

SCIENTIFIC CURRICULUM VITAE

PERSONAL INFORMATION

Fullname NGUYEN Thi Thuy
Nationality Vietnam
Current position Associate professor, researcher
Head, Dept. of Computer Science, Faculty of Information
Technology
Vietnam National University of Agriculture
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EDUCATION

Ph.D. Computer science, Graz University of Technology, Austria, 2009.
M.Sc. Information Technology, Hanoi University of Science and Technology,
2002.
Postgrad Diploma Industrial System Engineering, Asian Institute of Technology, 1999.
B.Sc. Math & Informatics, 1994.

PROFESSIONAL EXPERIENCE

1996 - now: Lecturer and researcher in Information technology, Vietnam National
University of Agriculture
2004 - 2009: Research assistant, PhD. candidate, Graz University of Technology, Austria.
5 - 8/2009: Visiting researcher, Czech Technical University in Praha.
2 - 3/2016: Specially appointed associate professor, Osaka University, Japan.
2017 - : Associate professor in Computer Science, Vietnam National
University of Agriculture

Research interests

- Computer vision and Machine learning
- Artificial Intelligence, Intelligent computing system
- Applications of computer vision and machine learning.

Teaching courses

Undergraduate

- Artificial Intelligence
- Digital Image Processing
- Machine learning

Graduate

- Computer Vision
- Machine learning
- Advanced Artificial Intelligence.

SELECTED PUBLICATIONS (last 10 years)

International journals and book chapters (peer reviewed)

1. Hai Vu, Van Nam Hoang, Thi Lan Le, Thanh-Hai Tran, **Thi Thuy Nguyen**, A Projective Chirp Based Stair Representation and Detection from Monocular Images and Its Application for the Visually Impaired, *Pattern Recognition Letters*, 13 Mar. 2019. DOI: <https://doi.org/10.1016/j.patrec.2019.03.007>
2. Van-Hung Le, Hai Vu, **Thuy Thi Nguyen**, Thi-Lan Le, Thanh-Hai Tran, GCSAC: Geometrical Constraint SAmple Consensus for Primitive Shapes Estimation in 3-D Point Cloud, *International Journal of Computational Vision and Robotics*, 2018 (In press).
3. Van-Hung Le, Hai Vu, **Thuy Thi Nguyen**, Thi-Lan Le and Thanh-Hai Tran, Acquiring qualified samples for RANSAC using geometrical constraints, *Pattern Recognition Letters*, Volume 102, 15 January 2018, Pages 58-66.
4. Vu Hai, Le Van Hung, **Nguyen Thi Thuy**, LE Thi Lan, Tran Thi Thanh Hai, Fitting Cylindrical Objects in 3-D Point Cloud Using the Context and Geometrical constraints, *Journal of Information Science and Engineering*, 2018.
5. Wang Qiang, Thanh-Tung Nguyen, Joshua Z. Huang, **Thuy Nguyen**, An Efficient Random Forests Algorithm for High Dimensional Data Classification, *International Journal of Advances in Data Analysis and Classification (ADAC)*, Springer, December 2018, Volume 12, Issue 4, pp 953–972.
6. **Thuy Thi Nguyen**, Dinh Viet Sang, Huynh T. T. Binh, A New Approach for Learning Discriminative Dictionary for Pattern Classification. *Journal of Information Science and Engineering*, ISSN: 1016-2364, 2015.
7. Thanh-Tung Nguyen, Joshua Zhexue Huang, Qingyao Wu, **Thuy Thi Nguyen**, Mark Junjie Li, Genome-wide association data classification and SNPs selection using two-stage quality-based Random Forests. *BMC Genomics*, 2015, 16(S.2).
8. Nguyen Thanh Tung, Joshua Z. Huang, **Thuy Thi Nguyen**, Two Level QRF for Bias Correction in Range Prediction, *Machine Learning journal*, Springer, Vol. 101, Issue 1–3, pp 325–343, 2014.
9. Thanh-Tung Nguyen, Joshua Zhexue Huang and **Thuy Thi Nguyen**, Unbiased Feature Selection in Learning Random Forests for High-Dimensional Data. *The Scientific World Journal*, Hindawi. Article ID 471371, 2015.
10. **Thuy T. Nguyen**, B. D. Nguyen and Horst Bischof, “Efficient boosting-based active learning for specific object detection problems”, *Intl Journal of Electrical, Computer, and Systems Engineering*”, ISSN: 2070-3813, Vol. 3 2009.
11. B. D. Nguyen, **Thuy T. Nguyen**, “Automatic Database Creation and Object's Model Learning”, *In Lecture Notes in Computer Science Book Chapter*, Springer-Verlag, Vol. 5465/2009, p: 27-39, May 2009. ISSN: 0302-9743.
12. Helmut Grabner, **Thuy Thi Nguyen***, Barbara Gruber and Horst Bischof, “Boosting-based car detection from aerial images, *ISPRS International Journal of Photogrammetry and Remote Sensing*, Elsevier, Vol. 63/3, 2008, p. 382-396. ISSN: 0924-2716 (*corresponding author). **Best paper Award**.

