

# QUANG-HUY NGUYEN

Vietnam

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Academic webpage

GitHub/quanghuy0497

## RESEARCH INTEREST

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My research interests are Few-shot Learning, Attention mechanism, and Optimization on Deep Learning model for Computer Vision tasks.

## EDUCATION

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- **Computer Engineering, University of Information Technology, VNU-HCM** Ho Chi Minh City, Vietnam  
*Bachelor of Engineering* August, 2015 - May, 2020
  - **Graduate thesis:** Detection and classification on sensitive images and videos using deep learning neural network
  - **Academic advisor:** Assoc. Prof. Duc-Lung Vu

## RESEARCH EXPERIENCES

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- **VinUni-Illinois Smart Health Center, VinUniversity** Ha Noi, Vietnam  
*Research Assistant* Jan, 2022 - June, 2022
  - **Description:** Proposing a Yoga poses recognizing and scoring framework with limited data. Proposing and developing a few-shot image classification algorithm named FSTF (FewShot-TransFormer). Developing a new attention mechanism based on cosine similarity that outperforms the multi-head self-attention in various scenarios across datasets.
  - **Advisors:** Assist. Prof. Duy-Dung Le, Dr. Hieu Pham, Prof. Minh Do
- **University of Information Technology, VNU-HCM** Ho Chi Minh City, Vietnam  
*Research Assistant* July, 2019 - Dec, 2021
  - **Description:** Working with Mask R-CNN for sexual body parts detection and segmentation. Proposing and developing a two-phase ensemble training strategy for boosting Mask R-CNN performance. Developing a semi-automatic annotating tool for large-scale labeling with a finer, more detailed segmentation mask. Building a large-scale visual dataset for pornography classification/sexual organ detection tasks and designing evaluation scenarios for the dataset. Developing a video classification algorithm using inter-intra representation that outperformed many existing methods.
  - **Advisor:** Assoc. Prof. Duc-Lung Vu

## PUBLICATIONS

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- Dinh-Duy Phan, **Quang-Huy Nguyen**, Thanh-Thien Nguyen, Hoang-Loc Tran, and Duc-Lung Vu. "Joint inter- intra representation learning for pornographic video classification", *Indonesian Journal of Electrical Engineering and Computer Science*, 2022.
- Dinh-Duy Phan, Thanh-Thien Nguyen, **Quang-Huy Nguyen**, Hoang-Loc Tran, Khac-Ngoc-Khoi Nguyen, and Duc-Lung Vu. "LSPD: A Large-Scale Pornographic Dataset for Detection and Classification", *International Journal of Intelligent Engineering and Systems*, 2022.
- Dinh-Duy Phan, Thanh-Thien Nguyen, **Quang-Huy Nguyen**, Hoang-Loc Tran, Khac-Ngoc-Khoi Nguyen, and Duc-Lung Vu. "A Novel Pornographic Visual Content Classifier based on Sensitive Object Detection", *International Journal of Advanced Computer Science and Applications*, 2021.
- Hoang-Loc Tran, **Quang-Huy Nguyen**, Dinh-Duy Phan, Thanh-Thien Nguyen, Khac-Ngoc-Khoi Nguyen, and Duc-Lung Vu. "Additional learning on object detection: A novel approach in pornography classification", *Proceedings of the FDSE 2020: Future Data and Security Engineering. Big Data, Security and Privacy, Smart City and Industry 4.0 Applications*, 2020.
- **Quang-Huy Nguyen**, Khac-Ngoc-Khoi Nguyen, Hoang-Loc Tran, Thanh-Thien Nguyen, Dinh-Duy Phan, and Duc-Lung Vu. "Multi-level detector for pornographic content using CNN models", *Proceedings of the 2020 RIVF international conference on computing and communication technologies (RIVF)*, 2020.

## FEATURE PROJECTS

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- **Few-shot Learning** Feb, 2022 - May, 2022  
*GitHub Repository*
  - **Description:** Introducing the basic concepts and baseline algorithms of Few-shot Learning. Reviewing and summarizing Few-shot Learning methods and algorithms on Computer Vision tasks.
- **Transformers4Vision** Oct - Dec, 2021  
*GitHub Repository*
  - **Description:** Reviewing, summarizing, and systematizing Attention mechanism, Transformer architectures and their variant applications on trivial Computer Vision tasks, including image classification, object detection, semantic/ instance segmentation

## RELEVANT COURSES

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- **Deep Learning Specialization** August 20th, 2021  
*Prof. Andrew Ng* *DeepLearning.AI, Coursera*
- **Writing in the Sciences** July 29th, 2021  
*Prof. Kristin Sainani; Certificate with **honor*** *Stanford University, Coursera*
- **Machine Learning** June 18th, 2021  
*Prof. Andrew Ng* *Stanford University, Coursera*

## HONORS AND AWARDS

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- **UIT Office of Excellent Programs Scholarship – Full Scholarship** Fall 2019  
*Office of Excellent Programs – UIT (For highest GPA student over academic year class in the faculty)*
- **UIT Encouraging Scholarship** Fall 2018/2019  
*Office of Student Affairs – University of Information Technology*

## TECHNICAL SKILLS

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- **Programming languages:** C++, Python
- **Deep Learning frameworks and tools:** PyTorch, TensorFlow, OpenCV, Numpy, Pandas, WandB
- **Other:** Bash Shell, VIM, L<sup>A</sup>T<sub>E</sub>X

## STANDARDIZATION TEST RECORDS

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- **GRE General Test** 14th Jan, 2021  
*Overall: **309** (161Q, 148V, 3.0AW)*
- **IELTS Academic Test** 13th Sep, 2022  
*Overall: **7.0** (7.5R, 8.0L, 6.5W, 6.5S)*