

RESEARCH PUBLICATIONS

More than 220 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*, Springer, expected 2021.
2. Nam Ling, *Travel the Holy Land*, Amazon, USA, March 2020.
3. 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:

4. 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*.
5. Nam Ling, "High Efficiency Video Coding and its 3D Extension: A Research Perspective," keynote paper, *Proceedings of the 2012 7th IEEE Conference on Industrial Electronics and Applications (ICIEA)*, Singapore, pp. 2153 – 2158, July 18 – 20, 2012.
6. Nam Ling, "Expectations and Challenges for Next Generation Video Compression," distinguished invited lecture paper, *Proceedings of the 2010 5th IEEE Conference on Industrial Electronics and Applications (ICIEA)*, Taichung, Taiwan, pp. 12 – 17, June 15 – 17, 2010.

(3) BOOK CHAPTERS:

7. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. Nam Ling and M. A. Bayoumi, "The Specification and Verification of Systolic Arrays," Chapter 40 in *VLSI Signal Processing, III*, R.W.Broderson 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:

13. Yanchao Gong, Zhao Li, Kaifang Yang, Miao Ma, Ying Liu, Keng-Pang Lim, and Nam Ling, "Largest Coding Unit Level Quantization Parameter Cascading in HEVC for Crime Scene Investigation Tool Images," submitted to *IEEE Transactions on Circuits and Systems for Video Technology*.
14. Feng Chen, Jie Zhang, Mingkui Zheng, Jiyan Wu, and Nam Ling, "Long-Term Rate Control for Concurrent Multipath Real-Time Video Transmission in Heterogeneous Wireless Networks," submitted to *Journal of Visual Communication and Image Representation*, Elsevier.
15. Yanchao Gong, Kaifang Yang, Ying Liu, Keng-Pang Lim, and Nam Ling, "Quantization Parameter Cascading for Video Surveillance Considering All of Inter-frame Reference Dependency," submitted to *IEEE Transactions on Image Processing*.
16. Shufang Zhang, Wenxin Ding, Nam Ling, and Lingzhi Liu, "A Color High Dynamic Range Image Quality Assessment Method Based on Quaternion," submitted to *IEEE Transactions on Circuits and Systems for Video Technology*.
17. Jianjun Lei, Zhenyan Sun, Zhouye Gu, Tao Zhu, Nam Ling, and Feng Wu, "Fast Intra Prediction Based on Content Property for Depth Video Coding," submitted to *IEEE Transactions on Multimedia*.
18. Jianjun Lei, Kaifu Zheng, Hua Zhang, Yonghong Hou, Xiaochun Cao, Yuxin Song, and Nam Ling, "Sketch-Based Image Retrieval Using Cross-Domain Learning with Shape Regression," submitted to *IEEE Transactions on Image Processing*.
19. Shufang Zhang, Zenghui Fan, Nam Ling, and Minqiang Jiang, "Recursive Residual Convolutional Neural Network-Based In-Loop Filtering for Intra Frames," accepted to appear in *IEEE Transactions on Circuits and Systems for Video Technology* (early access version published in August 2019).
20. Xiaoting Fan, Jianjun Lei, Yuming Fang, Qingming Huang, Nam Ling, and Chunping Hou, "Stereoscopic Image Stitching via Disparity-Constrained Warping and Blending," *IEEE Transactions on Multimedia*, Vol. 22, No. 3, March 2020.
21. Mingkui Zheng, Jingyi Zheng, Zhifeng Chen, Linhuang Wu, Xiuzhi Yang, and Nam Ling, "A Reconfigurable Architecture for Discrete Cosine Transform in Video Coding," *IEEE Transactions on Circuits and Systems for Video Technology*, Vol. 30, No. 3, pp. 810-821, March 2020.
22. Jian Chen, Zhifeng Chen, Kaixiong Su, Zheng Peng, and Nam Ling, "Video Compressed Sensing Reconstruction Based on Structural Group Sparsity and Successive Approximation Estimation Model," *Journal of Visual Communication and Image Representation*, Vol. 66, pp. 1 – 14, January 2020, Elsevier.
23. Runmin Cong, Jianjun Lei, Huazhu Fu, Qingming Huang, Xiaochun Cao, and Nam Ling, "HSCS: Hierarchical Sparsity Based Co-saliency Detection for RGBD Images," *IEEE Transactions on Multimedia*, Vol. 21, No. 7, pp. 1660-1671, July 2019.
24. Feng Chen, Jie Zhang, Zhifeng Chen, Jiyan Wu, and Nam Ling, "Buffer-Driven Rate Control and Packet Distribution for Real-Time Videos in Heterogeneous Wireless Networks," *IEEE Access*, Vol. 7, pp. 27401-27415, February 26, 2019.
25. Madhusudan Kalluri, Minqiang Jiang, Nam Ling, Jianhua Zheng, and Philipp Zhang, "Adaptive RD Optimal Sparse Coding with Quantization for Image Compression," *IEEE Transactions on Multimedia*, Vol. 21, No. 1, pp. 39-50, January 2019.
26. Sylvia O. N'guessan and Nam Ling, "Saturation-Aware Human Attention Region of Interest Algorithm for Efficient Video Compression," *Multimedia Tools and Applications*, Vol. 77, Issue 23, pp. 31067 – 31093, December 2018, Springer.

