



Runmin Cong

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OVERVIEW

I am currently an **Associate Professor** with the Institute of Information Science, and also with the Beijing Key Laboratory of Advanced Information Science and Network Technology, Beijing Jiaotong University, Beijing, China. I received my Ph.D. degree (2019) in Information and Communication Engineering from Tianjin University, China. I used to be a Research Student/Staff with Nanyang Technological University (NTU), Singapore, and the City University of Hong Kong (CityU), Hong Kong SAR, China. I have published more than 30 papers in prestigious international journals and conferences including 16 IEEE Trans/CCF A papers, and 9 China patents have been authorized.

I am a member of IEEE, APSIPA IVM, CCF, CSIG, and CAAI. I also serve as an **Associate Editor** of the Signal, Image and Video Processing, the **Guest Editor** for the Signal Processing : Image Communication, and the PC member/Session Chair of IJCAI 2020, ACM MM 2020, APSIPA ASC 2019. I was a recipient of the **Best Student Paper Award Runner-Up at IEEE ICME 2018**, **First Prize for Scientific and Technological Progress Award of Tianjin Municipality**, **Excellent Doctorial Dissertation Award from China Society of Image and Graphics (CSIG)**, **Excellent Scientific Paper Award for Beijing Youth**.

RESEARCH INTERESTS

- Computer Vision and Artificial Intelligence
- Multimedia Content Processing and Understanding
- Visual Saliency Detection and Segmentation
- Remote Sensing Image Interpretation
- Underwater Environment Perception
- Deep Learning

EDUCATION & WORK EXPERIENCE

Associate Professor	2019/07–now
<i>Institute of Information Science (IIS), Center of Digital Media Information Processing (MePro)</i>	
<i>Beijing Key Laboratory of Advanced Information Science and Network Technology</i>	

Beijing Jiaotong University (BJTU), Beijing, China

Team Leader: “Chang Jiang Scholars Program” Professor [Yao Zhao](#) (IET Fellow)

Research Associate

2018/05–2019/05

Department of Computer Science

City University of Hong Kong (CityU), Hong Kong SAR, China

Collaborator: Chair Prof. [Sam Kwong](#) (IEEE Fellow) and Dr. [Junhui Hou](#)

Research Assistant

2016/12–2017/02

School of Computer Science and Engineering

Nanyang Technological University (NTU), Singapore

Collaborator: Prof. [Weisi Lin](#) (IEEE/IET Fellow)

Ph.D. Information and Communication Engineering

2015/09–2019/06

Tianjin University (TJU), Tianjin, China

Thesis: *Research on Visual Saliency Detection with Comprehensive Information*

Supervisor: Prof. [Qingming Huang](#) (IEEE Fellow) and Prof. [Jianjun Lei](#)

SELECTED PUBLICATIONS

27. Runmin Cong, Hao Chen, Hongyuan Zhu, Huazhu Fu, “[Foreground detection and segmentation in RGB-D images](#)”, in *Paul Rosin, Yukun Lai, Yonghua Liu, Ling Shao, RGB-D Image Analysis and Processing*, Springer, ISBN 978-3-030-28602-6, (2019). (**Book Chapter**)
26. Runmin Cong, Jianjun Lei, Huazhu Fu, Weisi Lin, Qingming Huang, Xiaochun Cao, Chunping Hou, “[An iterative co-saliency framework for RGBD images](#)”, *IEEE Transactions on Cybernetics*, **49**(1), pp. 233-246 (2019). (SCI, IF=10.387)
25. Runmin Cong, Jianjun Lei, Huazhu Fu, Junhui Hou, Qingming Huang, Sam Kwong, “[Going from RGB to RGBD saliency: A depth-guided transformation model](#)”, *IEEE Transactions on Cybernetics*, DOI: 10.1109/TCYB.2019.2932005, (2019). (SCI, IF=10.387)
24. Runmin Cong, Jianjun Lei, Huazhu Fu, Fatih Porikli, Qingming Huang, Chunping Hou, “[Video saliency detection via sparsity-based reconstruction and propagation](#)”, *IEEE Transactions on Image Processing*, **28**(10), pp. 4819-4831 (2019). (SCI, IF=6.790)
23. Runmin Cong, Jianjun Lei, Huazhu Fu, Qingming Huang, Xiaochun Cao, Chunping Hou, “[Co-saliency detection for RGBD images based on multi-constraint feature matching and cross label propagation](#)”, *IEEE Transactions on Image Processing*, **27**(2), pp. 568-579 (2018). (SCI, IF=6.790)
22. Runmin Cong, Jianjun Lei, Huazhu Fu, Qingming Huang, Xiaochun Cao, Nam Ling, “[HSCS: Hierarchical sparsity based co-saliency detection for RGBD images](#)”, *IEEE Transactions on Multimedia*, **21**(7), pp. 1660-1671 (2019). (SCI, IF=5.452)

