# HAI VU

COMPUTER VISION DEPARTMENT,
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## PERSONAL INFORMATION

| Name: | Sex: | Date of birth: |
|---|---|---|
| HAI VU | Male | 12 May, 1976 |
| Nationality: | Marital status: | |
| Vietnamese | Married | |

## EDUCATION BACKGROUND

- Oct. 2004 – Mar. 2009: *Doctor in Computer Science*, Graduate School of Information Science and Technology, Osaka University, Japan.

- Sep. 1999 – Feb. 2002: *Master in Information Processing and Communication,* Collaboration Program between Faculty of Information Technology, Hanoi University of Science and Technology, and Institute National Polytechnic Grenoble, (INPG), France

- Sep. 1994 – May 1999: *Bachelor in Electronics and Telecommunications,* Faculty of Electronics and Telecommunications, Hanoi University of Science and Technology, Vietnam

## RESEARCH INTERESTS

My research areas focus on computer vision and pattern recognition including the basic technologies such as image formulation/sensor design as well as developing the applications as intelligent systems with visual processing functions. At the early stage of the research career, I focused on deploying video capsule endoscopy analysis techniques for diagnostic assistance (e.g., image enhancement, video display speed, and abnormal region detection and tracking). Since 2012, I am interested in computer vision-based techniques in smart-surveillance camera networks, Precision Decision (PD) in Agriculture, Human-Machine Interaction (HMI), and 3-D vision supporting elders and visually impaired people.

For more details of the research interests, please visit

**http://www.mica.edu.vn/perso/Vu-Hai/Research.html**

## RESEARCH AND WORKING EXPERIENCES

- Sept. 2012 – Now: Lecturer/Researcher, Computer Vision Department, International Research Institute MICA, Hanoi University of Science and Technology

  *Research topics*: Computer Vision and Pattern recognition; Vision-based technology in Agricultural Engineering; Human-Computer Interaction; and Smart and Intelligent Cameara Network; Medical imaging analysis.

- Apr. 2009 – Aug. 2012: Postdoctoral Researcher, Institute of Scientific and Industrial Research (ISIR), Osaka University

  *Research topics*: Video Capsule Endoscopy Analysis for diagnostic assistance.

- June 1999 – March 2004: System Engineer, Vietnam Datacommunication Company, VNPT, Vietnam

*Working experiences*: Administrator of Internet services such as DNS, Mail, Web-Server, Radius provided by a ISP (VDC, VNPT)

## SHORT-TERM MOBILITY

- Dec. 2015 – May. 2016 (6 months) and Jan. 2017 – Feb. 2017: Visiting Researcher in University of Strathclyde, Glasgow, Scotland

  *Research Activities: Automatically inspecting rice seed quality using Hyperspectral imaging system*

- July 2015 (2 Weeks), Nov 2016 (2 Weeks) : Visiting Researcher in Osaka University, Japan

  *Research Activities: Deep Convolution Neuron Network for Medical Plant Identification from multiple-organs images.*

- June 2013 – July 2013 (1 months) and Aug. 2014 – Sept. 2014 (2 Weeks): Visiting Researcher in Gent University , Belgium

  *Research Activities: Vision-based techniques support visually impaired people in nagivation services, and object finding.*

- Sept. 2001- Dec. 2001: Internship at INPG-France in Master Course

  *Research Activities: Content-Based Image Retrieval System.*

## SCHOLARSHIP AND AWARDS

- Best Presentation Award at the 9th International Symposium on Information and Communication Technology (SoICT 2018) , Da Nang, Vietnam.

- Best Paper Award at the 11th AUN/SEED-Net Regional Conference on Computer and Information Engineering (RCCIE 2018), Surabaya, Indonexia

- Dec. 2015 – Dec. 2016 (12 months): Newton Fund Award (Deliveried by Royal Academy of Engineering, UK) for International research and collaborations between a UK Institution and Vietnam Partner

- Dec., 2014: Nafosted travel grant to attend the Int. Conf. on Pattern Recognition in Stockholm, Sweeden.

