

## RESEARCH PUBLICATIONS

More than 200 publications (books, book chapters, refereed journals, and proceedings of refereed conferences):

### (1) BOOKS:

1. Li Song and Nam Ling, *Perceptual Video Coding: Model, Algorithm and Implementation*, accepted to be published by Springer, expected 2018.
2. Nam Ling and M. A. Bayoumi, *Specification and Verification of Systolic Arrays*, World Scientific Publishing Company Pte. Ltd., Singapore, 1999.

### (2) KEYNOTE/DISTINGUISHED INVITED PAPERS IN REFEREED CONFERENCES AND JOURNALS:

3. **Nam Ling**, “Rate-Distortion Optimization for Sparse Coding in Image and Video Compression,” keynote paper, to appear in *Journal of Xi’an University of Posts and Telecommunications*.
4. Nam Ling, “High Efficiency Video Coding and its 3D Extension: A Research Perspective,” keynote paper, *Proceedings of the 2012 7<sup>th</sup> IEEE Conference on Industrial Electronics and Applications (ICIEA)*, Singapore, pp. 2153 – 2158, July 18 – 20, 2012.
5. Nam Ling, “Expectations and Challenges for Next Generation Video Compression,” distinguished invited lecture paper, *Proceedings of the 2010 5<sup>th</sup> IEEE Conference on Industrial Electronics and Applications (ICIEA)*, Taichung, Taiwan, pp. 12 – 17, June 15 – 17, 2010.

### (3) BOOK CHAPTERS:

6. Yuhong Liu, Yu Wang, and Nam Ling, “Security, Privacy and Trust for User-Generated Content: The Challenges and Solutions,” Chapter 11 in *Big Data Management and Processing*, Kuan-Ching Li, Hai Jiang, and Albert Y. Zomaya, ed., Chapman & Hall/CRC Big Data Series, CRC Press, Taylor & Francis Group, USA, pp. 215 – 238, 2017.
7. Juan Hu, Yi Fang, Nam Ling, and Li Song, “Topic Modeling for Large-Scale Multimedia Analysis and Retrieval,” Chapter 19 in *Big Data: Algorithms, Analytics, and Applications*, Kuan-Ching Li, Hai Jiang, Laurence T. Yang, Alfredo Cuzzocrea, ed., Chapman & Hall/CRC Big Data Series, CRC Press, Taylor & Francis Group, USA, pp. 375 – 391, 2015.
8. Nam Ling and M. A. Bayoumi, “From Architecture to Algorithm - A Formal Approach,” Chapter 10 in *Transformational Approaches to Systolic Design*, G. M. Megson, ed., Chapman & Hall, London, United Kingdom, pp. 242-294, 1994.
9. F. Lin, T. Shih, and Nam Ling, “Axiomatic Approach for Systolic Array Design,” a chapter in *Lecture Notes in Artificial Intelligence*, Springer-Verlag, March 1992. Also presented in the Logic Programming Conference, July 1991.
10. Nam Ling and M. A. Bayoumi, “Mapping Algorithms onto Multidimensional Systolic Arrays,” Chapter 10 in *Progress in Computer-Aided VLSI Design, Vol.2: Techniques*, G.W.Zobrist, ed., Ablex Publishing Corporation, Norwood, New Jersey, USA, pp.283-321, 1990.
11. Nam Ling and M. A. Bayoumi, “The Specification and Verification of Systolic Arrays,” Chapter 40 in *VLSI Signal Processing, III*, R.W.Brodersen and H.S.Moscovitz, ed., IEEE Press, New York City, New York, USA, pp.435-446, 1988. Also presented in the 1988 IEEE Workshop on VLSI Signal Processing, November 1988.