21. Runmin Cong, Jianjun Lei, Huazhu Fu, Ming-Ming Cheng, Weisi Lin, Qingming Huang, “[Review of visual saliency detection with comprehensive information](#)”, *IEEE Transactions on Circuits and Systems for Video Technology*, **29(10)**, pp. 2941-2959 (2019). (SCI, IF=4.046)
20. Chongyi Li, Runmin Cong[†], Junhui Hou, Sanyi Zhang, Yue Qian, Sam Kwong, “[Nested network with two-stream pyramid for salient object detection in optical remote sensing images](#)”, *IEEE Transactions on Geoscience and Remote Sensing*, **57(11)**, pp. 9156-9166 (2019). ([†]co-first and corresponding author, SCI, IF=5.630)
19. Chongyi Li, Runmin Cong[†], Sam Kwong, Junhui Hou, Huazhu Fu, Guopu Zhu, Dingwen Zhang, and Qingming Huang, “[ASIF-Net: Attention steered interweave fusion network for RGBD salient object detection](#)”, *IEEE Transactions on Cybernetics*, DOI: **10.1109/TCYB.2020.2969255**, (2020). ([†]co-first and corresponding author, SCI, IF=10.387)
18. Runmin Cong, Jianjun Lei, Changqing Zhang, Qingming Huang, Xiaochun Cao, Chunping Hou, “[Saliency detection for stereoscopic images based on depth confidence analysis and multiple cues fusion](#)”, *IEEE Signal Processing Letters*, **23(6)**, pp. 819-823 (2016). (SCI, IF=3.268)
17. Runmin Cong, Ping Han, Chongyi Li, Jiaji He, Zaiji Zhang, “[Manmade target extraction based on multi-stage decision and its application for change detection in polarimetric synthetic aperture radar image](#)”, *Journal of Electronic Imaging*, **25(5)**, pp. 1-13 (2016). (SCI, IF=0.924)
16. Min Ni, Jianjun Lei, Runmin Cong*, Kaifu Zheng, Bo Peng, Xiaoting Fan, “[Color-guided depth map super resolution using convolutional neural network](#)”, *IEEE Access*, **2**, pp. 26666–26672 (2017). (*corresponding author, SCI, IF=4.098)
15. Ping Han, Binbin Han, Xiaoguang Lu, Runmin Cong*, and Dandan Sun, “[Unsupervised classification of PolSAR images based on multi-level feature extraction](#)”, *International Journal of Remote Sensing*, **41(2)**, pp. 534-548 (2020). (*corresponding author, SCI, IF=2.493)
14. Feng Li, Runmin Cong*, Huihui Bai, and Yifan He, “[Deep interleaved network for image super-resolution with asymmetric co-attention](#)”, *International Joint Conference on Artificial Intelligence (IJCAI)*, **Accepted**, (2020). (*co-first author, CCF A)
13. Chongyi Li, Chunle Guo, Wenqi Ren, Runmin Cong, Junhui Hou, Sam Kwong, and Dacheng Tao, “[An underwater image enhancement benchmark dataset and beyond](#)”, *IEEE Transactions on Image Processing*, **29**, pp. 4376-4389 (2020). (SCI, IF=6.790)
12. Zuyao Chen, Qianqian Xu, Runmin Cong, and Qingming Huang, “[Global context-aware progressive aggregation network for salient object detection](#)”, *Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI)*, **Oral**, (2020). (CCF A)
11. Ling Du, Anthony T.S. Ho, and Runmin Cong, “[Perceptual hashing for image authentication: A survey](#)”, *Signal Processing: Image Communication*, **81**, pp. 1-23 (2020).
10. Chunle Guo, Chongyi Li, Jichang Guo, Runmin Cong, Huazhu Fu, Ping Han, “[Hierarchical features driven residual learning for depth map super-resolution](#)”, *IEEE Transactions on Image Processing*, **28(5)**, pp. 2545-2557 (2019). (SCI, IF=6.790)
9. Yonghua Zhang, Liang Li, Runmin Cong, Xiaojie Guo, Hui Xu, Jiawan Zhang, “[Co-saliency detection via hierarchical consistency measure](#)”, *IEEE ICME*, **Oral**, pp. 1-6 (2018). (**Best Student Paper Runner-Up**)