- Sept. 2013: IAPR (Int. Association of Patter Recognition) travel award to attend the Inter. Conf. on Image Processing in Melbourne, Australia.

- Best Poster Award at the 5th International Conference on Capsule Endoscopy, Boca Raton, Florida, USA, 2006

- April 2004 – April 2009 (5 years): Monbukagakusho - Japanese Government scholarship for Ph.D. Course in Osaka University

## WORKING SKILLS

- Programming Languages: *Python, C++, Matlab, Visual Basic, Perl*

- Deep learning platforms: *State-of-the-art CNN models (e.g., VGG-Net, ResNet, DenseNet), RNN-LSTMs on Keras/TensorFlow, MatconvNet.*

- Programming Libraries: *OpenCV, PCL, OpenGL, Matrox Imaging Library (MIL), Matlab Toolboxs*

- Typing set: *Latex*

- Web Programming and Internet Services Administrations: *CGI, Tomcat Server, Java Server Page*

- Operating System platforms: *SunSolaris, Ubuntu, Windows*

## PROFESSIONAL ACTIVITIES

- Reviewer: ACCV 2010, ACCV 2012, ICPR 2010, ICCV 2011, CVPR 2010, CVPR 2011, ACPR 2015, ICPR 2016, ICRA 2017, ICPR 2018, Journal of Medical Biological Engineering & Computing, Journal of Computerized Medical Imaging and Graphics, International Journal of Computer Vision, IEEE Journal of

Biomedical and Health Informatics

- Local Arrangement: Sanken International Symposium 2012

- Technical Program: Vietnam – Japanese Scientific Exchange 2005

- Technical committee and Reviewer: KSE, SoICT, NICS, ATC, ICCE

## TEACHING AND SUPERVISION EXPERIENCES

- **Teaching at HUST:**

  Undergraduate courses:    C/C++ Programming  (EE 3490)
  Databases Management (EE4253)
  IT Project : Software Development (IT3124)

  Master Courses:            Machine Learning (AC6310)
  3-D Modelling and reprensetation (AC5140)
  Computational Photography (AC6160)
  Human Computer Interaction (AC6080)
  Multimedia Technologies (EE6153)

- **Other courses**: Image Processing (TH03027) at Vietnam National University of Agricuture ; Computer Vision  (Begin and Advanced) at Viettel.

- **Ph.D. Students:**

  1. Dinh Tan Pham (Co-Supervision with Dr. Thi-Lan Le): "Human Action Representation and recognition" (2017-2021) – On Going

  2. Anh Tuan Pham (Co-supervision with Dr. Thanh-Hai Tran): "Human Abnormality Detection in a surveillance environment using camenra network ", (2016-2020) - On going.

  3. Hung Le Van (Co-supervision with Dr. Thi-Thuy Nguyen) :"3D Object Detections and Recognitions: Assiting Visually Impaired People in Daily Activities" (2014-2018) - Defensed.

  4. Thi-Huong-Giang DOAN (Co-supervision with Dr. Thanh-Hai Tran): "Dynamic Hand Gesture Recognition using RGB-D data, Application for Home Appliance Control" (2013-2017) - Defensed.

- **04 Master Students:**

  1. Van-Ngoc Duong: "Rice seed species shape motif discover and applications", - 2018-2019: On-Going

  2. Van Giap Nguyen: "Improving vision-based localization service using a regression model" (2014-2016): Defensed

  3. Van-Ngoc Nguyen: "Abnormal human detection using Kinect Sensor" - (2013-2015) : Defensed

  4. Anh Tuan Pham : Human tracking in a camera network  - (2013-2015) : Defensed

- **10 Bachelor students from 2012-~**

- **05 International internship students from 2012-~**

## LIST OF PUBLICATIONS

- **International Journals:**

  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*, Elsevier, 2019, Accepted  (Q1, SCIE)

