Khang Truong Giang

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Profile

Name **Khang Truong Giang**
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Education

2021–2024 **PhD in Computer Science (expected graduation in August)**.
Korea Advanced Institute of Science and Technology (KAIST)
Advisors: *Prof. Sungho Jo, Prof. Soohwan Song*
Research interests: 3D reconstruction, image matching, visual localization, depth estimation. My ultimate goal is to build an autonomous system that can model and understand our real world from 2D images.

2019–2021 **MS in Computer Science**.
Korea Advanced Institute of Science and Technology (KAIST)
GPA – 3.8/4.3

2013–2018 **B.Sc**, *Hanoi University of Science and Technology (HUST)*, Vietnam.
School of Information and Communication Technology – Talent Program
GPA–3.62/4.0 – Graduation with Honors (Excellent Degree)

Publications

[C4] **Khang Truong**, Soohwan Song, and Sungho Jo. "Learning to Produce Semi-dense Correspondences for Visual Localization." *Computer Vision and Pattern Recognition Conference (CVPR)* 2024. (**top-tier in CV**)

[arXiv] **Khang Truong**, Soohwan Song, and Sungho Jo. "TopicFM+: Boosting Accuracy and Efficiency of Topic-Assisted Feature Matching." *Under review at IEEE TIP*

[C3] **Khang Truong**, Soohwan Song, and Sungho Jo. "TopicFM: Robust and Interpretable Topic-assisted Feature Matching." *AAAI Conference on Artificial Intelligence (AAAI), 2023.* (**top-tier in AI**, acceptance rate: 19.6% of 8,777 submissions)

[J4] Mun J, **Khang Truong**, Lee Y, Oh N, Huh S, Kim M, Jo S. "HybGrasp: A Hybrid Learning-to-Adapt Architecture for Efficient Robot Grasping". *IEEE Robotics and Automation Letters 2023* (**Impact Factor: 5.2**)

[J3] Soohwan Song*, **Khang Truong***, Daekyum Kim, and Sungho Jo. "Prior depth-based multi-view stereo network for online 3D model reconstruction." *Pattern Recognition 2023* (**Impact Factor: 8.0**, *co-first author)

[C2] **Khang Truong**, Soohwan Song, and Sungho Jo. "Curvature-guided dynamic scale networks for multi-view stereo." *International Conference on Learning Representations (ICLR), 2022.* (**top-tier in ML/DL**)

[J2] **Khang Truong**, Soohwan Song, Daekyum Kim, and Sunghee Choi. "Sequential Depth Completion With Confidence Estimation for 3D Model Reconstruction." *IEEE Robotics and Automation Letters 6, no. 2 (2020): 327-334.* (**Impact Factor: 5.2**)

[J1] Vu Dieu, **Khang Truong**, Khanh Nguyen, Ngo Van Linh, and Khoat Than. "Revisiting Supervised Word Embeddings." *Journal of Information Science & Engineering 38, no. 2 (2022).*

[C1] Khoat Than, Xuan Bui, Tung Nguyen-Trong, **Khang Truong**, Son Nguyen, Bach Tran, Linh Ngo Van, and Anh Nguyen-Duc. 2019. "How to make a machine learn continuously: a tutorial of the bayesian approach". In *Artificial Intelligence and Machine Learning for Multi-Domain Operations Applications, volume 11006, page 110060I.*

Honors and Awards

2023 **Top 9% (Silver Medal)** on the Kaggle Image Matching Challenge

2021–now **Hyundai Motor Chung Mong-Koo Scholarship** for outstanding PhD students

2019–2021 **Full KAIST Scholarship** for Master's program

2018 **Excellence Scholarship** from HUST for outstanding performance

2017 **Lotte Sholarship** for outstanding students

2014 **Certificate of Excellence** from HUST for the first ranked student

2013 **Third prize in Vietnam Mathematical Olympiad** for high school students

Experience

2019 – now **Research Assistant**, *Neuro-Machine Augmented Intelligence Lab*, KAIST, South Korea.

- worked on some tasks of 3D reconstruction including feature matching, visual localization, and depth estimation.
- published papers at prestigious conferences (CVPR, AAAI, ICLR) and journals (Pattern Recognition, IEEE Robotics and Automation Letters).
- actively maintain and contribute research code on GitHub: CDS-MVSNet — an accurate learning-based multi-view stereo method, TopicFM — a robust and efficient image matching model, and DeViLoc — a semi-dense visual localization system.

2018 – 2019 **Software Engineer**, *Viettel High Technology Industries Corporation*, Hanoi, Vietnam.

- built a robust machine learning model to predict user activity levels in the telecommunication network.
- deployed the model as a Web API by using Flask.

2016 – 2018 **Undergraduate Research Intern**, *Data Science Lab*, HUST, Vietnam.

- implemented and released open-source code for various topic modeling methods.
- co-authored two papers about text mining using topic models.

Academic Activities

Reviewer **Conferences**: *CVPR 2024* (top-tier conference in Computer Vision)
Journals:

- *IEEE Transactions on Image Processing 2024*
- *IEEE Transactions on Circuits and Systems for Video Technology 2023*
- *IEEE Robotics and Automation Letters 2023*
- *IEEE Transactions on Automation Science and Engineering 2024*

Mentor advising two undergraduate students to do research.

TA Course: IT4040 – Artificial Intelligence, SoICT, HUST (from August to December 2017)

Computer skills

Programming	Python (advanced), C/C++ (basic)
Framework	Pytorch (advanced), Pytorch Lightning (intermediate)
Miscellany	Linux (advanced), LaTeX. Able to learn a new tool/framework quickly

Languages

Vietnamese	Mothertongue
English	Advanced Level