



# Runmin Cong

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## OVERVIEW

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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. **My current research interests include computer vision, saliency detection, video analysis, remote sensing image processing, and deep learning.**

I received my Ph.D. degree (2019) in Information and Communication Engineering from Tianjin University, China. I worked as a researcher at Nanyang Technological University, Singapore and City University of Hong Kong, Hong Kong. I won the *Best Student Paper Award Runner-Up at IEEE ICME 2018*, *First Prize for Scientific and Technological Progress Award of Tianjin Municipality*, *Excellent Doctoral Degree Dissertation Award from Beijing Society of Image and Graphics (BSIG)*, *National Scholarship*, *Special Award of Innovation Scholarship in Tianjin Municipality*, and the *Outstanding Doctoral Dissertation Foundation of Tianjin University*.

## WORK EXPERIENCE

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**Associate Professor** 2019/07–now  
*Institute of Information Science*  
*Beijing Key Laboratory of Advanced Information Science and Network Technology*  
*Beijing Jiaotong University (BJTU), China*

**Research Associate** 2018/05–2019/05  
*Department of Computer Science*  
*City University of Hong Kong (CityU), Hong Kong*  
*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)*

## EDUCATION

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### 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](#)*

### M.S. Communication and Information System

2011/09–2014/06

*Civil Aviation University of China (CAUC), Tianjin, China*

*Thesis: Research on Change Detection Algorithms of Polarimetric SAR Image*

*Supervisor: Prof. Ping Han*

### B.S. Electronic and Information Engineering

2007/09–2011/06

*South-central University for Nationalities (SCUN), Wuhan, China*

*Adviser: Prof. Xiangyuan Li*

## SELECTED PUBLICATIONS

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19. 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=8.803)
18. 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=5.071)
17. 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*, DOI: 10.1109/TIP.2019.2910377, (2019). (SCI, IF=5.071)
16. 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*, DOI: 10.1109/TCSVT.2018.2870832, pp. 1-19 (2018). (SCI, IF=3.558)
15. 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*, DOI: 10.1109/TMM.2018.2884481, (2018). (SCI, IF=3.977)
14. 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=2.813)
13. 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=0.780)

12. Min Ni, Jianjun Lei, Runmin Cong<sup>\*</sup>, Kaifu Zheng, Bo Peng, Xiaoting Fan, “[Color-guided depth map super resolution using convolutional neural network](#)”, *IEEE Access*, **2**, pp. 26666–26672 (2017). (SCI, IF=3.557, <sup>\*</sup>corresponding author)
11. Chongyi Li, Runmin Cong<sup>†</sup>, 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*, **Accepted**, (2019). (SCI, IF=4.662, <sup>†</sup>co-first and corresponding author)
10. Ping Han, Binbin Han, Xiaoguang Lu, Runmin Cong<sup>\*</sup>, and Dandan Sun, “[Unsupervised classification of PolSAR images based on multi-level feature extraction](#)”, *International Journal of Remote Sensing*, **Accepted**, (2019). (SCI, IF=1.782, <sup>\*</sup>corresponding author)
9. 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=5.071)
8. 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**)
7. Mengxin Han, Runmin Cong, Xinyu Li, Huazhu Fu, Jianjun Lei, “[Joint spatial-spectral hyperspectral image classification based on convolutional neural network](#)”, *Pattern Recognition Letters*, **DOI: 10.1016/j.patrec.2018.10.003**, (2018). (SCI, IF=1.952)
6. 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=5.071)
5. 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*, **DOI: 10.1109/TMM.2019.2907047**, (2019). (SCI, IF=3.977)
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=1.952)
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=0.780)
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)

## PAPERS UNDER REVIEW

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5. 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*, **Minor Revisions**, (2019). (SCI, IF=8.803)
4. Runmin Cong, Hao Chen, Hongyuan Zhu, Huazhu Fu, “[Foreground detection and segmentation in RGB-D images](#)”, in *Paul Rosin, Yukun Lai, Yonghuai Liu, Ling Shao, RGB-D Image Analysis and Processing*, Springer, **Under Review**, (2018). (Book Chapter)
3. Chongyi Li, Runmin Cong\*, Sam Kwong, Junhui Hou, Huazhu Fu, Guopu Zhu, Dingwen Zhang, Qingming Huang, “[ASIF-Net: Attention steered interweave fusion network for RGB-D salient object detection](#)”, *IEEE Transactions on Cybernetics*, **Under Review**, (2019). (\*corresponding author)
2. Chongyi Li, Chunle Guo, Jichang Guo, Ping Han, Huazhu Fu, Runmin Cong, “[PI-Net-R: Perception-inspired single image dehazing network with refinement](#)”, *IEEE Transactions on Multimedia*, **Accepted with Mandatory Revisions**, (2018). (SCI, IF=3.977)
1. Chongyi Li, Chunle Guo, Wenqi Ren, Runmin Cong, Junhui Hou, Sam Kwong, Dacheng Tao, “[An underwater image enhancement benchmark dataset and beyond](#)”, *IEEE Transactions on Image Processing*, **Major Revisions**, (2019). (SCI, IF=5.071)

## SELECTED CHINA PATENTS

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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

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- 2019 Excellent Doctoral Degree Dissertation Award from BSIG
- 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
- 2018 Outstanding Doctoral Dissertation Foundation in TJU
- 2019 Outstanding Graduate Student in TJU
- 2018/2016 Merit Student of TJU
- 2018/2017/2016 Outstanding Student for Technological Innovation of TJU
- 2018/2015 The Second-class Academic Scholarship in TJU
- 2017 “National Model” Scholarship in TJU
- 2017 Excellent Student Cadre of TJU
- 2017 Outstanding Student for International Exchange of TJU
- 2017/2016 The First-class Academic Scholarship in TJU
- 2016 Top Ten Excellent Youth in the School of EIE, TJU
- 2014 Excellent Postgraduate of CAUC
- 2014 Excellent Master Dissertation of CAUC
- 2013 Special Award of JIUZHOU Scholarship in CAUC
- 2010/2009/2008 Professional Scholarship in SCUN

## PROJECTS

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- (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
- (Principal Participator) “Research on multiview video coding theory and technologies based on stereoscopic vision saliency”, The National Natural Science Foundation of China (NSFC), 2015/04 – 2016/12
- (Principal Participator) “Scalable depth video coding based on vision saliency”, Seed Foundation of Tianjin University, 2015/04 - 2015/12
- (Principal Participator) “Research on crashed aircraft target detection and recognition based on synthetic aperture radar”, The National Natural Science Foundation of China (NSFC), 2011/09 - 2014/06

## ACADEMIC ACTIVITIES

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- **Invited Talks:** Excellent PhD Workshop of ADMA2018 at Nanjing University of Aeronautics and Astronautics
- **Reviewer for Journals:** IEEE Transactions on Image Processing (TIP), IEEE Transactions on Multimedia (TMM), IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), ACM Transactions on Intelligent Systems and Technology (TIST), Pattern Recognition, IEEE Access, Neural Networks, Neurocomputing, Image and Vision Computing, The Visual Computer, BMC Medical Imaging
- **Reviewer for Conferences:** Pacific Graphics 2018, IEEE ISMAR 2018, IEEE ACPR 2017, MICCAI 2016