  2. Dang-Manh Truong, Huong-Giang Doan, Thanh-Hai Tran, **Hai Vu**, Thi-Lan Le, "Robustness analysis of 3D convolutional neural network for human hand gesture recognition", *International Journal of Machine Learning and Computing*, 2019, In Print (Scopus)

3. 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*, Inderscience, 2018, In Print (Scopus)

4. **Hai Vu**, Van-Hung Le, Thuy-Thi Nguyen, Thi-Lan Le, Thanh-Hai Tran, "Fitting Cylindrical Objects in 3-D Point Cloud Using the Context and Geometrical constraints", *Journal of Information Science and Engineering, Institute of Information Science*, Academia Sinica, Taiwan, Vol. 35, No. 1 , Jan. 2019 (SCIE)

5. Thi Thanh-Nhan Nguyen, Thi-Lan Le, **Hai Vu**, Van-Sam Hoang, "Towards an automatic plant identification system without dedicated dataset ", *International Journal of Machine Learning and Computing*, Vol. 9, No. 1, pp. 26-34, 2019. (Scopus)

6. Thanh Nhan Nguyen, Thi-Lan Le, **Hai Vu**, Van-Sam Hoang, Thanh-Hai Tran, "Crowdsourcing for botanical data collection towards to automatic plant identification: a review ", *Computers and Electronics in Agriculture*, Elsevier, Vol. 155, pp. 412-425, 2018 (Q1, SCIE)

7. **Hai Vu**, Thi-Lan Le, Van Giap Nguyen, Tan Hung Dinh, "Semantic regions segmentation using a spatio-temporal model from an UAV image sequence with an optimal configuration for data acquisition", *Journal of Information Telecommunication,* Vol. 2, No. 2, pp. 126-146, 2018

8. Van-Hung Le, **Hai Vu**, Thuy Thi Nguyen, Thi-Lan Le, Thanh-Hai Tran, "Acquiring qualified samples for RANSAC using geometrical constraints. *Pattern Recognition Letters,* Vol. 102, pp. 58-66, 2018 (Q1, SCIE)

9. Thanh-Hai Tran, Thi-Lan Le, Van Nam Hoang, **Hai Vu**, "An on-line and scalable human fall detection system for ambient assisted living using multiple Kinect sensors", *Computer Methods and Programs in Biomedicine*, Vol. 146, pp. 151-165, 2017, (Q1, SCI)

10. Yukiko Yanagawa, Tomio Echigo, **Hai Vu**, Hirotoshi Okazaki, Yasuhiro Fujiwara, Tetsuo Arakawa, Yasushi Yagi, "Abnormality Tracking During a Video Capsule Endoscope Using an Affine Triangular Constraint Based on Surrounding Features", *IPSJ Transactions on Computer Vision and Applications*, Springer, Vol. 9, No. 1, Mar., 2017, (Scopus)

11. Thi Thanh Thuy Pham, Thi Lan Le, **Hai Vu**, Trung Kien Dao, Van Toi Nguyen, "Fully-automated person re-identification in multi-camera surveillance system with a robust kernel descriptor and effective shadow removal method", *Image and Vision Computing*, Elsevier, Vol. 59, pp. 44–62, Mar. 2017, (Q1, SCI)

12. Quoc Hung Nguyen, **Hai Vu**, Thanh Hai Tran, Quang Hoang Nguyen, "Developing a Way-Finding System on Mobile Robot Assisting Visually Impaired People in An Indoor Environment ", *Multimedia Tools and Applications ,* Springer, Vol. 76, Issue 2, pp. 2645-2669, Jan. 2017, (SCIE)

13. Huong Giang Doan , Van Toi Nguyen, **Hai Vu**, Thanh Hai Tran, "A Combination of user - guide scheme and kernel descriptor on RGB-D for robust and real-time hand posture recognition", *Engineering Applications of Artificial Intelligence*, Elsevier, Vol.49, pp. 103-113 , Mar. 2016 (Q1, SCIE)