International conferences (peer reviewed)

1. Nhung Nguyen, Stuart Perry, Ha Le Thanh and Thuy Nguyen Thi, Pavement crack detection using convolutional neural network, In *ACM Proc. of International symposium on Information and Communication Technology*, SoICT, 2018.
2. H. Vu, V. N. Duong, C. Tachtatzis, Paul Murray, **Thuy T Nguyen**, Performance Evaluation of Rice Seed Purity using the Largest Species Dataset of RGB-HSI Images, In *ACM Proc. of International symposium on Information and Communication Technology*, SoICT, 2018.
3. Duc-Thinh Bui, Trong-Dat Tran, **Thi-Thuy Nguyen**, Quoc-Long Tran and Do-Van Nguyen, Aerial Image Semantic Segmentation using Neural Search Network Architecture. In *Proceedings of Multi-Disciplinary International Conference on Artificial Intelligence (MIWAI)*, Lecture Notes in Artificial Intelligence, Springer 2018.
4. Van-Hung Le, Hai Vu, **Thuy Thi Nguyen**, A Comparative Study on Detection and Estimation of a 3-D Object Model in a Complex Scene, In *Proceedings of KSE 2018*.
5. **Thuy Thi Nguyen**, Van-Nam Hoang, Thi-Lan Le, Thanh-Hai Tran, Hai Vu, A vision based method for automatic evaluation of rice seed germination rate, *Intl Conference on Multimedia Analysis and Pattern Recognition (MAPR)*, 2018 (**best paper Award**).
6. **Thuy Nguyen Thi**, Viet Sang Dinh, Quang Nguyen Tien and Thi Thanh Binh Huynh; Semantic Segmentation of Objects from Airborne Imagery, In *Proc. of ACDT, IEEE*, Tokyo, Japan 2017. ISBN: 978-1-5386-2489-0.
7. Minh Hoa Nguyen, Tung Long Vuong, Thanh Ha Le, **Thi Thuy Nguyen**, Do Van Nguyen and Dinh Nam Nguyen, Moving Object Detection in Compressed Domain for High Resolution Videos, In *Proc. of The Eighth International Symposium on Information and Communication Technology (SoICT 2017)*. 7-8 December 2017, Nha Trang.
8. Duc-Hau Le, Van-Huy Pham and **Thuy Thi Nguyen**, An ensemble learning-based method for prediction of novel disease-microRNA associations, in *Proc. of KSE 2017*.
9. Viet Anh Nguyen, Thanh Ha Le and **Thuy Thi Nguyen**. Single Camera Based Fall Detection Using Motion and Human Shape Features, In *proc. of The Seventh Intl Symposium on Information and Communication Technology (SoICT 2016)*.
10. Son Dao, Sang Dinh Viet, Huynh Thi Thanh Binh and **Thuy Nguyen Thi**. Label Associated Dictionary Pair Learning for Face Recognition, In *proc. of The Seventh Intl Symposium on Information and Communication Technology (SoICT 2016)*.
11. Hung Le Van, Thi Lan Le, Hai Vu, **Thi Thuy Nguyen**, Thanh Hai Tran, Tran-Chung Dao, Hong-Quan Nguyen, Geometry-based 3D Object Fitting and Localization in Grasping Aid for Visually Impaired People, in *Proceeding of the IEEE International Conference on Communications and Electronics (ICCE)*, 2016.
12. Hai Vu and **Thuy Nguyen**, Abnormality Tracking and Detection in Wireless

Capsule Endoscopy Video using Online Boosting Algorithm, *6th International Conference on the Development of Biomedical Engineering (BME'16)*

