



**THE FOURTH IEEE INTERNATIONAL
CONFERENCE ON MULTIMEDIA BIG DATA
(BIGMM 2018)**

Xi'an China
September 13-16, 2018

CONFERENCE MANUAL



ORGANIZED BY
IEEE COMPUTER SOCIETY



CO-ORGANIZED BY
CHINA COMPUTER FEDERATION (CCF)



HOSTED BY
NORTHWESTERN POLYTECHNICAL UNIVERSITY (NPU)



Table of Contents

• Preface	1
• Organizing Committee	2
• Keynote Presentation	4
• Program Overview (September 14)	11
• Program Overview (September 15)	12
• Program Details (September 14)	13
• Program Details (September 15)	17
• Conference Venue	31



Preface

IEEE BigMM 2018

Welcome to the 4th IEEE International Conference on Multimedia Big Data (BigMM2018). It is jointly sponsored and hosted by the IEEE, IEEE Computer Society, IEEE-TCMC (Technical Committee on Multimedia Computing), IEEE-TCSEM (Technical Committee on Semantic Computing), NPU (Northwestern Polytechnical University) and CCF (China Computer Foundation). BigMM2018 aims to promote the exchange of the latest advances in multimedia from academia and industry. It is a world's premier forum of leading scholars in the highly active multimedia big data research, development and applications.

The technical program of BigMM2018 consists of invited talks and high-quality original research paper presentations in any aspect of multimedia big data. BigMM2018 covers broad and diverse topics, which include

- Theory and models for multimedia big data
- Compression, coding and transmission of multimedia big data
- Content analysis and data mining
- Semantic retrieval
- Deep learning and brain computing
- Green computing for multimedia big data
- Security and privacy in multimedia data
- Interaction, access, visualization of multimedia data
- Cloud computing and multimedia system
- Novel applications of multimedia big data in various fields

The success of an international conference such as this depends greatly on the involvement of many individuals. First of all, we would like to thank the Conference Committee and Program Committee members, especially Program Co-chairs Qingming Huang, Nicu Sebe, Dinesh Manocha, Guangming Shi; Local Arrangement Co-Chairs Dongmei Jiang, Jinqiu Sun; Publicity Co-Chairs Hichem Sahli, Qi Tian, Wu Liu; Publication Co-Chairs Tao Yang; Coordinator Co-Chairs Yonghong Tian; Financial Co-Chairs Jiaying Liu, Runping Xi; Web Co-Chairs Di Xu, Weigang Zhang. Our deepest appreciation also goes to our renowned Keynote Speakers and all the panelists for sharing their vision, insights, and experiences.

We hope that you enjoy BigMM2018.

Organizing Committee

Honory Co-Chairs:

- × Wen Gao, Peking University, China
- × Ramesh Jain, University of California at Irvine, USA
- × Shih-Fu Chang, Columbia University, USA
- × Zongben Xu, Xi'an Jiaotong University, China

General Co-Chairs:

- × Huadong Ma, Beijing University of Posts and Tel., China
- × Antonio J. Plaza, University of Extremadura, Spain
- × Yanning Zhang, Northwestern Polytechnical University, China

Technical Program Co-Chairs:

- × Qingming Huang, Chinese Academy of Science, China
- × Nicu Sebe, University of Trento, Italy
- × Dinesh Manocha, University of N. Carolina, USA
- × Guangming Shi, Xidian University, China

Local Arrangement Co-Chairs:

- × Dongmei Jiang, Northwestern Polytechnical University, China
- × Jinqiu Sun, Northwestern Polytechnical University, China

Publicity Co-Chairs:

- × Hichem Sahli, Vrije Universiteit Brussel, Belgium
- × Qi Tian, University of Texas at San Antonio, USA
- × Wu Liu, Beijing University of Posts and Tel., China

Publication Co-Chairs:

- × Tao Yang, Northwestern Polytechnical University, China

Keynote Presentation

Coordinator Co-Chairs:

- × Yonghong Tian, Peking University, China

Financial Co-Chairs:

- × Jiaying Liu, Peking University, China
- × Runping Xi, Northwestern Polytechnical University, China

Web Co-Chairs:

- × Di Xu, Northwestern Polytechnical University, China
- × Weigang Zhang, Harbin Institute of Technology, China

Registration Chair:

- × Yu Zhu, Northwestern Polytechnical University, China

Research Challenges for Real Big MM Opportunities

Ramesh Jain

Distinguished Professor, University of California, USA



Abstract: Big opportunities come with big challenges. Big Data is usually multimodal and comprises streams. This brings challenges in combining heterogeneous data streams coming from innumerable diverse sources providing information about people, their health, behavior, environment, social interactions, and beliefs. People do not exist in isolation so all this data should be analyzed in the context of environmental, climatic, and other situations that must be recognized from several other diverse data streams. In this talk we will discuss how the current BigMM is growing faster than any projections. We will also discuss research challenges in dealing with this tsunami of data and the unprecedented opportunities this offers to improve the quality of life for the humanity in all parts of world.

Bio: Ramesh Jain is an entrepreneur, researcher, and educator. He is a Donald Bren Professor in Information & Computer Sciences at University of California, Irvine. His current research passion is in addressing health issues using cybernetic principles building on the progress in sensors, mobile, processing, and storage technologies. He is founding director of the Institute for Future Health at UCI. Earlier he served on faculty of Georgia Tech, University of California at San Diego, The university of Michigan, Ann Arbor, Wayne State University, and Indian Institute of Technology, Kharagpur. He is a Fellow of AAAS, ACM, IEEE, AAAI, IAPR, and SPIE. Ramesh co-founded several companies, managed them in initial stages, and then turned them over to professional management. He enjoys new challenges and likes to use technology to solve them. He is participating in addressing the biggest challenge for us all: how to live long in good health.