14. **Hai Vu**, Tomio Echigo, Ryusuke Sagawa, Keiko Yagi, Masatsugu Shiba, Kazuhide Higuchi, Tetsuo Arakawa, Yasushi Yagi, "Controlling the Display of Capsule Endoscopy Video for Diagnostic Assistance*", IEICE Transactions on Information and Systems.,* Vol.E92-D,No.3,pp.-,Mar. 2009 (SCIE)

15. **Hai Vu**, Tomio Echigo, Ryusuke Sagawa, Keiko Yagi, Masatsugu Shiba, Kazuhide Higuchi, Tetsuo Arakawa, Yasushi Yagi, "Detection of Contractions in Adaptive Transit Time of the

Small Bowel from Wireless Capsule Endoscopy Videos", *Computers in Biology and Medicine*, Elsevier, Vol. 39, No. 1, Jan., 2009 (Q1, SCI)

16. Yasushi Yagi, **Hai Vu**, Tomio Echigo, Ryusuke Sagawa, Keiko Yagi, Masatsugu Shiba, Kazuhide Higuchi, Tetsuo Arakawa, "A diagnosis support system for capsule endoscopy", *Inflammopharmacology*, Springer , vol.15, no.2, pp.78-83, April, 2007. (SCIE)

■ **In Reviewed Proceedings:**

## 2019

1. NGUYEN Minh-Thang, SCHWEYER Anne-Valérie , LE Thi Lan, TRAN Thi Thanh Hai, **Hai Vu** , "Preliminary Results on Ancient Cham Character Recognition from Cham Inscription Images", *to appear in the Proceeding of the 2nd Int. Conference on Multimedia Analysis and Pattern Recognition (MAPR),* Ho Chi Minh city, Vietnam, May 2019

2. HOANG Van-Nam, NGUYEN Van Toi, LE Thi Lan, **Hai Vu**, TRAN Thi Thanh Hai, "3D skeleton-based action recognition with convolutional neural networks", *to appear in the Proceeding of the 2nd Int. Conference on Multimedia Analysis and Pattern Recognition (MAPR)*, Ho Chi Minh city, Vietnam, May 2019

## 2018

1. **Hai Vu**, Van Ngoc Duong, Thi Thuy Nguyen, "Inspecting rice seed species purity on a large dataset using geometrical and morphological features ", *in the Proceeding of the 9th International Symposium on Information and Communication Technology (SoICT 2018)* , Da Nang, Vietnam **(Best Presentation Award)**

2. Thanh Hai Tran, Anh Tuan Pham, **Hai Vu**, "Human violence detection in video: a study using 3D convolutional neural network", *in the Proceeding of the 11th AUN/SEED-Net Regional Conference on Computer and Information Engineering (RCCIE 2018)*, Surabaya, Indonexia **(Best Paper Award)**

3. Van Hung Le, **Hai Vu**, Thi Thuy Nguyen, "*A Frame-work assisting the Visually Impaired People: Common Object Detection and Pose Estimation in Surrounding Environment*", *in the Proceeding of the 5th NAFOSTED Conference on Information and Computer Science (NICS 2018)*, Ho Chi Minh City, Vietnam

4. Dinh-Ha Nguyen, Trung-Hieu Le, Thi-Thanh-Hai Tran, **Hai Vu**, Thi-Lan Le and Huong-Giang Doan, "Hand segmentation under different viewpoints by combination of Mask R-CNN with tracking", *in the Proceeding of the 5th Asian Conference on Defense Technology (ACDT 2018),* Hanoi, Vietnam

5. NGUYEN Tien-Nam, PHAM Dinh-Tan, LE Thi Lan, **VU Hai**, TRAN Thi Thanh Hai, "Novel Skeleton-based Action Recognition Using Covariance Descriptors on Most Informative Joints ", *in the Proceeding of the 10th International Conference on Knowledge and Systems Engineering (KSE 2018)* , Ho Chi Minh City, November, 1-3, 2018

6. Van Hung Le, **Hai Vu**, Thi Thuy Nguyen, "A Comparative Study on Detection and Estimation of a 3-D Object Model in a Complex Scene ", *in the Proceeding of the 2018 10th International Conference on Knowledge and Systems Engineering (KSE 2018)* , Ho Chi Minh City, November, 1-3, 2018