### (4) PAPERS IN REFEREED JOURNALS:

12. Sylvia O. N'guessan and Nam Ling, "Saturation-Aware Human Attention Region of Interest Algorithm for Efficient Video Compression," submitted to *Multimedia Tools and Applications*, Springer.
13. Minqiang Jiang, Madhusudan Kalluri, Nam Ling, Jianhua Zheng, and Philipp Zhang, "Adaptive RD Optimal Sparse Coding with Quantization for Image Compression," submitted to *IEEE Transactions on Multimedia*.
14. Guanghui Yue, Chunping Hou, Ke Gu, and Nam Ling, "Analysis of Structural Characteristics for Quality Assessment of Multiply Distorted Images," submitted to *IEEE Transactions on Multimedia*.
15. Shuwei Huo, Yuan Zhou, Jianjun Lei, Nam Ling, and Chunping Hou, "Linear Feedback Control System Based Salient Object Detection," accepted to appear in *IEEE Transactions on Multimedia*.
16. Guanghui Yue, Chunping Hou, Ke Gu, and Nam Ling, "No Reference Image Blurriness Assessment With Local Binary Patterns," accepted to appear in *Journal of Visual Communication and Image Representation*, Elsevier.
17. Jianjun Lei, Xiaoxu He, Hui Yuan, Feng Wu, Nam Ling, and Chunping Hou, "Region Adaptive R- $\lambda$  Model Based Rate Control for Depth Maps Coding," accepted to appear in *IEEE Transactions on Circuits and Systems for Video Technology*.
18. Jianjun Lei, Jinhui Duan, Feng Wu, Nam Ling, and Chunping Hou, "Fast Mode Decision Based on Grayscale Similarity and Inter-View Correlation for Depth Map Coding in 3D-HEVC," accepted to appear in *IEEE Transactions on Circuits and Systems for Video Technology*.
19. Weiqing Yan, Chunping Hou, Jianjun Lei, Yuming Fang, Zhouye Gu, and Nam Ling, "Stereoscopic Image Stitching Based on a Hybrid Warping Model," *IEEE Transactions on Circuits and Systems for Video Technology*, Vol. 27, No. 9, pp. 1934 – 1946, September 2017.
20. Jianjun Lei, Min Wu, Changqing Zhang, Feng Wu, Nam Ling, and Chunping Hou, "Depth-Preserving Stereo Image Retargeting Based on Pixel Fusion," *IEEE Transactions on Multimedia*, Vol. 19, No. 7, pp. 1442 – 1453, July 2017.
21. Jianjun Lei, Lele Li, Huanjing Yue, Feng Wu, Nam Ling, and Chunping Hou, "Depth Map Super-Resolution Considering View Synthesis Quality," *IEEE Transactions on Image Processing*, Vol. 26, No. 4, pp. 1732-1745, April 2017.
22. Jianjun Lei, Bingren Wang, Yuming Fang, Weisi Lin, Patrick Le Callet, Nam Ling, and Chunping Hou, "A Universal Framework for Salient Object Detection," *IEEE Transactions on Multimedia*, Vol. 18, No. 9, pp. 1783 – 1795, September 2016.
23. Zhouye Gu, Jianhua Zheng, Nam Ling, and Philipp Zhang, "Low Complexity Bi-Partition Mode Selection for 3D Video Depth Intra Coding," *Displays* (Special Issue: Next Generation TV Systems and Technologies), Vol. 40, pp. 2 – 8, December 2015, Elsevier.
24. Jianjun Lei, Jianying Liu, Hailong Zhang, Zhouye Gu, Nam Ling, and Chunping Hou, "Motion and Structure Information Based Adaptive Weighted Depth Video Estimation," *IEEE Transactions on Broadcasting*, Vol. 61, No. 3, pp. 416 – 424, September 2015.
25. Minglei Tong, Zhouye Gu, Nam Ling, and Junjie Yang, "Human Centered Perceptual Adaptation for Video Coding," *Multidimensional Systems and Signal Processing*, Vol. 27, Issue 3, pp. 785 – 799, July 2016, Springer. (Online version published July 22, 2015.)
26. Jianjun Lei, Cuicui Zhang, Yuming Fang, Zhouye Gu, Nam Ling, and Chunping Hou, "Depth Sensation Enhancement for Multiple Virtual View Rendering," *IEEE Transactions on Multimedia*, Vol. 17, No. 4, pp. 457 – 469, April 2015.

27. Maria Pantoja, Nam Ling, Hari Kalva, and Jae-Beom Lee, "An Efficient VC-1 to H.264 IPB-Picture Transcoder with Pixel Domain Processing," *Multidimensional Systems and Signal Processing*, Vol. 26, Issue 3, pp. 555 – 574, July 2015, Springer. (Online version published January 21, 2014.)
28. Zhengyi Luo, Li Song, Shibao Zheng, and Nam Ling, "Raptor Codes Based Unequal Protection for Compressed Video According to Packet Priority," *IEEE Transactions on Multimedia*, Vol. 15, No. 8, pp. 2208 – 2213, December 2013. (Online version published earlier.)
29. Xiaofeng Lu, Li Song, Sumin Shen, Kang He, Songyu Yu, and Nam Ling, "Parallel Hough Transform-Based Straight Line Detection and Its FPGA Implementation in Embedded Vision," *Sensors*, Vol. 13, Issue 7, pp. 9223 - 9247, July 2013, MDPI (Multidisciplinary Digital Publishing Institute, a publisher of open-access journal.)
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31. Maria Pantoja and Nam Ling, "Transcoding with Resolution Conversion Using Super-Resolution and Irregular Sampling," *Journal of Signal Processing Systems for Signal, Image, and Video Technology* (Special Issue: SoC for Multimedia Networking), Vol. 60, No. 3, pp. 305 – 313, September 2010, Springer. (Online version published May 2009.)
32. Jun Zhang, Xiaoquan Yi, Nam Ling, and Weijia Shang, "Context Adaptive Lagrange Multiplier (CALM) for Rate-Distortion Optimal Motion Estimation in Video Coding," *IEEE Transactions on Circuits and Systems for Video Technology*, Vol. 20, No. 6, pp. 820 – 828, June 2010.
33. Jianpeng Dong and Nam Ling, "A Context-Adaptive Prediction Scheme for Parameter Estimation in H.264/AVC Macroblock Layer Rate Control," *IEEE Transactions on Circuits and Systems for Video Technology*, Vol. 19, No. 8, pp. 1108 – 1117, August 2009.
34. Fengling Li, Nam Ling, and Xiaokang Yang, "Improved Update Step for Scalable Video Coding in Video Surveillance," *Journal of VLSI Signal Processing Systems for Signal, Image, and Video Technology* (Special Issue on Audio-Visual Signal Processing for Intelligent Security Systems), Vol. 49, No. 3, pp.425 – 442, December 2007, Springer. [Note: On January 1, 2008, this journal was renamed *Journal of Signal Processing Systems for Signal, Image, and Video Technology*.]
35. Xiaoquan Yi and Nam Ling, "Improved Normalized Partial Distortion Search with Dual-Halfway-Stop for Rapid Block Motion Estimation," *IEEE Transactions on Multimedia*, Vol. 9, No. 5, pp. 995 – 1003, August 2007.
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**(5) PAPERS IN REFEREED CONFERENCES (CONFERENCE PROCEEDINGS):**

