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Education

Ph.D. Computer Science, University of Maryland College Park, USA, 2015.

Dissertation: "Computational Mid-Level Vision: From Border Ownership to Categorical Object Recognition".

Advisors: Yiannis Aloimonos, Cornelia Fermüller.

M.Eng. Computer Engineering, National University of Singapore, 2007.

Dissertation: "An Effective Scene Recognition Strategy for Biomimetic Robotic Navigation".

Advisor: Loong-Fah Cheong.

Diplôme d'Ingénieur, Ecole Supérieur d'Electricité (Supélec), France, 2007.

Experience

DSO National Laboratories Singapore, Senior Member of Technical Staff, July 2007–present.

University of Maryland, Department of Computer Science, Graduate Research Assistant, January 2010–present.

National University of Singapore, Graduate Teaching Assistant, January 2006–December 2006.

Research Interests

Computer Vision, Image Processing, Machine Learning, Artificial Intelligence, Cognitive Robotics, Computational Linguistics.

Research

Peer-Reviewed Publications

1. **C.L. Teo**, C. Fermüller, Y. Aloimonos. Detection and Segmentation of 2D Curved Reflection Symmetric Structures. *IEEE Int'l Conf. on Computer Vision (ICCV)*, to appear, 2015.
2. F. Barranco*, **C.L. Teo***, C. Fermüller, Y. Aloimonos. Contour Detection and Characterization for Asynchronous Event Sensors. *IEEE Int'l Conf. on Computer Vision (ICCV)*, to appear, 2015.
3. **C.L. Teo**, C. Fermüller, Y. Aloimonos. Fast 2D Border Ownership Assignment. *IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, pp. 5117–5125, 2015.
4. A. Myers, **C.L. Teo**, C. Fermüller, Y. Aloimonos. Affordance Detection of Tool Parts from Geometric Features. *IEEE Int'l Conf. on Robotics and Automation (ICRA)*, pp. 1374–1381, 2015.
5. **C.L. Teo**, C. Fermüller, Y. Aloimonos. Border Ownership Assignment in Real Images. *15th annual meeting of the Vision Sciences Society (VSS)*, vol. 15(12), pp. 763–763, 2015.

6. **C.L. Teo**, C. Fermüller, Y. Aloimonos. A Gestaltist Approach to Contour-based Object Recognition: Combining Bottom-up and Top-down cues. *International Journal of Robotics Research (IJRR)*, vol. 34(4-5), pp. 627–652, 2015.
7. X. Yu, **C.L. Teo**, Y. Yang, C. Fermüller, Y. Aloimonos. Action Attribute Detection from Sports Videos with Contextual Constraints. *British Machine Vision Conference (BMVC)*, 2013.
8. **C.L. Teo**, A. Myers, C. Fermüller, Y. Aloimonos. Embedding High-Level Information into Low Level Vision: Efficient Object Search in Clutter. *IEEE Int'l Conf. on Robotics and Automation (ICRA)*, pp. 126–132, 2013.
9. Y. Yang, **C.L. Teo**, C. Fermüller, Y. Aloimonos. Robots with Language: Multi-Label Visual Recognition Using NLP. *IEEE Int'l Conf. on Robotics and Automation (ICRA)*, pp. 4256–4262, 2013.
10. D. Summers-stay, **C.L. Teo**, Y. Yang, C. Fermüller, Y. Aloimonos. Using a Minimal Action Grammar for Activity Understanding in the Real World. *IEEE/RSJ Int'l Conf. on Intelligent Robots and Systems (IROS)*, pp. 4104–4111, 2012.
11. **C.L. Teo**, Y. Yang, H. Daumé III, C. Fermüller, Y. Aloimonos. Towards a Watson That Sees: Language-Guided Action Recognition for Robots. *IEEE Int'l Conf. on Robotics and Automation (ICRA)*, pp. 374–381, 2012.
12. **C.L. Teo**, Y. Yang, C. Fermüller, Y. Aloimonos. Synergistic Methods for using Language in Robotics. *ACM Workshop on Performance Metrics for Intelligent Systems (PerMIS)*, pp. 82–88, 2012.
13. X. Yu, C. Fermüller, **C.L. Teo**, Y. Yang, Y. Aloimonos. Active Scene Recognition with Vision and Language. *IEEE Int'l Conf. on Computer Vision (ICCV)*, pp. 810–817, 2011.
14. Y. Yang*, **C.L. Teo***, H. Daumé III, Y. Aloimonos. Corpus-Guided Sentence Generation of Natural Images. *ACL Conf. on Empirical Methods in Natural Language Processing (EMNLP)*, pp. 444–454, 2011.
15. **C.L. Teo**, Y. Yang, H. Daumé III, C. Fermüller, Y. Aloimonos. A Corpus-Guided Framework for Robotic Visual Perception. *AAAI Workshop on Language-Action Tools for Cognitive Artificial Agents*, 2011.
16. **C.L. Teo**, S. Li, L-F. Cheong, J. Sun. 3D ordinal constraints in Spatial Configuration for Robust Scene Recognition. *IEEE Int'l Conf. on Pattern Recognition (ICPR)*, pp. 1–5, 2008.

Grants, Fellowships, & Awards

Clark School's Future Faculty Program, University of Maryland, 2014–2015.

Gannon Award for Outstanding Graduate Students, University of Maryland, 2013.

Qualcomm Innovation Fellowship, Qualcomm Inc., 2011–2012.

Department of Computer Science PhD. Fellowship, University of Maryland, 2010–2011.

DSO National Laboratories Postgraduate Scholarship, 2009–2014.

National University of Singapore Graduate Research Scholarship, 2005–2007.

Defense Science & Technology Agency Undergraduate Scholarship, 2002–2005.

Talks

Perceptual Organization in Computer Vision (POCV): Robust Symmetry Detection in Natural Images, June 2014.

Qualcomm Innovation Fellowship Winners Day: Robots Need Language, September 2012.

Computer Vision Students Seminar (CVSS): The Telluride Neuromorphic Workshop 2011: Our Experience, February 2012.

NUS Department of Mathematics Weekly Seminar: Integrating Language into Computer Vision, January 2012.

Professional Activities

Reviewer for CVPR, ICCV, ECCV, ICRA, IROS conferences and the following journals: IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI), Computer Vision and Image Understanding (CVIU), Image and Vision Computing (IMAVIS), Robotics Research (IJRR).

Departmental service: Graduate Admissions Committee (2014). Computer Vision Students Seminar (2012–2013).

Student Member, IEEE and IEEE Computer Society, 2005–Present.

Student Member, AAAI, 2011–2013.

Student Member, ACL, 2011–2013.

Teaching

University of Maryland College Park

CMSC 828Y: Vision for Cognitive Robots: Recognition, Navigation and Manipulation (Spring 2015).

CMSC 733: Computer Processing of Pictorial Information (Spring 2011), TA for Y. Aloimonos.

CMSC 433: Programming Language Technologies and Paradigms (Fall 2009), TA for A. Porter.

National University of Singapore

EE 4217: Technology of Digital Entertainment (Spring 2006), TA for S. Zhou.

EE 4604: Biological Perception in Digital Media (Fall 2006), TA for S. Winkler.

Miscellaneous

Programming Languages: Matlab, C/C++, Java, Python.

Languages: English, French and Mandarin.

Referees

Available upon request.