7. Thi Thuy Nguyen, Van-Nam Hoang, Thi-Lan Le, Thanh-Hai Tran, **Hai Vu**, "A Vision-based method for automatic evaluation of germination rate of rice seeds", in the *Proceeding of the First IEEE International Conference on Multimedia Analysis and Pattern Recognition* (MAPR 2018), Ho Chi Minh City, April, 6-7, 2018  **(Best paper Award)**

## 2017

1. Thanh-Binh Do, Huy-Hoang Nguyen, Thi-Thanh-Nhan Nguyen, **Hai Vu**, Thanh-Hai Tran, Thi-Lan Le, "Plant identification using late fusion of  multi-organ images", in the Proceeding of the *IEEE International Conference on Knowledge and System Engineering (KSE 2017), Hue, VietNam*

2. **Hai Vu**, Anh-Tuan Pham, Van-Giap Nguyen, Thanh-Hai Tran, "Pedestrian Localization and Trajectory Reconstruction in a Surveillance Camera Network", in the *Proceeding of The Eighth International Symposium on Information and Communication Technology (SoICT 2017) , Nha Trang, Vietnam*

3. Huong Giang Doan, **Hai Vu**, Thanh Hai Tran, "Are cyclical hand gestures better than non-cyclical pattern ones ", in the *Proceeding of the 15th IAPR Conference on Machine Vision Applications (MVA2017)*

4. NGUYEN Thi Thanh Nhan, LE Thi Lan, **Hai Vu**, NGUYEN Huy Hoang, HOANG Van Sam, "A Combination of Deep Learning and Hand-Designed Feature for Plant Identification based on Leaf and Flower Images ", in the *Proceeding of the 9th Asian Conference on Intelligent Information and Database Systems (ACIIDS), Japan – 2017*

## 2016

1. **Hai Vu**, Christos Tachtatzis, Paul Murray, David Harle, Trung Kien Dao, Thi Lan Le, Ivan Andonovic, Stephen Marshall, "Rice seed varietal purity inspection using hyperspectral imaging", *in the Proceeding of the fifth Hyperspectral Imaging and Applications Conference (HSI 2016), Conventry, UK*

2. **Hai Vu**, Christos Tachtatzis, Paul Murray, David Harle, Trung Kien Dao, Thi Lan Le, Ivan Andonovic, Stephen Marshall, "Spatial and Spectral Features Utilization on a HyperSpectral Imaging System for Rice Seed Varietal Purity Inspection", *in the Proceeding of the 12th IEEE RIVF International Conference on Computing and Communication Technology, HaNoi, Vietnam, November 7-9, 2016.*

3. Huong Giang Doan, **Hai Vu**, Thanh Hai Tran, "Phase Synchronization in a Manifold Space for Recognizing Dynamic Hand Gestures from Periodic Image Sequence",  *in the Proceeding of the 12th IEEE RIVF International Conference on Computing and Communication Technology, HaNoi, Vietnam, November 7-9, 2016.*

4. Thi Thanh Nhan Nguyen, Van Tuan Le, Thi Lan Le, **Hai Vu**, Natapon Pantuwong, Yasushi Yagi, "Flower species identification using deep convolutional neural networks ",  *in the Proceeding of the AUN/SEED-Net Regional Conference for Computer and Information Engineering (RCCIE 2016) , Oct., Yangoon, Myanmar.*

5. Thi Son Nguyen, Thanh Hai Tran, **Hai Vu**,"Accurate object localization using RFID and Microsoft Kinect Sensor", *in the Proceeding of The 1st International Workshop on Pattern Recognition for Multimedia Content Analysis (PR4MCA 2016), in conjunction with the 8th International Conference on Knowledge and System Engineering, Hanoi, Vietnam, 2016*