Keynote Presentation

Digital Twin: A Multimedia Perspective

Abdulmotaleb El Saddik

Distinguished Professor, University of Ottawa, Canada



Abstract: A digital twin is a digital replication of a living or non-living physical entity. By bridging the physical and the virtual worlds, data is transmitted seamlessly allowing the virtual entity to exist simultaneously with the physical entity. A digital twin facilitates the means to monitor, understand, and optimize the functions of the physical entity and provides continuous feedback to improve quality of life and wellbeing. In this talk we will discuss the convergence of multimedia technologies (AR/VR, AI, IoT, Wearables, BigMM Data and 5G-Tactile Internet) towards the digital twin. We will conclude by describing the challenges and the open research questions.

Bio: Abdulmotaleb El Saddik (M01 SM04 F09), is Distinguished Professor and University Research Chair in the School of Electrical Engineering and Computer Science at the University of Ottawa. He completed his Dipl.-Ing. and Dr.-Ing. from the Technische Universität Darmstadt, Germany. He is the director of the Multimedia Communications research Laboratory and the Medical Devices Innovation Institute. Dr. El Saddik is an internationally-recognized scholar who has made strong contributions to the knowledge and understanding of multimedia computing, communications and applications. He is a leading haptics expert, with global recognition for his development of new technologies for real-time multisensory-based identification of humans (biometrics), synchronization of haptics, audio and visual data, Quality of Experience models for multisensory environments, and methods that dynamically compute the confidence levels of sensory data in a collaborative environment. His work looks toward the establishment of Digital Twins using AI, AR/VR and Tactile Internet that allow people to interact in real-time with one another as well as with their digital representation. He has been extremely productive of high-quality research and impact. He is the author of more than 500 peer-reviewed articles and five patents. He is the author of the book Haptics Technologies: Bringing Touch to Multimedia. Dr. El Saddik is a Fellow of the IEEE, the Canadian Academy of Engineering and the Engineering Institute of Canada. He received several awards, including the Friedrich Wilhelm Bessel Award from the German Humboldt Foundation and the IEEE Instrumentation and Measurement Society Technical Achievement Award. He also received IEEE Canada C.C. Gotlieb (Computer) Medal and A.G.L. McNaughton Gold Medal for important contributions to the field of computer engineering and science.

Keynote Presentation

Polarisation Vision As A Multimedia Tool

Edwin R. Hancock

Professor, University of York, UK



Abstract: The polarisation of light can be used to simultaneously probe the shape, reflectivity and surface composition of 3D objects. Moreover, it is use the natural vision systems of both aquatic and terrestrial animals to augment their visual capabilities. In this talk I will commence by introducing the physics of light polarisation and give examples of its use in natural vision systems. In particular I will explain that even under unpolarised incident light certain types of material generate a spontaneously polarised reflection. This can be used to analyse their shape and refractive index. Moreover, in the case of a polarised or partially polarised illuminant, by decomposing the reflected light into specular and diffuse components, allows more complex surface analysis methods to be developed. I will cover the state-of-the art in this area, and point to some potential uses of the resulting algorithms in the multimedia domain.

Bio: Edwin R. Hancock holds a BSc degree in physics (1977), a PhD degree in high-energy physics (1981) and a D.Sc. degree (2008) from the University of Durham, and a doctorate Honoris Causa from the University of Alicante in 2015. He is Professor in the Department of Computer Science, where he leads a group of faculty, research staff, and PhD students working in the areas of computer vision and pattern recognition. His main research interests are in the use of optimization and probabilistic methods for high and intermediate level vision. He is a fellow of the International Association for Pattern Recognition and the IEEE. He is currently Editor-in-Chief of the journal Pattern Recognition, and was founding Editor-in-Chief of IET Computer Vision from 2006 until 2012. He has also been a member of the editorial boards of the journals IEEE Transactions on Pattern Analysis and Machine Intelligence, Pattern Recognition, Computer Vision and Image Understanding, Image and Vision Computing, and the International Journal of Complex Networks. He is currently Vice President of the IAPR.



Keynote Presentation

Big Multimedia Data for Remote Sensing and Earth Observation

Jocelyn Chanussot

Professor, Grenoble Institute of Technology, France



Abstract: With growing needs for a variety of applications with very high societal impact (monitoring of the environment, management of natural hazards, of pollutions, defense and security issues, management of natural resources - energy, water – etc.) remote sensing plays a critical role. Satellite and airborne-based remote sensing is currently undergoing a technical revolution with the appearance and blooming development of very high-resolution sensors. This revolution concerns optical remote sensing as well as radar remote sensing. For high-resolution remote sensing sensors, resolution can have the following three meanings :

- × Spatial resolution: Metric and submetric resolutions are currently available for satellite remote sensing. That opens the door for very accurate geometrical analysis of objects present in scenes of study. Meeting the corresponding opportunities and actually analyzing the images at the provided level of details and accuracy raises new challenges. While more relevant information is available, there is also an increased amount of nonrelevant (with respect to the considered application) details.
- × Spectral resolution: After decades of use of multispectral remote sensing, most of the major space agencies now have new programs to launch hyperspectral sensors, recording the reflectance information of each point on the ground in hundreds of narrow and contiguous spectral bands. The spectral information is instrumental for the accurate analysis of the physical component present in one scene.
- × Temporal resolution: Due to the launch of constellations of satellites and the increasing number of operating systems, the temporal resolution between two acquisitions over a given scene of interest has dramatically decreased. This opens the door to the accurate monitoring of abrupt changes and to efficient response in case of major disasters. Temporal phenomena with longer scales can also be monitored.

The increase of the resolutions, the diversity of the sensors lead to highly heterogeneous (multimodal) data with a very large size (Big Data). In this talk, we will present some of the current challenges and opportunities offered by these data, requiring the development of advanced data processing and machine learning techniques.

