TIEN PHUOC NGUYEN

Suwon, South Korea ⋄ Male ⋄ 1992-01-05 ⋄ Vietnamese

(+82)10-8684-0105 ⋄ tiennp51@gmail.com ⋄ linkedin.com/in/tiennp51

EDUCATION

Sungkyunkwan University, South Korea   *Sep. 2015 - Jul. 2020*
Ph.D in Electrical and Computer Engineering
Major in Computer Vision, Machine Learning, and Artificial Intelligence
Member of Automation Lab

Vietnam National University HCMC - IU, Vietnam   *Sep. 2010 - Feb. 2015*
Bachelor of Science in Computer Science
Major in Computer Vision and Software Engineering
Member of CVIP Research Group

EXPERIENCE

Computer Vision Research Engineer   *Aug. 2020 - Present*
@42dot.ai, South Korea
Researching advanced computer vision and cutting-edge machine learning algorithms to develop human-like visual recognition in autonomous driving systems.
Collaborating with team to deliver autonomous vehicle-based services in the real-world.

Computer Vision and Perception Researcher   *Sep. 2015 - Aug.2020*
@Automation Lab, Sungkyunkwan University, South Korea
Researching and developing perception algorithms for machines using 2D, 3D sensors, together with expertise in Computer Vision and Machine Learning.
Team working on competitions and real projects supported by Samsung, and Hyundai.
<Projects>:

- **Autonomous Sensors and Scene Understanding**   *Jun. 2018 - Present*
  Responsible tasks: roadmark detection, vehicle path proposal, and multimodal image-to-image translation from synthetic to realistic.

- **Obstacle Detection with Long-short Cameras in AVs**   *Jun. 2016 - Dec. 2019*
  Responsible tasks: long-short stereo camera rectification, stereo matching with end-to-end CNNs, and obstacle distance measurement.

- **Car/Pedestrian Recognition in Hostile Conditions**   *Jan. 2016 - Mar. 2018*
  Responsible tasks: synchronized video acquisition, uncalibrated stereo rectification, and stereo matching.

<Competitions>:

- **KODAS Autonomous Driving Competition**   *Oct. 2019 - Nov. 2019*
  Responsible tasks: data processing, and point cloud-based 3D vehicle/pedestrian detection.

- **Hyundai Autonomous Vehicle Competition**   *Jan. 2016 - May. 2017*
  Responsible tasks: data acquisition, data annotation, and 2D vehicle detection.

Computer Vision Software Developer   *Jan. 2013 - Feb. 2015*
@CVIP Research Group, Vietnam National University HCMC - IU, Vietnam.
Developing and deploying a visual surveillance system in our local funded by Ho Chi Minh Ministry of Transportation and Vietnam NAFOSTED.

\<Projects\>:

- **Visual Traffic Surveillance System in Crowded Urban** *May. 2013 - Jan. 2015*
  Responsible tasks: real-time background subtraction for moving object detection, classification, and tracking.

- **Web Developer** *Apr. 2014 - Jun. 2014*
  @SCUE, University of Economics HCMC, Vietnam
  Building a standard trading platform for virtual stock exchange with order-matching mechanism and orders types used in Vietnam's stock market such as: ATO/ATC, Limit Order, Market Order, Stop Order.

TECHNICAL SKILLS

Programming Skills	C/C++, Python, Java, Lua, and CUDA.
Libraries & Tools	Qt, Git, OpenCV, Pytorch, and other machine learning libraries.
Fields of Interest	Computer Vision, Machine Learning, and Software Engineering.

LANGUAGES

- **Vietnamese** - Mother tongue

- **English** - Professional working proficiency

- **Korean** - Intermediate level

AWARDS

- 2nd place of KODAS 2D/3D Object Detection for Autonomous Vehicles *Nov. 2019*

- 1st place of 13th Hyundai Autonomous Vehicle Competition *May. 2017*

- Full scholarship for MSc. and Ph.D. Programs of Sungkyunkwan University *Sep. 2015*

- Third Prize of Excellent Research for Students in VNU HCMC 2015 *Jul. 2015*

- 4th place of Vietnam Student Olympiad in Programming Contest *Nov. 2014*

- 2nd place of IU Top Coder Programming Contest – VNU HCMC IU *Jun. 2014*

- International University - VNU Entrance Scholarship for Excellent Students *Sep. 2010*

- Encouraging Scholarship for Excellent Students in Vung Tau *Aug. 2010*

- Consolation Prize of Programming Contest for Youth *Jul. 2008*

PUBLICATIONS

- **T. P. Nguyen**, T. H. P. Tran, and J. W. Jeon, *"Multi-level Feature Pooling Network for Uncalibrated Stereo Rectification in Autonomous Vehicles"*, **IEEE Transactions on Industrial Electronics** *(Early Access), 2020.*

- **T. P. Nguyen**, C. C. Pham, S. V. Ha, and J. W. Jeon, *"Change Detection by Training a Triplet Network for Motion Feature Extraction"*, **IEEE Transactions on Circuits and Systems for Video Technology**, vol. 29, no. 2, pp. 433-446, 2019.

- **T. P. Nguyen** and J. W. Jeon, *"Wide Context Learning Network for Stereo Matching"*, **Signal Processing: Image Communication**, vol. 78, pp. 263-273, 2019.

- V.Q. Dinh, **T.P. Nguyen**, J.W. Jeon, *"Rectification using Different Types of Cameras Attached to a Vehicle"*, **IEEE Transactions on Image Processing**, vol. 28, no. 2, pp. 815-826, 2018.

- S. V. U. Ha, D. N. N. Tran, **T. P. Nguyen**, S. V. T. Dao, *"High Variation Removal for Background Subtraction in Traffic Surveillance Systems"*, **IET Computer Vision**, vol. 12, pp. 1163-1170, 2018.

- T. H. P. Tran, C. C. Pham, **T. P. Nguyen**, T. T. Duong, J. W. Jeon, *"Real-time Traffic Light Detection using Color Density"*, 2016 IEEE International Conference on Consumer Electronics-Asia **(ICCE-Asia)**, 2016.

- T. T. Duong, C. C. Pham, T. H. P. Tran, **T. P. Nguyen**, J. W. Jeon, *"Near Real-time Ego-Lane Detection in Highway and Urban Streets"*, 2016 IEEE International Conference on Consumer Electronics-Asia **(ICCE-Asia)**, 2016.

- **T.P. Nguyen**, D. N. N. Tran, T. K. Huynh, S. V. U. Ha, *"Disorder Detection Approach to Background Modeling in Traffic Surveillance System"*, **Journal of Science and Technology of Vietnamese Academy of Science and Technology**, vol. 52, pp. 140-149, 2014.

PATENTS

- End-to-end Convolutional Neural Network for Stereo Matching - 종단간 컨볼루셔널 뉴럴 네트워크를 이용한 스테레오 매칭, J.W. Jeon (40%), **T.P. Nguyen (30%)**, J.Y. Byun (30%), kr 10-2019-0106008.

REFERENCES

Prof. Jae Wook Jeon
Automation Lab, Supervisor - `micro.skku.ac.kr`
School of Information and Communication Engineering
Sungkyunkwan University
2066, Seobu-ro, Jangan-gu, Suwon-si, Gyeong Gi-do, Korea 440-746
jwjeon@yurim.skku.ac.kr

Dr. Synh Viet-Uyen Ha
CVIP Research Group, Supervisor - `hcmiucvip.com`
School of Computer Science and Engineering
International University - Vietnam National University HCMC
6, Linh Trung Ward, Thu Duc District, Ho Chi Minh City, Vietnam
hvusynh@hcmiu.edu.vn