6. Trung Kien Dao, Thanh Hai Tran, Thi Lan Le, **Hai Vu**, Viet Tung Nguyen, Dang Khoa Mac, Ngoc Diep Do, Thanh Thuy Pham, "Indoor Navigation Assistance System for Visually Impaired People using Multimodal Technologies", in *the Proceeding of the 14th International Conference on Control, Automation, Robotics and Vision (ICARCV), 2016,* Thailand

7. 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 *the Proceeding of the IEEE International Conference on Communications and Electronics (ICCE), 2016, Ha Long, Vietnam*

8. Michiel Vlaminck, Hiep Quang Luong, Hoang Van Nam, **Hai Vu**, Peter Veelaert, Wilfried Philips, "Indoor assistance for visually impaired people using a RGB-D camera", in *the Proceeding*

*of the IEEE Southwest Symposium on Image Analysis and Interpretation, 2016, Santa Fe, New Mexico, USA*

9. **Hai Vu**, Thi Lan Le, Van Giap Nguyen, Tan Hung Dinh, "Selections of Suitable UAV Imagery's Configurations for Regions Classification ", in *the Proceeding of the 8th Asian Conference on Intelligent Information and Database Systems (ACIIDS 2016) , LNCS Vol. 9622, 2016*

## 2015

1. Thi Thanh Thuy Pham, **Hai Vu** and Anh Tuan Pham, "A Robust Shadow Removal Technique Applying For Person Localization in a Surveillance Environment", *in the Proceeding of The Sixth International Symposium on Information and Communication Technology (SoICT 2015) , Hue, Vietnam*

2. Huong Giang Doan, **Hai Vu** and Thanh Hai Tran, "Recognition of hand gestures from cyclic hand movements using spatial-temporal features", *in the Proceeding of The Sixth International Symposium on Information and Communication Technology (SoICT 2015) , Hue, Vietnam*

3. Phan Thi Thu Hong, Tran Thi Thanh Hai, Le Thi Lan, Vo Ta Hoang, **Hai Vu**, Thuy Thi Nguyen,"Comparative Study on Vision Based Rice Seed Varieties Identification", *in the Proceeding of The 1st International Workshop on Pattern Recognition for Multimedia Content Analysis (PR4MCA 2015), in conjunction with KSE 2015, HoChiMinh city, Vietnam, 2015*

4. LE Van Hung, **Hai Vu**, Thi-Thuy Nguyen, LE Thi Lan, TRAN Thi Thanh Hai, VLAMINCK Michiel , WILFRIED Philips, VEELAERT Peter , "Query-based 3D Object Finding Using Geometrical Constraints on Depth Images for Assisting the Visually Impaired", *in the Proceeding of The 1st International Workshop on Pattern Recognition for Multimedia Content Analysis (PR4MCA 2015), in conjunction with KSE 2015, HoChiMinh city, Vietnam, 2015*

5. Le Thi Lan, Duong Nam Duong, Nguyen Van Toi, **Hai Vu**, Van-Nam Hoang, Thi Thanh Nhan Nguyen, "Complex background leaf-based plant identification method based on interactive segmentation and kernel descriptor" , *in the Proceeding of the 2nd International Workshop on Environmental Multimedia Retrieval (EMR/ICMR), China, 2015*

## 2014

1. LE Thi Lan, **Hai Vu**, TRAN Thi Thanh Hai, HOANG Van-Nam, "Multimodal Vietnamese medicinal plants retrieval system for Android", *in the Proceeding of the Regional Conference on Computer and Information Engineering (RCCIE), Indonexia, Oct., 2014*

2. Nguyen Van Toi, **Hai Vu**, Tran Thi Thanh Hai, Le Thi Lan, "An Efficient Combination of RGB and Depth for Background Subtraction", *in the Series of "Some Current Advanced Researches on Information and Computer Science in Vietnam", Springer, 2014*

3. Nguyen Quoc Hung, **Hai Vu**, Tran Thi Thanh Hai, NGUYEN Quang Hoan, "A Vision-based system supports mapping services for visually impaired people in indoor environments**,** *in the Proceeding of the 13th IEEE International Conference on Control, Automation, Robotics and Vision, ICARCV, Singapore, Sept., 2014*

