

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. Three 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**, T. M. Trinh, T. H. Nguyen, V. C. Trinh, T. T. B. Huynh, X. T. Nguyen, and C. P. Huynh, "SPARTA-GEMSTONE: A two-phase approach for efficient node placement in 3D WSNs under Q-Coverage and Q-Connectivity constraints," *Journal of Network and Computer Applications*, vol. 239, p. 104175, 2025.

2. **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.

3. 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.

4. **V. Q. Truong**, T. T. Minh, N. T. Hanh, T. V. Chien, H. T. T. Binh, N. X. Thang, and H. C. Phap, “SPARTA-GEMSTONE: A two-phase approach for efficient node placement in 3D WSNs under Q-Coverage and Q-Connectivity constraints.”, *Journal of Network and Computer Applications*, 2025

Under review

1. Z. Zhang*, **V. Q. Truong***, and M. Hoai, “Low-rank Prompt adaptation for open-vocabulary object detection.”
 2. **V. Q. Truong**, T.T. Minh, T. Q. Hien, N. T. Hanh, and H. T. T. Binh, “STEAM: Securing the connections in wireless sensor networks with varying target priority.”

Awards and Achievements

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

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

1. **Minh Hoai Nguyen**, *Professor* The University of Adelaide, Australia
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 2. **Thi Thanh Binh Huynh**, *Associate Professor* Hanoi University of Science and Technology, Vietnam
Email: binhht@soict.hust.edu.vn