Bio: Jocelyn Chanussot (M'04–SM'04–F'12) received the M.Sc. degree in electrical engineering from the Grenoble Institute of Technology (Grenoble INP), Grenoble, France, in 1995, and the Ph.D. degree from the Université de Savoie, Annecy, France, in 1998. In 1999, he was with the Geography Imagery Perception Laboratory for the Delegation Generale de l'Armement (DGA - French National Defense Department). Since 1999, he has been with Grenoble INP, where he is currently a Professor of signal and image processing. He is conducting his research at the Grenoble Images Speech Signals and Automatics Laboratory (GIPSA-Lab). His research interests include image analysis, multicomponent image processing, nonlinear filtering, and data fusion in remote sensing. He has been a visiting scholar at Stanford University (USA), KTH (Sweden) and NUS (Singapore). Since 2013, he is an Adjunct Professor of the University of Iceland. In 2015-2017, he was a visiting professor at the University of California, Los Angeles (UCLA). Dr. Chanussot is the founding President of IEEE Geoscience and Remote Sensing French chapter (2007-2010) which received the 2010 IEEE GRS-S Chapter Excellence Award. He was the co-recipient of the NORSIG 2006 Best Student Paper Award, the IEEE GRSS 2011 and 2015 Symposium Best Paper Award, the IEEE GRSS 2012 Transactions Prize Paper Award and the IEEE GRSS 2013 Highest Impact Paper Award. He was a member of the IEEE Geoscience and Remote Sensing Society AdCom (2009-2010), in charge of membership development. He was the General Chair of the first IEEE GRSS Workshop on Hyperspectral Image and Signal Processing, Evolution in Remote sensing (WHISPERS). He was the Chair (2009-2011) and Cochair of the GRS Data Fusion Technical Committee (2005-2008). He was a member of the Machine Learning for Signal Processing Technical Committee of the IEEE Signal Processing Society (2006-2008) and the Program Chair of the IEEE International Workshop on Machine Learning for Signal Processing, (2009). He was an Associate Editor for the IEEE Geoscience and Remote Sensing Letters (2005-2007) and for Pattern Recognition (2006-2008). Since 2007, he is an Associate Editor for the IEEE Transactions on Geoscience and Remote Sensing. He was the Editor-in-Chief of the IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (2011-2015). In 2013, he was a Guest Editor for the Proceedings of the IEEE and in 2014 a Guest Editor for the IEEE Signal Processing Magazine. He is a Fellow of the IEEE and a member of the Institut Universitaire de France (2012-2017).

Keynote Presentation

A New Landscape for Biomedical Research and Healthcare Delivery Paved By Big Data Multimedia

David Dagan Feng

Professor, University of Sydney, Australia



Abstract: The rapid growth of various types of data from innumerable diverse sources, such as new sensors, images, and other devices, has created an incredible opportunity for new information findings, knowledge development and services improvements. Until very recently, most of biomedical research and healthcare delivery are still based on their traditional ways and their directly related information, such as diagnosis images, blood test results, etc. However, such practices have started to have a revolutionary change, due to much previously ignored information is becoming so relevant, and can possibly be integrated into the biomedical research and healthcare delivery equations, such as precision medicine and disease management. However it has also imposed huge challenges in dealing with these heterogeneous data from innumerable diverse sources and has hence opened up a number of new research areas. In this talk, we will discuss a new landscape for biomedical research and healthcare delivery paved by big data multimedia.

Bio: David Dagan Feng is Founder and Director, Biomedical and Multimedia Information Technology (BMIT) Research Group, Funding Director, Institute of Biomedical Engineering & Technology (BMET), and Funding Head, School of Information Technology (SIT), the University of Sydney (USYD); as well as Academic Director, USYD-SJTU Joint Research Alliance. He received his ME in Electrical Engineering & Computer Science (EECS) from Shanghai Jiao Tong University in 1982, MSc in Biocybernetics and PhD in Computer Science from the University of California, Los Angeles (UCLA) in 1985 and 1988 respectively, where he received the Crump Prize for Excellence in Medical Engineering. In conjunction with his team members and students, he has been responsible for more than 50 key research projects, published over 800 scholarly research papers, pioneered several new research directions, and made a number of landmark contributions in his field. He has served as Chair of the International Federation of Automatic Control (IFAC) Technical Committee on Biological and Medical Systems, Special Area Editor / Associate Editor / Editorial Board Member for a dozen of core journals in his area, and Scientific Advisor for a number of prestigious organizations. He has been invited to give over 100 keynote presentations in 23 countries and regions, and has organized / chaired over 100 major international conferences / symposia / workshops. Professor Feng is Fellow of ACS, HKIE, IET, IEEE, and Australian Academy of Technological Sciences and Engineering.

Internet of Video Things (IoVT): Next Generation IoT with Visual Sensors

Chang Wen Chen

Professor, The Chinese University of Hong Kong, Shenzhen
& The State University of New York at Buffalo



Abstract: The worldwide flourishing of the Internet of Things (IoT) in the past decade has enabled numerous new applications through the interconnecting of a wide variety of devices and sensors. More recently, visual sensors has seen their considerable booming because they usually capable of providing richer and more versatile information. Internetworking of large scale visual sensors has been named Internet of Video Things (IoVT). IoVT has its own unique characteristics in sensing, transmission, storage, and analysis, which are essentially different from conventional IoT. These new characteristics of IoVT are expected to impose significant challenges to existing technical infrastructures. In this talk, an overview of recent advances in various fronts of IoVT will be introduced and a broad range of technological and system challenges will be presented.

Bio: Chang Wen Chen is currently Dean of School of Science and Engineering at the Chinese University of Hong Kong, Shenzhen. He is also an Empire Innovation Professor of Computer Science and Engineering at the University at Buffalo, State University of New York since 2008. He was Allen Henry Endow Chair Professor at the Florida Institute of Technology from July 2003 to December 2007. He was on the faculty of Electrical and Computer Engineering at the University of Rochester from 1992 to 1996 and on the faculty of Electrical and Computer Engineering at the University of Missouri-Columbia from 1996 to 2003.

He has been the Editor-in-Chief for IEEE Trans. Multimedia from January 2014 to December 2016. He has also served as the Editor-in-Chief for IEEE Trans. Circuits and Systems for Video Technology from January 2006 to December 2009. He has been an Editor for several other major IEEE Transactions and Journals, including the Proceedings of IEEE, IEEE Journal of Selected Areas in Communications, and IEEE Journal of Journal on Emerging and Selected Topics in Circuits and Systems. He has served as Conference Chair for several major IEEE, ACM and SPIE conferences related to multimedia video communications and signal processing. His research is supported by NSF, DARPA, Air Force, NASA, Whitaker Foundation, Microsoft, Intel, Kodak, Huawei, and Technicolor.