4. Quoc-Hung Nguyen, **Hai Vu**, Thanh-Hai Tran, Quang-Hoan Nguyen, Peter Veelaert, Wilfried Philips, "A Visual SLAM system on mobile robot supporting Localization services to visually impaired people" *in the Proceeding of the 2nd Workshop on Assistive Computer Vision and Robotics, in conjuntion with ECCV 2014*, Zurich, Swiss, Sept., 2014

5. Stéphane Lathuilière, **Hai Vu**, Thi-Lan Le, Thanh-Hai Tran Hung Dinh Tan, "Semantic Regions Recognition in UAV Images Sequence", *in the Proceeding of the Sixth International Conference on Knowledge and System Engineering (KSE 2014),* Hanoi, Vietnam, Oct., 2014

6. Nguyen Quoc Hung, **Hai Vu**, Tran Thi Thanh Hai, Nguyen Quang Hoan, "Mapping Services in Indoor Enviroments based on Image Sequences", in the *Proceeding of International Conf. on Communication and Electronics, Danang, Vietnam July 2014*

7. **Hai Vu**, Yukiko Yanagawa, Tomio Echigo, Masatsugu Shiba, Hirotoshi Okazaki, Yasuhiro Fujiwara, Tetsuo Arakawa, Yasushi Yagi, "A Web-Based Education System for Reading Video Capsule Endoscopy ", *in the Proceeding the 22 Int. Conf. on Pattern Recognition (ICPR)* , pp. 2721-2726, Stockholm, Sweden, Aug 2014

8. **Hai Vu**, Tomio Echigo, Yuma Imura, Yukiko Yanagawa, Yasushi Yagi, "Segmenting Reddish lesions in Capsule Endoscopy Images Using a GastroIntestinal Color Space", *in the Proceeding the 22 Int. Conf. on Pattern Recognition (ICPR),* pp. 3263-3268, Stockholm, Sweden, Aug 2014.

## ~ 2013

1. **Hai Vu**, Thuy Thi Nguyen, Thi-Lan Le, Thanh-Hai Tran, "A vision-based method for automatizing tea shoots detection", *in the Proceeding of IEEE International Conference on Image Processing (ICIP) 2013*, pp. 3775-3779, Sept., Melbourne, Australia

2. Yukiko Yanagawa, Tomio Echigo, **Hai Vu**, Hirotoshi Okazaki, Yasuhiro Fujiwara, Tetsuo Arakawa, Yasushi Yagi, "Tracking Abnormalities in Video Capsule Endoscopy using Surrounding features with a triangular constraint", *in Proceeding of IEEE International Symposium on Biomedical Imaging (ISBI) 2012*, Barcelona, Spain, May, 2012 .

3. **Hai Vu**, Tomio Echigo, Keiko Yagi, Hirotoshi Okazaki, Yasuhiro Fujiwara,Yasushi Yagi,Tetsuo Arakawa ,"Image-Enhanced Capsule Endoscopy Preserving the Original Color Tones", *in Abdominal Imaging 2011 - LNCS 7029* , pp. 35-43, Toronto, Canada, Sept, 2011.

4. **Hai Vu**, Tomio Echigo, Keiko Yagi, Masatsugu Shiba, Kazuhide Higuchi, Tetsuo Arakawa, Yasushi Yagi, "Color Analysis for Segmenting Digestive Organs in VCE", *in Proceeding of International Conference on Pattern Recognition*, pp.2468-2471, Istanbul, Turkey, Aug, 2010

5. **Hai Vu**, Tomio Echigo, Ryusuke Sagawa, Keiko Yagi, Masatsugu Shiba, Kazuhide Higuchi, Tetsuo Arakawa, Yasushi Yagi,Towards an Interpretation of Intestinal Motility from Capsule Endoscopic Image Sequences*, in Proceeding of the Pacific-Rim Symposium on Image and Video Technology 2009 (PSIVT 2009),* Tokyo, Japan, 13-16 Jan., 2009