8. Mengxin Han, Runmin Cong, Xinyu Li, Huazhu Fu, Jianjun Lei, “[Joint spatial-spectral hyperspectral image classification based on convolutional neural network](#)”, *Pattern Recognition Letters*, **130**, pp. 38-45 (2020). (SCI, IF=2.810)
7. Chongyi Li, Jichang Guo, Runmin Cong, Yanwei Pang, Bo Wang, “[Underwater image enhancement by dehazing with minimum information loss and histogram distribution prior](#)”, *IEEE Transactions on Image Processing*, **25(12)**, pp. 5664-5677 (2016). (SCI, IF=6.790)
6. Hua Li, Sam Kwong, Chuanbo Chen, Yuheng Jia, Runmin Cong, “[Superpixel segmentation based on square-wise asymmetric partition and structural approximation](#)”, *IEEE Transactions on Multimedia*, **21(10)**, pp. 2625-2637 (2019). (SCI, IF=5.452)
5. Chongyi Li, Chunle Guo, Jichang Guo, Ping Han, Huazhu Fu, Runmin Cong, “[PDR-Net: Perception-inspired single image dehazing network with refinement](#)”, *IEEE Transactions on Multimedia*, **28(5)**, pp. 2545-2557 (2019). (SCI, IF=5.452)
4. Chongyi Li, Jichang Guo, Chunle Guo, Runmin Cong, Jiachang Gong, “[A hybrid method for underwater image correction](#)”, *Pattern Recognition Letters*, **94**, pp. 62-67 (2017). (SCI, IF=2.810)
3. Chongyi Li, Jichang Guo, Bo Wang, Runmin Cong, Yan Zhang, Jian Wang, “[Single underwater image enhancement based on color cast removal and visibility restoration](#)”, *Journal of Electronic Imaging*, **25(3)**, pp. 1-16 (2016). (SCI, IF=0.924)
2. Runmin Cong, Jianjun Lei, Huazhu Fu, Wenguan Wang, Qingming Huang, Lijie Niu, “[Research progress of video saliency detection](#)”, *Journal of Software*, **29(8)**, pp. 2527–2544 (2018). (EI)
1. Ping Han, Runmin Cong, Zaiji Zhang, “[Change detection algorithm of polarimetric SAR image based on polarization state extracting](#)”, *Systems Engineering and Electronics*, **37(7)**, pp. 1526-1530 (2015). (EI)

SELECTED CHINA PATENTS

9. Runmin Cong, Jianjun Lei, Chunping Hou, Chongyi Li, Xiaoxu He, and Jinhui Duan, “[A saliency detection method for stereoscopic images](#)”, *Patent No.: ZL 201610244589.9*, Granted Date: 2018.08 (**Granted Patent**).
8. Jianjun Lei, Runmin Cong, Chunping Hou, Jinhui Duan, and Dongyang Li, “[A confidence measure for depth map](#)”, *Patent No.: ZL 201610242241.6*, Granted Date: 2018.08 (**Granted Patent**).
7. Jianjun Lei, Runmin Cong, Chunping Hou, Jing Zhang, Xiaoting Fan, and Bo Peng, “[A transformation model from RGB saliency to RGBD saliency](#)”, *Application No.: 201910375809.5*, Application Date: 2019.05 (Application Patent).
6. Jianjun Lei, Runmin Cong, Zhe Zhang, Xinxin Zhu, Yuxin Song, and Yalong Jia, “[A video saliency detection method](#)”, *Application No.: 201910266112.4*, Application Date: 2019.04 (Application Patent).
5. Jianjun Lei, Runmin Cong, Chunping Hou, Chongyi Li, Liying Xu, and Zhe Zhang, “[A co-saliency detection method for RGBD images](#)”, *Application No.: 201810879724.6*, Application Date: 2018.10 (Application Patent).