He received his BS from University of Science and Technology of China in 1983, MSEE from University of Southern California in 1986, and Ph.D. from University of Illinois at Urbana-Champaign in 1992. He and his students have received nine (9) Best Paper Awards or Best Student Paper Awards over the past two decades. He has also received several research and professional achievement awards, including the Sigma Xi Excellence in Graduate Research Mentoring Award in 2003, Alexander von Humboldt Research Award in 2009, the University at Buffalo Exceptional Scholar – Sustained Achievement Award in 2012, and the State University of New York System Chancellor's Award for Excellence in Scholarship and Creative Activities in 2016. He is an IEEE Fellow since 2004 and an SPIE Fellow since 2007.



Program Overview

Thursday, September 13		
14:00 - 22:00	Registration	Xi 'an International Conference Center (Qujiang hotel)
Friday, September 14		
08:10 - 08:30	Welcome	International Conference Hall 3
08:30 - 09:30	Keynote 1: Ramesh Jain	International Conference Hall 3
09:30 - 10:30	Keynote 2: Abdulmotaleb El Saddik	International Conference Hall 3
10:30 - 11:00	Coffee Break	
11:00 - 12:00	Keynote 3: Edwin R. Hancock	International Conference Hall 3
12:00 - 13:30	Lunch	
13:30 - 14:30	Keynote 4: Jocelyn Chanussot	International Conference Hall 3
14:30 - 15:50	Best Paper Candidate Session	International Conference Hall 3
15:50 - 16:20	Coffee Break	
16:20 - 17:40	S1: Algorithms for BD Analysis	International Conference Hall 3 - A
	S2 : New Computational Models for BD	International Conference Hall 3 - B
	S3 : Big Variety Data Mining	Function Room 2 - (1)
17:40	Bus to Tang Dynasty Palace	
19:00 - 21:00	Banquet and Award Ceremony	Tang Dynasty Palace

Program Overview

Saturday, September 15 (Share with ChinaMM 2018 in the morning)		
09:00 - 09:50	Keynote 5: David Dagan Feng	International Conference Hall 1
09:50 - 10:40	Keynote 6: Chang Wen Chen	International Conference Hall 1
10:40 - 11:10	Coffee Break	
11:10 - 12:00	Keynote (ChinaMM): Wen Zheng	International Conference Hall 1
12:00 - 14:00	Lunch	
14:00 - 16:00	S4: Visual Perception for Big Data	Function Room 2 - (3)
	S5 : Big Data Applications	Function Room 2 - (4)
	S6 : High Performance Platform for BD	Function Room 2 - (5)
16:00 - 16:35	Coffee Break	
16:35 - 18:00	Poster Session (51 papers)	International Conference Hall 1



Program Details

Friday, September 14		
08:10 - 08:30	Welcome	International Conference Hall 3
08:30 - 09:30	<p>Keynote 1: Ramesh Jain (Fellow of AAAS, ACM, IEEE, AAAI, IAPR, and SPIE, Professor, University of California, Irvine, USA)</p> <p>Title: Research Challenges for Real Big MM Opportunities</p> <p>Session Chair: Prof. Huadong Ma, Beijing University of Posts and Telecommunications, China</p>	International Conference Hall 3
09:30 - 10:30	<p>Keynote 2: Abdulmotaleb El Saddik (Fellow of the IEEE, Professor, University of Ottawa, Canada)</p> <p>Title: Digital Twin: A Multimedia Perspective</p> <p>Session Chair: Prof. Huadong Ma, Beijing University of Posts and Telecommunications, China</p>	International Conference Hall 3
10:30 - 11:00	Coffee Break	
11:00 - 12:00	<p>Keynote 3: Edwin R. Hancock (Fellow of IEEE, IAPR, IET, and Institute of Physics, Professor, University of York, USA)</p> <p>Title: Polarisation Vision as A Multimedia Tool</p> <p>Session Chair: Prof. Yanning Zhang, Northwestern Polytechnical University, China</p>	International Conference Hall 3
12:00 - 13:30	Lunch	
13:30 - 14:30	<p>Keynote 4: Jocelyn Chanussot (Fellow of IEEE, Professor, Grenoble Institute of Technology, France)</p> <p>Title: Big Multimedia Data for Remote Sensing and Earth Observation</p> <p>Session Chair: Prof. Guangming Shi, Xidian University, China</p>	International Conference Hall 3

14:30 - 15:50	<p>Best Paper Candidate Session (4 papers)</p> <p>Session Chair: Prof. Qingming Huang, University of Chinese Academy of Sciences, China</p>	International Conference Hall 3
Regular Paper (20 min)	<p>133 - Discriminative Latent Semantic Regression for Cross-Modal Hashing of Multimedia Retrieval</p> <p>Jianwu Wan, Changzhou University</p> <p>Yi Wang, Dongguan University of Technology</p>	
Regular Paper (20 min)	<p>182 - Residual-Based Video Restoration for HEVC Intra Coding</p> <p>Li Ma, Yonghong Tian, Tiejun Huang</p> <p>Peking University</p>	
Regular Paper (20 min)	<p>127 - Video Frame Interpolation Using Recurrent Convolutional Layers</p> <p>Zhifeng Zhang, Li Song, Rong Xie, Li Chen</p> <p>Shanghai Jiao Tong University</p>	
Regular Paper (20 min)	<p>178 - Spatial Coverage Measurement of Geo-Tagged Visual Data: A Database Approach</p> <p>Abdullah Alfarrarjeh, Seon Ho Kim, Akshay Deshmukh, Shivnesh Rajan, Ying Lu, Cyrus Shahabi</p> <p>University of Southern California</p>	
15:50 - 16:20	Coffee Break	
16:20 - 17:40	<p>S1: Algorithms for Big Data Analysis (4 papers)</p> <p>Session Chair: Dr. Weisheng Dong, Xidian University</p>	International Conference Hall 3 - A
Regular Paper (20 min)	<p>13 - Deep Residual Feature Learning for Action Prediction</p> <p>Shuangshuang Guo, Laiyun Qing, University of Chinese Academy of Sciences</p> <p>Jun Miao, Beijing Information Science and Technology University</p> <p>Lijuan Duan, Beijing University of Technology</p>	



