Trung T. Pham

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Research Interests

Computer Vision, Robotic Vision, Machine Learning, Artificial Intelligence, robust geometry estimation, object detection, semantic segmentation, semantic SLAM, 3D reconstruction.

Employments

- **Postdoctoral Research Fellow**, The Australian Centre of Robotic Vision (ACRV)   Sep. 2014 – present
  Supervisor: Professor Ian Reid
  Research areas: Semantic Vision, Semantic SLAM

- **Software Engineer** Intern, Google   Aug. 2013 – Nov. 2013
  Supervisor: Ben Appleton
  Project: Efficient placement algorithm for Google global storage system

- **Research Assistant**, Chonnam National University   Mar. 2008 – Feb. 2010
  Supervisor: Professor Jin Young Kim
  Project: Audio-visual speech recognition in mobile environments

- **Software Engineer**, Global Cybersoft Inc. Vietnam   Jul. 2007 – Feb. 2008

Education

- **Ph.D. Computer Science**   Sep. 2014
  The University of Adelaide, Australia
  Supervisors: Associate Professor Tat-Jun Chin, and Professor David Suter
  Thesis: Robust Parameter Estimation in Computer Vision: Optimisation Methods and Applications

- **M.S. Electronic & Computer Engineering**,   Mar. 2010
  Chonnam National University, South Korea
  Supervisor: Professor Jin Young Kim
  Thesis: Late Integration for Audio Visual Speech Recognition

- **B.S. Mathematics & Computer Science**   Sep. 2007
  HCMC University of Science, Vietnam

Publications

Journals: TPAMI and TIP are premier journals in artificial intelligence and computer vision with impact factors of 6.077 and 3.735, respectively.

1. <u>T. T. Pham</u>, T.-J. Chin, K. Schindler and D. Suter, **Interacting Geometric Priors for Robust Multi-Model Fitting**, IEEE Transactions on Image Processing, 2014.

2. <u>T. T. Pham</u>, T.-J. Chin, J. Yu and D. Suter, **The Random Cluster Model for Robust Geometric Fitting**, IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2014.

Conferences: CVPR, ICCV and NIPS are the highest ranked conferences in computer vision and machine learning. ICRA and IROS are the top ranked conferences in robotics.

1. T. Tran, <u>T.T. Pham</u>, G. Carneiro, L. Palmer, I. Reid, **A Bayesian Data Augmentation Approach for Learning Deep Models**, NIPS 2017 To appear.

2. N. Sünderhauf, <u>T. T. Pham</u>, Y. Latif, M. Milford, I. Reid, **Meaningful Maps - Object-Oriented Semantic Mapping**, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2017.

3. T-T Do, K. Le , <u>T. T. Pham</u>, N-M Cheung, **Simultaneous Feature Aggregating and Hashing for Large-scale Image Search**, IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2107.

4. J. Leitner, A.W. Tow, J.E. Dean, N. Suenderhauf, J.W. Durham, M. Cooper, M. Eich, C. Lehnert, R. Mangels, C. McCool, P. Kujala, L. Nicholson, <u>T. T. Pham</u>, J. Sergeant, F. Zhang, B. Upcroft, P. Corke, **The ACRV Picking Benchmark (APB): A Robotic Shelf Picking Benchmark to Foster Reproducible Research**, IEEE Conference on Robotics and Automation (ICRA) 2017.

5. <u>T. T. Pham</u>, M. Eich, I. Reid and G. Wyeth, **Geometrically Consistent Plane Extraction for Dense Indoor 3D Maps Segmentation**, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2016.

6. <u>T. T. Pham</u>, H. Rezatofighi, T-J Chin, I. Reid, **Efficient Point Process Inference for Large-scale Object Detection**, IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2016.

7. <u>T. T. Pham</u>, I. Reid, S. Gould, Y. Latif, **Hierarchical Higher-order Regression Forest Fields: An Application to 3D Indoor Scene Labelling**, International Conference on Computer Vision (ICCV) 2015

8. A. Eriksson, <u>T. T. Pham</u>, T.-J. Chin and I. Reid, **The k-support norm and convex envelopes of cardinality and rank**, IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2015.

9. <u>T. T. Pham</u>, T.-J. Chin, J. Yu and D. Suter, **The Random Cluster Model for Robust Geometric Fitting**, IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2012.

10. <u>T. T. Pham</u>, T.-J. Chin, J. Yu, D. Suter, **Simultaneous Sampling and Multi-Structure Fitting with Adaptive Reversible Jump MCMC**, Conference on Neural Information Processing Systems (NIPS) 2011.

Honours & Awards

- 2017 1st place in the Amazon Robotic Challenge 2017 (won by the ACRV team)
- 2016 Best Centre Citizen Awarded by The Australian Centre of Robotic Vision
- 2016 6th place in the Amazon Picking Challenge 2016 (won by the ACRV team)
- 2014 Dean's Commendation of Doctoral Thesis Excellence
- 2013 One of 200 young researchers worldwide invited to attend Heidelberg Laureate Forum 2013
- 2012 Google Travel Grant
- 2012 Google PhD Fellowship in Computer Vision
- 2011 Google Travel Award for NIPS11
- 2010 Adelaide Scholarships International (ASI) (2010-2014)
- 2008 Brain Korea 21 Scholarship (2008-2009)

Professional Activities

Talks and tutorials

- 2017   "Meaningful Maps - Object-Oriented Semantic Mapping", Oral presentation at IROS, 2017.

- 2017   "Robot Vision using Deep Learning", TechTalk, Adelaide, September 2017.

- 2017   "Semantic Vision", Robotic Vision Summer School, Kioloa, Australia, March 2017

Program Committee

- Deep Learning for Robotic Vision Workshop, in conjunction with CVPR 2017.

Reviewer:

- IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
- IEEE Transactions on Image Processing (TIP)
- IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)
- Journal of Image and Vision Computing (IVC)
- Computer Vision and Image Understanding (CVIU)
- International Journal of Robotics Research (IJRR)
- Journal of Unmanned Vehicle Systems (JUVS)
- IEEE Robotics and Automation Letters (RAL)
- IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
- International Conference on Computer Vision (ICCV)
- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)

Software Skills

- Programming: Matlab, C, C++.
- Libraries: PCL, OpenCV, Caffe.

Referees

Available on request.

Last updated: October 9, 2017