27. Guanghui Yue, Chunping Hou, Ke Gu, Nam Ling, and Beichen Li, "Analysis of Structural Characteristics for Quality Assessment of Multiply Distorted Images," *IEEE Transactions on Multimedia*, Vol. 20, No. 10, pp. 2722-2732, October 2018.
28. Shuwei Huo, Yuan Zhou, Jianjun Lei, Nam Ling, and Chunping Hou, "Iterative Feedback Control Based Salient Object Segmentation," *IEEE Transactions on Multimedia*, Vol. 20, No. 3, pp. 1350-1364, June 2018.
29. Jianjun Lei, Xiaoxu He, Hui Yuan, Feng Wu, Nam Ling, and Chunping Hou, "Region Adaptive R- λ Model Based Rate Control for Depth Maps Coding," *IEEE Transactions on Circuits and Systems for Video Technology*, Vol. 28, No. 6, pp. 1390 – 1405, June 2018.
30. Ying Liu, Yanan Peng, Kengpan Lim, and Nam Ling, "A Novel Image Retrieval Algorithm Based on Transfer Learning and Fusion Features," *World Wide Web: Internet and Web Information Systems* (Special Issue: Social Media and Interactive Technologies), pp. 1 – 12, May 24, 2018, Springer (published online).
31. 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," *IEEE Transactions on Circuits and Systems for Video Technology*, Vol. 28, No. 3, pp. 706 – 718, March 2018.
32. Guanghui Yue, Chunping Hou, Ke Gu, and Nam Ling, "No Reference Image Blurriness Assessment With Local Binary Patterns," *Journal of Visual Communication and Image Representation*, Vol. 49, pp. 382 – 391, November 2017, Elsevier.
33. 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.
34. 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.
35. 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.
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37. 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.
38. 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.
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44. Zhengyi Luo, Li Song, Shibao Zheng, and Nam Ling, "H.264/Advanced Video Control Perceptual Optimization Coding Based on JND-Directed Coefficient Suppression," *IEEE Transactions on Circuits and Systems for Video Technology*, Vol. 23, No. 6, pp. 935 - 948, June 2013. (Online version published earlier.)
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48. 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*.]
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58. Xiaokang Yang, Ce Zhu, Zheng Guo Li, Xiao Lin, and Nam Ling, "An Unequal Packet Loss Resilience Scheme for Video over the Internet," *IEEE Transactions on Multimedia*, Vol. 7, No. 4, pp. 753 - 765, August 2005.
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(5) PAPERS IN REFEREED CONFERENCES (CONFERENCE PROCEEDINGS):

82. Zhanlong Dong, Ying Liu, Keng Pang Lim, and Nam Ling, "A Densely Connected Face Super-Resolution Network Based on Attention Mechanism," accepted for *the 2020 15th IEEE Conference on Industrial Electronics and Applications (ICIEA)*, Kristiansand, Norway, November 9-13 (postponed from June 21-25), 2020.
83. Yifei Pei, Ying Liu, and Nam Ling, "Deep Learning for Block-level Compressive Video Sensing," accepted for *the 2020 IEEE International Symposium on Circuits and Systems (ISCAS)*, Seville, Spain, October 11-14 (postponed from May 26 – 29), 2020.
84. Bingxin Hou, Ying Liu, and Nam Ling, "A Super-Fast Deep Network for Moving Object Detection," accepted for *the 2020 IEEE International Symposium on Circuits and Systems (ISCAS)*, Seville, Spain, October 11-14 (postponed from May 26 – 29), 2020.
85. Jianjun Lei, Xiaohuan Liu, Kaiming Zhang, Ge Li, and Nam Ling, "Convolutional Neural Network Based Up-Sampling for Depth Video Intra Coding," *Proceedings of the 2019 IEEE International Conference on Visual Communications and Image Processing (VCIP)*, Sydney, Australia, December 1-4, 2019.
86. Licheng Xiao, Hairong Wang, and Nam Ling, "Image Compression with Deeper Learned Transformer," *Proceedings of the Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC)*, Lanzhou, China, pp. 53-57, November 18-21, 2019.
87. Taru Kanchan, Minqiang Jiang, and Nam Ling, "Non-MPM Mode Coding for Intra Prediction in Video Coding," *Proceedings of the 12th International Conference on Ubi-Media Computing and Workshops (Umedia)*, Bali, Indonesia, pp. 135-139, August 6 – 9, 2019.
[Excellent Paper Award].

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92. Ying Liu, Shuai Zhang, Fuping Wang, and Nam Ling, "Tread Pattern Image Classification using Convolutional Neural Network Based on Transfer Learning," *Proceedings of the 2018 IEEE Workshop on Signal Processing Systems (SiPS)*, Cape Town, South Africa, pp. 300 – 305, October 21 – 24, 2018.
[Best Student Paper Award].
93. Ying Liu, Dan Hu, Jiulu Fan, Xing Yang, Fuping Wang, and Nam Ling, "Using Convolutional Neural Network for Crime Scene Investigation Image Database Retrieval," *Proceedings of the 11th IEEE International Conference on Ubi-Media Computing (Umedia)*, Nanjing, China, pp. 28 – 32, August 22 – 25, 2018.
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[Outstanding Paper Award].
98. 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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100. Manav Jaiswal, Yuhong Liu, and Nam Ling, "Design and Implementation of a Greener Home Automation System," *Proceedings of the 9th IEEE International Conference on Ubi-Media Computing (Umedia)*, Moscow, Russia, August 15 – 17, 2016.
[Best Paper Award].

101. 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 9th IEEE International Conference on Ubi-Media Computing (Umedia)*, Moscow, Russia, August 15 – 17, 2016.
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108. Sylvia O. N'guessan, Nam Ling, and Zhouye Gu, "Compression of HD Videos by a Contrast-Based Human Attention Algorithm," *Proceedings of the 2014 IEEE International Workshop on Multimedia Signal Processing (MMSP)*, Jakarta, Indonesia, September 22 – 24, 2014.
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