Regular Paper (20 min)	15 - PFNET: A Novel Part Fusion Network for Fine-Grained Image Categorization Jinlin Guo, Jingyun Liang, Liang Bai, Songyang Lao National University of Defense Technology	
Regular Paper (20 min)	75 - StarNet: Convolutional Neural Network for Dim Small Target Extraction in Star Image Danna Xue, Jinqiu Sun, Yaoqi Hu, Yushu Zheng, Yu Zhu, Yanning Zhang Northwestern Polytechnical University	
Regular Paper (20 min)	86 - Super-pixel cloud detection using Hierarchical Fusion CNN Han Liu, Dan Zeng, Shanghai University Qi Tian, The University of Texas at San Antonio	
16:20 - 17:40	S2 : New Computational Models for Big Data (4 papers) Session Chair: Dr. Qianqian Xu, Institute of Computing Technology, Chinese Academy of Sciences	International Conference Hall 3 - B
Regular Paper (20 min)	50 - Adaptive Optimization with Nested Prior Navigation for Blind Image Deblurring Caisheng Mao, Risheng Liu, Haojie Li Dalian University of Technology	
Regular Paper (20 min)	68 - Graph-based Point Cloud Denoising Xiang Gao, Wei Hu, Zongming Guo Peking University	
Regular Paper (20 min)	137 - Image Captioning Based on Adaptive Balancing Loss Linghui Li, Sheng Tang, Junbo Guo, University of the Chinese Academy of Sciences Rui Wang, Bo Lyu, China Academy of Electronics and Information Technology Qi Tian, University of Texas at San Antonio Yongdong Zhang, University of the Chinese Academy of Sciences	
Regular Paper (20 min)	150 - Reference Based on Adaptive Attention Mechanism for Image Captioning Shuang Liu, Liang Bai, Yanming Guo, Haoran Wang National University of Defense Technology	

16:20 - 17:40	S3 : Big Variety Data Mining Session Chair: Dr. Yuanfang Guo, Institute of Information Engineering, Chinese Academy of Sciences	Function Room 2 - (1)
Regular Paper (20 min)	104 - A Regression Approach to Speech Source Localization Exploiting Deep Neural Network Zhaoqiong Huang, Ji Xu, Jielin Pan Institute of Acoustics, Chinese Academy of Sciences	
Regular Paper (20 min)	113 - Image Deeper Passive Forgery Detection Based on SIFT and Higher-order Statistics Features Ju zhang, Beijing Jiaotong University & Agricultural University of Hebei Qiuqi ruan, Yi jin, Beijing JiaoTong University Jing ge, Baoding Power Supply Company	
Regular Paper (20 min)	148 - Facial Landmark Localization in the Wild by Backbone-Branched Representation Learning Lingbo Liu, Guanbin Li, Yuan Xie, Sun Yat-sen University Yizhou Yu, The University of Hong Kong; Liang Lin, Sun Yat-sen University	
Regular Paper (20 min)	217 - Face Recognition Based on Densely Connected Convolutional Networks Tong Zhang, Rong Wang, Xin Li, Jianwei Ding, People's Public Security University of China Bo Li, Beihang University	
17:40	Bus to Tang Dynasty Palace	
19:00 - 21:00	Banquet and Award Ceremony	Tang Dynasty Palace



Program Details

Saturday, September 15 (Share with ChinaMM 2018 in the morning)		
09:00 - 09:50	<p>Keynote 5: David Dagan Feng (Fellow of ACS, HKIE, IET, IEEE, and Australian Academy of Technological Sciences and Engineering, Professor, University of Sydney, Australia)</p> <p>Title: A New Landscape for Biomedical Research and Healthcare Delivery Paved by Big Data Multimedia</p> <p>Session Chair: Prof. Yanning Zhang, Northwestern Polytechnical University, China</p>	International Conference Hall 1
09:50 - 10:40	<p>Keynote 6: Chang Wen Chen (Fellow of IEEE, SPIE, Professor, The Chinese University of Hong Kong, Shenzhen & The State University of New York at Buffalo)</p> <p>Title: Internet of Video Things (IoVT): Next Generation IoT with Visual Sensors</p> <p>Session Chair: Prof. Xilin Chen, Institute of Computing Technology, Chinese Academy of Sciences, China</p>	International Conference Hall 1
10:40 - 11:10	Coffee Break	
11:10 - 12:00	<p>Keynote (ChinaMM): Wen Zheng (Vice-President of AI Technology, Kuaishou)</p> <p>Title: Applications and Future Prospects of Multimedia Technology in Kwai</p> <p>Session Chair: Prof. Lifeng Sun, Tsinghua University, China</p>	International Conference Hall 1
12:00 - 14:00	Lunch	
14:00 - 16:00	<p>S4: Visual Perception for Big Data (6 papers)</p> <p>Session Chair: Jinjian Wu, Xidian University</p>	Function Room 2 - (3)
Regular Paper (20 min)	<p>8 - Joint Entropy Degradation Based Blind Image Quality Assessment</p> <p>Jinjian Wu, Xidian University</p> <p>Zuoming Sun, Science and Technology on Optical Radiation Laboratory</p> <p>Man Zhang, Xuemei Xie, Guangming Shi, Xidian University</p>	