4. Jianjun Lei, Runmin Cong, Chunping Hou, Sanyi Zhang, Yue Chen, and Yan Guo, “[An iterative co-saliency detection method](#)”, *Application No.: 201711064083.0* , Application Date: 2017.11 (Application Patent).
3. Jianjun Lei, Runmin Cong, Chunping Hou, Xinxin Li, Mengxin Han, and Xiaowei Luo, “[A depth shape prior extraction method](#)”, *Application No.: 201711065005.2* , Application Date: 2017.11 (Application Patent).
2. Jianjun Lei, Runmin Cong, Chunping Hou, Bo Peng, Xiaoting Fan, and Jing Zhang, “[An inter-image saliency detection method](#)”, *Application No.: 201710942099.0* , Application Date: 2017.10 (Application Patent).
1. Jianjun Lei, Runmin Cong, Chunping Hou, Jing Zhang, Xiaoting Fan, and Bo Peng, “[A co-saliency detection method](#)”, *Application No.: 201710942783.9* , Application Date: 2017.10 (Application Patent).

HONORS & AWARDS

- 2019 Excellent Doctorial Dissertation Award from CSIG (only 10 people in China)
- 2019 The 15th Excellent Scientific Paper Award for Beijing Youth
- 2019 Excellent Doctorial Dissertation Award from BSIG (only 6 people in Beijing-Tianjin-Hebei Region)
- 2018 IEEE ICME Best Student Paper Runner-Up
- 2018 First Prize for Scientific and Technological Progress Award of Tianjin Municipality
- 2018 National Scholarship, Ministry of Education of the People’s Republic of China
- 2018 Special Award of Innovation Scholarship in Tianjin Municipality (only 10 people in Tianjin)
- 2018 Outstanding Doctoral Dissertation Foundation in TJU
- 2019 Outstanding Graduate Student in TJU

PROJECTS

- **(Principal Investigator)** “Research on salient object detection for multi-source and multi-modal data”, The Fundamental Research Funds for the Central Universities, 2019/07 – 2021/03
- **(Principal Investigator)** “Research on visual salient object detection in the context of multi-source data”, China Postdoctoral Science Foundation, 2019/12 – 2021/06
- **(Principal Investigator)** “Research on visual saliency detection with comprehensive information”, Outstanding Doctoral Dissertation Foundation of Tianjin University, 2018/11 – 2019/05

- (Principal Participator) “3D video coding and processing”, The National Natural Science Foundation of China (NSFC), 2018/01 – 2019/06
- (Principal Participator) “Real-time real 3D display technology for big data applications”, The National Key R&D Program of China, 2016/08 – 2019/06

ACADEMIC ACTIVITIES

- **Associate Editor:**

- Signal, Image and Video Processing (SIVP, IF: 1.894), 2020-Now

- **Guest Editor:**

- Special Issue on *Visual Information Processing for Underwater Images and Videos: Theories, Algorithms, and Applications*

Signal Processing : Image Communication (SPIC, IF: 2.814), 2020-2021

- Special Issue on *Depth-Related Processing and Applications in Visual Systems*

Multimedia Tools and Applications (MTAP, IF: 2.101), 2020-2021

- **Professional Affiliations:**

- Member of IEEE (2019-)
- Member of APSIPA Technical Committee on Image, Video, and Multimedia (APSIPA IVM) (2020-)
- Member of China Society of Image and Graphics (CSIG) (2019-)
- Member of China Computer Federation (CCF) (2019-)
- Member of Chinese Association for Artificial Intelligence (CAAI) (2019-)
- Member of Beijing Society of Image and Graphics (BSIG) (2019-)

- **Reviewer for Journals:** IEEE Transactions on Image Processing (TIP), IEEE Transactions on Multimedia (TMM), IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), IEEE Transactions on Industrial Electronics (TIE), IEEE Transactions on Industrial Informatics (TII), IEEE Transactions on Geoscience and Remote Sensing (TGRS), IEEE Transactions on Cognitive and Developmental Systems (TCDS), ACM Transactions on Intelligent Systems and Technology (TIST), IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (JSTARS), IEEE Journal of Oceanic Engineering (JOE), IEEE Geoscience and Remote Sensing Letters (GRSL), Pattern Recognition, IEEE Access, Neural Networks, Neurocomputing, Image and Vision Computing, The Visual Computer, BMC Medical Imaging

- **PC Member/Reviewer for Conferences:** ACM International Conference on Multimedia (ACM MM) 2020, International Joint Conference on Artificial Intelligence (IJCAI) 2020, IEEE International Conference on Multimedia and Expo (ICME) 2020, Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC) 2019, Pacific Graphics (PG) 2018, IEEE International Symposium on Mixed and Augmented Reality (ISMAR) 2018, Asian Conference on Pattern Recognition (ACPR) 2017, International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI) 2016