68. Jianjun Lei, Kaifu Zheng, Hua Zhang, Xiaochun Cao, Nam Ling, and Chunping Hou, "Sketch Based Image Retrieval via Image-Aided Cross Domain Learning," *Proceedings of the 2017 IEEE International Conference on Image Processing (ICIP)*, Beijing, China, September 17 – 20, 2017.
69. Ying Liu, Keng-Pang Lim, Zhao-Jie Li, Shuai Zhang, and Nam Ling, "On Over-Exposed Region Detection with Regularized Logistic Regression," *Proceedings of the 10<sup>th</sup> IEEE International Conference on Ubi-Media Computing and Workshops (Umedia)*, Pattaya, Thailand, August 1 – 4, 2017.  
**[Outstanding Paper Award].**
70. Jianjun Lei, Zhenyan Sun, Zhouye Gu, Tao Zhu, Nam Ling, and Feng Wu, "Simplified Search Algorithm for Explicit Wedgelet Signalization Mode in 3D-HEVC," *Proceedings of the 2017 IEEE International Conference on Multimedia and Expo (ICME)*, Hong Kong, China, pp. 805 – 810, July 10 – 14, 2017.
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72. Manav Jaiswal, Yuhong Liu, and Nam Ling, "Design and Implementation of a Greener Home Automation System," *Proceedings of the 9<sup>th</sup> IEEE International Conference on Ubi-Media Computing (Umedia)*, Moscow, Russia, August 15 – 17, 2016.  
**[Best Paper Award].**
73. Bijia Li, Li Song, Rong Xie, and Nam Ling, "Evaluation of H.265 and H.264 for Panoramas Video under Different Map Projections," *Proceedings of the 9<sup>th</sup> IEEE International Conference on Ubi-Media Computing (Umedia)*, Moscow, Russia, August 15 – 17, 2016.
74. Cheng Zhao, Li Song, Da Huo, Rong Xie, and Nam Ling, "A Proxy-assisted DASH Live Streaming Scheme," *Proceedings of the 9<sup>th</sup> IEEE International Conference on Ubi-Media Computing (Umedia)*, Moscow, Russia, August 15 – 17, 2016.
75. Minqiang Jiang, Madhusudan Kalluri, Nam Ling, Jianhua Zheng, and Philipp Zhang, "An Approach to Image Compression using R-D Optimal OMP Selection," *Proceedings of the 2016 IEEE International Symposium on Circuits and Systems (ISCAS)*, Montreal, Canada, pp. 2230 – 2233, May 22 – 25, 2016.
76. Xiaofeng Lu, Rui Lei, Junhao Zhang, Hengli Lu, Li Song, and Nam Ling, "Person Tracking with Partial Occlusion Handling," *Proceedings of the 2015 IEEE Workshop on Signal Processing Systems (SiPS)*, Hangzhou, China, October 14 – 16, 2015.
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78. Miok Kim and Nam Ling, "Object Boundary-Based Synthesized View Distortion Estimation," *Proceedings of the 2015 10<sup>th</sup> IEEE Conference on Industrial Electronics and Applications (ICIEA)*, Auckland, New Zealand, pp. 1937 – 1942, June 15 – 17, 2015.
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81. Zhouye Gu, Jianhua Zheng, Nam Ling, and Philipp Zhang, "Fast Bi-Partition Mode Selection for 3D HEVC Depth Intra Coding," *Proceedings of the 2014 IEEE International Conference on Multimedia and Expo (ICME)*, Chengdu, China, July 14 – 18, 2014.
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