Regular Paper (20 min)	<p>48 - Saliency-Based Spatiotemporal Attention for Video Captioning</p> <p>Yangyu Chen, University of Chinese Academy of Sciences</p> <p>Weigang Zhang, Harbin Institute of Technology, Weihai</p> <p>Shuhui Wang, Liang Li, Institute of Computing Technology, Chinese Academy of Sciences</p> <p>Qingming Huang, University of Chinese Academy of Sciences</p>	
Regular Paper (20 min)	<p>66 - Understanding the Prediction Process of Deep Networks by Forests</p> <p>Jie Lei, Zhe Wang, Zunlei Feng, Mingli Song, Jiajun Bu</p> <p>Zhejiang University</p>	
Regular Paper (20 min)	<p>73 - Analyzing Periodicity and Saliency for Pornographic Video Detection</p> <p>Yizhi Liu, Liangran Wu, Junlin Ouyang, Miao Liao</p> <p>Hunan University of Science and Technology</p>	
Regular Paper (20 min)	<p>108 - Unsupervised Video Summarization based on Consistent Clip Generation</p> <p>Xin Ai, Yan Song, Zechao Li</p> <p>Nanjing University of Science and Technology</p>	
Regular Paper (20 min)	<p>166 - Light Filed Image Quality Assessment by Local and Global Features of Epipolar Plane Image</p> <p>Yuming Fang, Kangkang Wei, Jiangxi University of Finance and Economics</p> <p>Junhui Hou, City University of Hong Kong</p> <p>Wenyong Wen, Jiangxi University of Finance and Economics</p> <p>Nevrez Imamoglu, National Institute of Advanced Industrial Science and Technology</p>	
14:00 - 15:40	<p>S5 : Big Data Applications (5 papers)</p> <p>Session Chair: Dr. Jianquan Liu, NEC Corporation, Japan</p>	Function Room 2 - (4)
Regular Paper (20 min)	<p>26 - A Progressive Vehicle Search System for Video Surveillance Network</p> <p>Xinchen Liu, Wu Liu, Huadong Ma, Shuangqun Li</p> <p>Beijing University of Posts and Telecommunications</p>	



Regular Paper (20 min)	33 - Appearance and Gait-Based Progressive Person Re-identification for Surveillance Systems Shuangqun Li, Meng Zhang, Wu Liu, Huadong Ma, Zhen Meng Beijing University of Posts and Telecommunications	
Regular Paper (20 min)	52 - Unrolled Optimization with Deep Priors for Intrinsic Image Decomposition Cheng Yang, Risheng Liu, Long Ma, Xin Fan, Haojie Li, Miao Zhang Dalian University of Technology	
Regular Paper (20 min)	59 - Moving Object Detection via Robust Low-Rank and Sparse Separating with High-Order Structural Constraint Aihua Zheng, Yumiao Zhao, Chenglong Li, Jin Tang, Bin Luo Anhui University	
Regular Paper (20 min)	185 - Foreground Gated Network for Surveillance Object Detection Zhihang Fu, Zhejiang University, Alibaba Group Chang Zhou, Alibaba Group Hongwei Yong, The Hong Kong Polytechnic University Rongxin Jiang, Xiang Tian, Yaowu Chen, Zhejiang University Xian-Sheng Hua, Alibaba Group	
14:00 - 15:40	S6 : High Performance Platform for Big Data (5 papers) Session Chair: Dr. Hanli Wang, Tongji University	Function Room 2 - (5)
Regular Paper (20 min)	32 - PF-Face: A Parallel Framework for Face Classification and Search from Massive Videos Based on Spark Jinna Lv, Bin Wu, Chang Liu, Beijing University of Posts and Telecommunications Xiaoyan Gu, Institute of Information Engineering, Chinese Academy of Sciences	
Regular Paper (20 min)	43 - Highly Parallel Acceleration of HEVC Encoding on ARM Platform Chi Zhang, Bo Xiao, Hanli Wang Tongji University	
Regular Paper (20 min)	80 - Light Field Image Coding with Disparity Correlation Based Prediction Xinyu Zhang, Hanli Wang, Tao Tian Tongji University	

Regular Paper (20 min)	144 - Video Deflickering Using Multi-Frame Optimization Chao Li, Zhihua Chen, East China University of Science and Technology Bin Sheng, Shanghai JiaoTong University Ping Li, Macau University of Science and Technology Gaoqi He, East China University of Science and Technology	
Regular Paper (20 min)	215 - Content-aware Bilateral Filtering Tao Dai, Yongbing Zhang, Tsinghua University Li Dong, University of Macau Lida Li, The Hong Kong Polytechnic University XinJi Liu, ShuTao Xia, Tsinghua University	
16:00 - 16:35	Coffee Break	
16:35 - 18:00	Poster Session (51 papers): The paper list is below. Session Chair: Dr. Liang Li, Institute of Computing Technology, Chinese Academy of Sciences	International Conference Hall 1
Short Paper (poster 1)	7 - A New Guided Image Denoising by Principal Component Analysis with Local Pixel Grouping XinJi Liu, Tao Dai Tsinghua University	
Short Paper (poster 2)	44 - Image Reconstruction from Patch Compressive Sensing Measurements Yahan Wang, Huihui Bai, Yao Zhao Beijing Jiaotong University	
Short Paper (poster 3)	74 - Single Image Dehazing via Adaptive Transmission Optimization with Deep Prior Shiqi Li, Risheng Liu, Xin Fan, Haojie Li Dalian University of Technology	
Short Paper (poster 4)	82 - A New Data Embedding Method with a New Data Embedding Domain for JPEG Images Yuanfang Guo, Xiaochun Cao, Rui Wang, Institute of Information Engineering, Chinese Academy of Sciences Cheng Jin, Fudan University	



