> | The University of Adelaide, Australia |
| Email: minhhoai.nguyen@adelaide.edu.au | |
| 2. Thi Thanh Binh Huynh , <i>Associate Professor</i> | Hanoi University of Science and Technology, Vietnam |
| Email: binh.huynhthithanh@hust.edu.vn | |