6. **Hai Vu**, Tomio Echigo, Ryusuke Sagawa, Keiko Yagi, Masatsugu Shiba, Kazuhide Higuchi, Tetsuo Arakawa, Yasushi Yagi, Evaluating the Control of the Adaptive Display Rate for Video Endoscopy Diagnosis*, in Proceeding of the IEEE International Conference on Robotics and Biomimetics (ROBIO 2008),* Bangkok, Thailand, 14-17 Dec., 2008,

7. **Hai Vu**, Tomio Echigo, Ryusuke Sagawa, Keiko Yagi, Masatsugu Shiba, Kazuhide Higuchi, Tetsuo Arakawa, Yasushi Yagi, "Contraction Detection in Small Bowel from an Image Sequence of Wireless Capsule Endoscopy*", in Proceeding Medical Image Computing and Computer-Assisted Intervention (MICCAI 2007), LNCS 4791*, pp.775--783, Brisbane, Australia, Nov. 2007

8. **Hai Vu**, Tomio Echigo, Ryusuke Sagawa, Keiko Yagi, Masatsugu Shiba, Kazuhide Higuchi, Tetsuo Arakawa, Yasushi Yagi, "Adaptive Control of Video Display for Diagnostic Assistance by Analysis of Capsule Endoscopic Images", *in Proceeding of the 18th Int. Conf. on Pattern Recognition (ICPR 2006)*, vol.3, pp.980--983, Hong Kong, Aug., 2006

9. Yasushi Yagi, Tetsuo Arakawa, Kazuhide Higuchi, Masatsugu Shiba, Keiko Yagi, Ryusuke Sagawa, **Hai Vu**, Tomio Echigo, "Adaptive Display Speed Control for Diagnosis of Capsule Endoscopic Images", *in Program & Abstracts of The 5th International Conference on Capsule Endoscopy*, pp.83, Boca Raton, Florida, USA, Mar., 2006 **(Best Poster Award)**

- **Patents:**
  USP/8005279: Capsule Endoscopy Image Display Controller

## LIST OF RESEARCH PROJECTS

- **Understanding Human Daily Life Activities from Egocentric Vision Using Advanced Technologies of Deep Learning**
  Duration: 2018-2021
  Funded by : NAFOSTED
  Role:  PI

- **Medicinal Plant Identification and Collaborative Information System**
  Duration: 2015-2017
  Funded by : Aun-Seed/NET (CRC-Project)
  Role:  PI

- **Rice Seed Quality Inspection using HSI system**
  Duration: 2016-2017
  Funded by : Royal Academy of Engineering (Newton Fund)
  Role:  Co-PI

- **Visually impaired people assistance using multimodal technologies (VLIR-UOS ZEIN2012RIP19)**
  Duration: 2012-2015
  Funded by : Flemish Interuniversity Council (VLIR-UOS)
  Role:  Participant

- **Development of multimodal localization methods in indoor perceptive environments (102.04-2013.32)**
  Duration: 2013-2015
  Funded by : Nafosted
  Role:  Participant

- **Geometric scene analysis as a navigational aid to the visually impaired**
  Duration: 2014-2016
  Funded by : Nafosted-FWO
  Role:  Participant

## REFERENCES

- **Prof. Yasushi Yagi**
  Director of Institute of Scientific and Industrial Research (ISIR), Osaka University
  8-1 Mihogaoka, Ibaraki, Osaka, 567-0047, Japan;
  Email: yagi@am.sanken.osaka-u.ac.jp

- **Prof. Tomio Echigo**
  Dept. of Engineering Informatics, Osaka Electro-Communication University,
  18-8 Hatsu-cho, Osaka, 572-8530, Japan;
  Email: echigo@isc.osakac.ac.jp

- **Dr. Christos Tachtatzis**
  Lecturer – Chancellor's Fellow
  Department of Electronic and Electrical Engineering,
  University of Strathclyde,
  Royal College Building 204 George Street, Glasgow, G1 1XW, Scotland
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