13. Quang Nguyen, **Thuy Thi Nguyen**, Sang Dinh and Binh Huynh Thanh. An Efficient Framework for Pixel-wise Building Segmentation from Aerial Images. In Proceedings of *SoICT 2015*
14. Nguyen Duc Tuan, Nguyen Quang Manh, Dinh Viet Sang, Huynh Thi Thanh Binh, and **Nguyen Thi Thuy**, A Study on Non-sparse Dictionary Learning for Pattern Classification, In Proceedings of *KSE2015*.
15. Uniform Detection in Social Image Streams , Nguyen Quang Manh, Nguyen Duc Tuan, Dinh Viet Sang, Huynh Thi Thanh Binh, and **Nguyen Thi Thuy**, In Proceedings of *KSE2015*.
16. Thanh-Tung Nguyen, He Zhao, Joshua Zhexue Huang, **Thuy Thi Nguyen**, and Mark Junjie Li, A New Feature Sampling Method in Random Forests for Prediction High Dimensional Data. The Pacific-Asia Conference on Knowledge Discovery and Data Mining (*PAKDD*), 2015.
17. Nguyen Thanh Tung, Joshua Z. Huang and **Nguyen Thi Thuy**, Bias-corrected Quantile Regression Forests for High-Dimensional Data. In Proc. of The 13th *Intl Conference on Machine Learning and Cybernetics (ICMLC)*, 2014.
18. Hai Vu, Thi-Lan Le, Thanh-Hai Tran, **Thuy Thi Nguyen**, A vision-based method for automatizing tea shoots detection. In Proceedings of *The IEEE Intl. Conference on Image Processing, ICIP 2013*. Melbourne, Australia.
19. Huynh Thi Thanh Binh, Mai Dinh Loi, **Nguyen Thi Thuy**, Improving image segmentation using genetic algorithm. In Proc. of The *IEEE Intl Conference on Machine Learning and Applications (ICMLA 2012)*, USA, Dec. 2012.
20. **Thuy Thi Nguyen**, A Layered Stacked Graphical Model for Learning Complex Visual Object Class. In Proc. of *The IEEE Intl conference on Computing and Communication Technologies, Research, Innovation, and Vision for the Future (RIVF)*, IEEE Press, 2010. ISBN: 978-1-4244-8074-6.
21. **Thuy T. Nguyen**, B. D. Nguyen and Horst Bischof, “An active boosting-based framework for real-time hand detection ”, in *Proc. of The 8th IEEE International Conference on "Automatic Face and Gesture Recognition (FG'08)"*, IEEE Press. ISBN: 978-1-4244-2154-1. Amsterdam, 2008.
22. **Thuy Thi Nguyen**, Helmut Grabner, Barbara Gruber and Horst Bischof, “On-line boosting for car detection from aerial images”, *Proc. of The 5th IEEE International Conference on "Research, Innovation and Vision for the Future (RIVF'07)"*. IEEE Press, 2007. ISBN: 1-4244-0694-3.

Awards

- Best paper Award for conference paper No. 5.
- Best paper Award for conference paper No. 22.
- Best paper Volume 63 (2008) for The U. V. Helava Award for journal paper No. 12.

Patents

1. “Method for the Computer-assisted Recognition of a Specific Object from a Data Volume Based on an Interaction with a User”; J. Birchbauer, H. Bischof, B. Frühstück, H. Grabner, **T. Nguyen**, P. Roth, and M. Winter. No.: WO/2010/015488.
2. Nguyen Dinh Nam, **Nguyen Thi Thuy**, Nguyen Do Van, Nguyen Minh Hoa, Vuong Tung Long, Le Thanh Ha. Analysis method for motion description information and apparatus for achieving motion synthesis description information in video (Pending). National Office of Intellectual Property of Vietnam, 2017.
3. Le Thanh Ha, **Nguyen Thi Thuy**, Tran Quoc Long, Nguyen Do Van, Nguyen Chi Thanh, Nguyen Viet Anh, Nguyen Cong Thanh. Fall detection apparatus from video streaming (Pending). National Office of Intellectual Property of Vietnam, 2017.

SUPERVISED STUDENTS

Ph.D., Master and Undergrad students

PhD. Students: Nguyen Thanh Tung, Le Van Hung (graduated), Nguyen Thi Hong Nhung (Co-supervise with UTS, Australia, 2018-).

Master students: Le Van Hung, Hoang Au D. Phong, Nguyen Viet Anh, Pham T. L. Anh (graduated).

OTHER PROFESSIONAL ACTIVITY

- Member of The Vietnamese Association for Pattern Recognition (VAPR)
- Program committee, scientific reviewer of some national and international scientific conference and journals
- Technology advisor.