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(Electrical Engineering PhD)



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PERSONALITY

Hard-working and creative person, good at taking on unconventional roles. Strong interest in robust algorithms that can perform in real world conditions. Current interest in low level vision, feature correspondence and data-mining.

Website at: <http://www.kind-of-works.com/>

EDUCATION

National University of Singapore *2006 –2011*

- PhD in Electrical and Computer Engineering
- Specialized in recovery of scene geometry and two view stitching
- PhD is concurrent with Research Engineer work

National University of Singapore *2002 –2006*

- Bachelor of Electrical Engineering (B.Eng)
- First Class Honors.

Singapore Armed Forces *2000 –2002*

Interruption for National Service. Corporal in 40th Battalion Singapore Armored Regiment.

Temasek Junior College, Singapore *1998 –1999*

EXPERIENCE

- Research Scientist, Advanced digital Sciences Center *2015–present*
 - P.I for vision based robotic navigation grant
 - In charge of vision based deep-tunnel inspection system
 - Development of new similarity functions

- Post-Doc, Advanced digital Sciences Center *2014– 2015*
 - Working on high stability Structure from Motion and correspondence recovery

- Post-Doc Researcher, Oxford-Brookes University, UK 2012–2013
- Working on Structure from Motion and Image Alignment systems, with a focus on large displacement handling
- Research Fellow, Institute of Infocomm Research, Singapore 2010–2012
- Part of the collaborative research team between the institute and National University of Singapore.
- Investigation of image stitching and robust Internet image matching algorithm
- Research Engineer, National University of Singapore (NUS) 2006–2010
- Collaboration between National University of Singapore and Singapore’s Defense Science Organization.
- Investigated the possibility of 3-D reconstruction in sparsely textured environments
- Theoretical research on the behavior of structure from motion algorithms when the motion is small. We have proven mathematically that there is no fundamental distinction between the discrete and differential eight-point algorithms.

PUBLICATIONS

- **Wen-Yan Lin**, Siying Liu, Jianhuang Lai and Yasuyuki Matsushita, “Dimensionality’s Blessing: Clustering Images by Underlying Distributions,” *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018.
- **Wen-Yan Lin**, Fan Wang, Ming-Ming Cheng, Sai-Kit Yeung, Philip Torr, Minh N.Do, Jiangbo Lu, “CODE: Coherence Based Decision Boundaries for Feature Matching”, *Pattern Analysis and Machine Intelligences (PAMI)*, 2018.
- Jiawang Bian*, **Wen-Yan Lin***, Yasuyuki Matsushita, Sai-Kit Yeung, Tan-Dat Nguyen, Ming-Ming Cheng, “GMS: Gird-Based Motion Statistics for Fast, Ultra Robust Feature Correspondence”, *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2017.
- **Wen-Yan Lin**, Siying Liu, Nianjuan Jiang, Minh N.Do, Ping Tan, Jiangbo Lu, “RepMatch: Robust Feature Matching and Pose for Reconstructing Modern Cities”, *European Conference on Computer Vision (ECCV)*, 2016.
- Nianjuan Jiang, **Wen-Yan Lin**, Minh N.Do, Jiangbo Lu, “Direct Structure Estimation for 3D Reconstruction”, *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2015.
- Ming- Ming Cheng, Shuai Zheng, **Wen-Yan Lin**, Vibhav Vineet, Paul Sturgess, Nigel Crook, Niloy J Mitra, Philip Torr, “ImageSpirit: Verbal Guided Image Parsing”, *ACM Transactions on Graphics*, 2014
- **Wen-Yan Lin**, Ming-Ming Cheng, Jiangbo Lu, Hongsheng Yang, Minh Do, Philip Torr, “Bilateral Functions for Global Motion Modeling”, *European Conference of Computer Vision (ECCV)*, 2014.
- Hong Sheng Yang, **Wen-Yan Lin**, Jiangbo Lu, “Daisy filter flow: A generalized discrete approach to dense correspondences”, *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2014.
- Ming- Ming Cheng, Ziming Zhang, **Wen-Yan Lin**, Philip Torr, Nigel Crook “BING: Binarized normed gradients for objectness estimation at 300fps”, *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2014

- **Wen-Yan Lin**, Ming-Ming Cheng, Shuai Zheng, Jiangbo Lu, Nigel Crook “Non-Parametric Correspondence Fitting”, *International Conference of Computer Vision (ICCV)*, 2013
- Ming-Ming Cheng, Jonathan Warrell, **Wen-Yan Lin**, Shuai Zheng, Vibhav Vineet, Nigel Crook, “Efficient Salient Region Detection with Soft Image Abstraction”, *International Conference of Computer Vision (ICCV)*, 2013
- Linlin Liu, Kok-Lim Low, **Wen-Yan Lin**, “Dense Image Correspondence under Large Appearance Variations”, *International Conference of Image Processing (ICIP)*, 2013
- **Wen-Yan Lin***, Linlin Liu*, Yasuyuki Matsushita, Kok-Lim Low, Siying Liu, “Aligning Images in the Wild”, *Conference of Computer Vision and Pattern Recognition (CVPR)*, 2012
- **Wen-Yan Lin**, Loong-Fah Cheong, Ping Tan, Guo Dong, Siying Liu, “Simultaneous Pose and Correspondence Estimation with Motion Coherence”, *International Journal of Computer Vision*, 2012
- **Wen-Yan Lin**, Siying Liu, Yasuyuki Matsushita, Tian Tsong Ng, “Smoothly Varying Affine Stitching”, *Conference on Computer Vision and Pattern Recognition (CVPR)* 2011.
- **Wen-Yan Lin**, Geok-Choo Tan, Loong-Fah Cheong, “When Discrete Meets Differential-Assessing Stability of Structure from Small Motion”, *International Journal of Computer Vision* 2010.
- **Wen-Yan Lin**, Guo Dong, Ping Tan, Loong-Fah Cheong, Chye-Hwang Yan, “Simultaneous Camera Pose and Correspondence Estimation in Cornerless Images”, *International Conference on Computer Vision (ICCV)* 2009.

*Denotes joint first author

Professional Activities

- Program Committee, *Computational Visual Media*, 2017
- Reviewer for Pattern IEEE *Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*
- Reviewer for *SIGGRAPH Asia Technical Brief* 2012
- Reviewer for ECCV 2012; CVPR 2012, 2015.

Other Information

- Singapore Citizen
- English educated

References

- Professor Philip Torr, philip.torr@eng.ox.ac.uk (Oxford University)
- Professor Yasuyuki Matsushita, yasumat@microsoft.com (Osaka University)
- Professor Douglas Jones, jones@adsc.com.sg (Director, Advanced Digital Sciences Center)

- Associate Professor Cheong Loong Fah, elec1f@nus.edu.sg (PhD supervisor)