Short Paper (poster 5)	146 - Single Low-light Image Enhancement by Fusing Multiple Sources Zhuang Feng, Zhiyuan Zhou, Shijie Hao, Hefei University of Technology Yong Ge, University of Arizona Richang Hong, Meng Wang, Hefei University of Technology
Short Paper (poster 6)	151 - Single Hyperspectral Image Super-resolution with Grouped Deep Recursive Residual Network Yong Li, Lei Zhang, Chen Ding, Wei Wei, Yanning Zhang Northwestern Polytechnical University
Short Paper (poster 7)	159 - LR ² -SR: Laplacian Regularized Low-Rank Sparse Representation for Single Image Super-Resolution Wenming Yang, Xuesen Shang, Tsinghua University Shuifa Sun, China Three Gorges University Kaiquan Chen, Tsinghua University
Short Paper (poster 8)	181 - Fast Image Upsampling via Adaptive Gradient Sharpening and Transformed-Texture Constraint Qiang Song, Ruiqin Xiong Peking University Xiaopeng Fan, Harbin Institute of Technology Feng Wu, University of Science and Technology of China Wen Gao, Peking University
Short Paper (poster 9)	51 - Image Retargeting With Robust Multi-Scale Epitomic Resizing and Seamless Merging Qijun Wang, Anhui University
Short Paper (poster 10)	58 - Spatial-Temporal Attention for Image Captioning Junwei Zhou, Xi Wang, Jizhong Han, Songlin Hu, Hongchao Gao Institute of Information Engineering, Chinese Academy of Sciences
Short Paper (poster 11)	105 - Video Captioning with Semantic Guiding Jin Yuan, Chunna Tian, Xiangnan Zhang, Yuxuan Ding, Xidian University Wei Wei, Northwestern Polytechnical University
Short Paper (poster 12)	156 - Enhanced Text-Guided Attention Model for Image Captioning Yuanen Zhou, Zhenzhen Hu, Ye Zhao, Xueliang Liu, Richang Hong Hefei University of Technology

Short Paper (poster 13)	160 - Stacking VAE and GAN for Context-aware Text-to-Image Generation Chenrui Zhang, Yuxin Peng Peking University
Short Paper (poster 14)	211 - Modular Manifold Ranking for Image Recommendation Ting Jia, Meng Jian, Lifang Wu, Yonghao He Beijing University of Technology
Short Paper (poster 15)	47 - DotaNet: Two-stream Match-Recurrent Neural Networks for Predicting Social Game Result Zhen Qi, Xiangbo Shu, Jinhui Tang Nanjing University of Science and Technology
Short Paper (poster 16)	49 - Learning Label-Specific Features for Multi-Label Classification with Missing Labels Jun Huang, Feng Qin, Xiao Zheng, Zekai Cheng, Zhixiang Yuan, Anhui University of Technology Weigang Zhang, Harbin Institute of Technology, Weihai
Short Paper (poster 17)	111 - Random Draw Forest: A Salient Index for Similarity Search over Multimedia Data Yangdi Lu, Wenbo He, McMaster University Amir Nabatchian, Huawei Canada
Short Paper (poster 18)	143 - Stacked K-means Hashing Quantization for Nearest Neighbor Search Yalin Chen, Zhiyang Li, Jia Shi, Zhaobin Liu, Dalian Maritime University Wenyu Qu, Tianjin University
Short Paper (poster 19)	184 - A Method to Accelerate K-means and GMM Computation with GPU and Multi-core CPU Boyang Gao, Ningning Liu, Xianting Wang, Mengfei Lan, ZiXuan Zhao, University of International Business and Economics Emmanuel Dellandrea, Liming Chen, Université de Lyon, French
Short Paper (poster 20)	190 - Outfit Recommendation with Deep Sequence Learning Yangbangyan Jiang, Institute of Information Engineering, Chinese Academy of Sciences Qianqian Xu, Institute of Computing Technology, Chinese Academy of Sciences Xiaochun Cao, Institute of Information Engineering, Chinese Academy of Sciences



Short Paper (poster 21)	208 - Representation Learning of Knowledge Graphs with Entity Attributes and Multimedia Descriptions Yukun Zuo, University of Science and Technology of China Quan Fang, Shengsheng Qian, Institute of Automation Chinese Academy of Sciences Xiaorui Zhang, Beijing University of Posts and Telecommunications Changsheng Xu, Institute of Automation Chinese Academy of Sciences
Short Paper (poster 22)	87 - Improving Residual Block for Semantic Image Segmentation Fei Liu, Jing Liu, Jun Fu, Hanqing Lu Institute of Automation, Chinese Academy of Sciences
Short Paper (poster 23)	136 - Multiple Kernel Boosting Based Two-level RGBD Image Co-segmentation Lishan Wu, Zhi Liu, Shanghai University Ran Shi, Nanjing University of Science and Technology
Short Paper (poster 24)	149 - Localization of Multiple Power Line Insulators Based on Shape Feature Points and Equidistant Model in Aerial Images Zhenbing Zhao, Yaping Cui, North China Electric Power University Ning Liu, Hebei Province Electric Power Co., Ltd. Guozhi Xu, NetEase Ke Zhang, Yongjie Zhai, North China Electric Power University
Short Paper (poster 25)	145 - Iris Liveness Detection: A Survey Yangyu Chen, University of Chinese Academy of Sciences Weigang Zhang, Harbin Institute of Technology, Weihai
Short Paper (poster 26)	161 - A Band Grouping Based Hyperspectral Imagery Classification Method with Analysis Dictionary Learning Mengting Ma, Cong Wang, Lei Zhang, Yanning Zhang, Wei Wei Northwestern Polytechnical University
Short Paper (poster 27)	177 - Image Classification to Determine the Level of Street Cleanliness: A Case Study Abdullah Alfarrarjeh, Seon Ho Kim, Sumeet Agrawal, Meghana Ashok, Su Young Kim, Cyrus Shahabi, University of Southern California

Short Paper (poster 28)	122 - A Multi-Scale CRNN Model for Chinese Papery Medical Document Recognition Yulei Zhao, Wenyuan Xue, Qingyong Li Beijing Jiaotong University
Short Paper (poster 29)	163 - The Keywords Spotting with Context for Multi-Oriented Chinese Scene Text Dao Wu, Rui Wang, Xiaowei Tian, Dong Liang, Xiaochun Cao Institute of Information Engineering, Chinese Academy of Sciences
Short Paper (poster 30)	4 - Deep Transfer Learning for Person Re-identification Haoran Chen, Beijing Institute of Technology Yemin Shi, Ke Yan, Peking University Tao Xiang, Queen Mary University of London, UK Yaowei Wang, Beijing Institute of Technology Mengyue Geng, Yonghong Tian, Peking University
Short Paper (poster 31)	53 - Reasonably Assign Label Distributions to GAN Images in Person Re-identification baseline Kunhong Yu, Congyan Lang, Songhe Feng, Tao Wang Beijing Jiaotong University
Short Paper (poster 32)	216 - Person Re-Identification with Hybrid Loss and Hard Triplets Mining Zihao Hu, Huiyan Wu, Beihang University Shengcai Liao, Chinese Academy of Sciences Hai-Miao Hu, Si Liu, Bo Li, Beihang University
Short Paper (poster 33)	94 - DVD: Constructing a Discriminative Video Descriptor by Convolution Frame Features Yang Bo, McMaster University Yixin Chen, McGill University Wenbo He, McMaster University Jie Xiang, Taiyuan University of Technology
Short Paper (poster 34)	140 - Joint rate-distortion optimization for simultaneous texture and deep feature compression of facial images Yang Li, Chuanmin Jia, Peking University Shiqi Wang, City University of Hong Kong Xinfeng Zhang, University of Southern California Shanshe Wang, Siwei Ma, Wen Gao, Peking University



Short Paper (poster 35)	162 - A 3D Visual Comfort Metric Based on Binocular Asymmetry Factor Feng Qi, Institute of Computing Technology of the Chinese Academy of Sciences Tingting Jiang, Jian Zhang, Huizhu Jia, Peking University; Xilin Chen, Institute of Computing Technology of the Chinese Academy of Sciences
Short Paper (poster 36)	165 - Enhanced Motion Vector Prediction for Video Coding Suhong Wang, Zhao Wang, Peking University Falei Luo, Chinese Academy of Sciences Shanshe Wang, Siwei Ma, Wen Gao, Peking University
Short Paper (poster 37)	152 - Enhancing Sampling and Counting Method for Audio Retrieval with Time- Stretch Resistance Shanshan Yao, Baoning Niu, Taiyuan University of Technology Jianquan Liu, NEC Corporation
Short Paper (poster 38)	167 - Coupled Unsupervised Deep Convolutional Domain Adaptation for Speech Emotion Recognition Ocquaye Elias Nii Noi, Mao Qirong, Guopeng Xu, Yanfei Xue Jiangsu University
Short Paper (poster 39)	25 - Automatic Generation of Textual Advertisement for Video Advertising Yumeng Liang, Wu Liu, Kun Liu, Huadong Ma Beijing University of Posts and Telecommunications
Short Paper (poster 40)	45 - Toward Efficient Simultaneous Detection and Segmentation Chong Zhang, Beijing Information Science and Technology University Zongxian Li, Peking University Qiong Liu, Beijing Information Science and Technology University Yonghong Tian, Wei Zeng, Peking University Yaowei Wang, Beijing Institute of Technology Wenbai Chen, Beijing Information Science and Technology University
Short Paper (poster 41)	55 - Improved Single Shot Object Detector using Enhanced Features and Predicting Heads Xu Zhao, Chaoyang Zhao, Yousong Zhu, Ming Tang, Jinqiao Wang Institute of Automation, Chinese Academy of Sciences

Short Paper (poster 42)	70 - Multiple Vehicle Detection with Different Scales in Urban Surveillance Video Huan Geng, Jun Guan, Hui Pan, Huiyuan Fu Beijing University of Posts and Telecommunications
Short Paper (poster 43)	71 - Occlusion Region Searching and Segmentation for Multi-Human Detection Based on RGB-D Information Xiaomou Zhang, Guanghua Yu, Teng Chen, Huiyuan Fu Beijing University of Posts and Telecommunications
Short Paper (poster 44)	123 - Fine-grained Vehicle Recognition Using Lightweight Convolutional Neural Network with Combined Learning Strategy Qiang Zhang, Li Zhuo, Shiyu Zhang, Jiafeng Li, Hui Zhang, Xiaoguang Li Beijing University of Technology
Short Paper (poster 45)	130 - SegGAN: Semantic Segmentation with Generative Adversarial Network Xinming Zhang, Xiaobin Zhu, Beijing Technology and Business University Xiao-Yu Zhang, Institute of Information Engineering, Chinese Academy of Sciences Naiguang Zhang, Information Technology Institute, Academy of Broadcasting Science Peng Li, China University of Petroleum Lei Wang, Information Technology Institute, Academy of Broadcasting Science
Short Paper (poster 46)	131 - The Research on Video Fingerprint Algorithm Based on Salient Region Jie Xu, Jiaying Zhang, Aiyun Xie, Linke Li University of Electronic Science and Technology of China
Short Paper (poster 47)	139 - Improving Fine-Grained Object Classification Using Adversarial Generated Unlabeled Samples Enze Xie, Guangyao Li, Tongji University Wenyu Liu, Peking University
Short Paper (poster 48)	170 - A Deep-learning based Multi-modality Sensor Calibration Method for USV Hao Liu, Yingjian Liu, Ocean University of China Xiaoyan Gu, Institute of Information Engineering, Chinese Academy of Sciences Yingying Wu, Fangchao Qu, Lei Huang, Ocean University of China
Short Paper (poster 49)	173 - Forward-Backward Nonlinear Sparse Dictionary Selection based Video Summarization Mingyang Ma, Shaohui Mei, Shuai Wan, Northwestern Polytechnical University Zhiyong Wang, David Dagan Feng, The University of Sydney



Conference Venue

Xi'an International Conference Center (Qujiang Hotel)



联系方式
宾馆地址：中国 西安 灞桥路南段
电话：(86) (029) 85223333
传真：(86) (029) 85233099
邮编：710061
电子信箱：webmaster@qujianghotel.com

Contact us
ADD : South part of Yan ta Road Xi'an
Tell : (86) (029) 85223333
FAX : (86) (029) 85233099
POST : 710061
E-MAIL : webmaster@qujianghotel.com

