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Message from General and Program Chairs

On behalf of the Organizing Committee, it is our great pleasure to welcome you to the 1st ACM International Conference on Multimedia in Asia (MM Asia 2019). The first ACM Multimedia Asia conference puts together the long-lasting experience of former PCM and ICIMCS, which both have good history as well as attending experiences. Officially sponsored by ACM SIGMM, MM Asia is a newly established international conference to showcase the scientific achievements and industrial innovations in the multimedia field. Its mission is to illuminate the state of the art in multimedia computing by bringing together researchers and practitioners in this field.

In 2019, ACM Multimedia Asia is held in Beijing, China with an extensive program that includes technical sessions covering all aspects of the multimedia field in forms of oral and poster presentations, tutorials, panels, brave new idea, doctoral symposium and grand challenge competitions. Conference registrants (both Full Registration and Non-paper Registration) have full access to all the above activities in the program.

We have received 204 submissions to the conference this year. These submissions cover widely in the areas of large-scale multimedia analysis and retrieval, multimedia systems and applications, multimedia communications and transmission, multimedia security and quality assessment, mobile multimedia computing, social multimedia analysis, computer vision/machine learning for multimedia application, and so on. We thank our 16 area chairs and 233 Technical Program Committee members who spent many efforts reviewing papers and providing valuable feedback to the authors. From the total of 204 submissions and based on at least three effective reviews per submission, the Program Chairs decided to accept 20 oral papers (9.8%) and 25 poster papers. Among the 20 oral papers, four papers are selected as the best paper candidate, to compete for the Best Paper and the Best Student Paper award.

The technical program is an important aspect but only provides its full impact if surrounded by challenging keynotes. We are extremely pleased and grateful to have two exceptional keynote speakers, Prof. Wen Gao and Ramesh Jain, accept our invitation to present their insightful ideas and prospects. We would also like to express our sincere gratitude to all the other committee members, to help organize exciting sessions including panels, challenges, tutorials, brave new idea and doctorial symposium. Their contributions are much appreciated. It is their

outstanding effort in preparing this rich and complex program that characterizes the first ACM Multimedia Asia conference.

We sincerely hope that you will enjoy your stay in Beijing and value your participation in MM Asia 2019.

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Changsheng Xu, Institute of Automation, Chinese Academy of Sciences, China
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Kiyoharu Aizawa, University of Tokyo, Japan

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Roger Zimmermann, National University of Singapore, Singapore
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Xin Yang, Huazhong University of Science and Technology, China

Multimedia Grand Challenge Chairs

Yu-Gang Jiang, Fudan University, China
Wei Zhang, JD.com, China

Brave New Idea Chairs

Chong-Wah Ngo, Hong Kong University of Science and Technology, China
Guojun Qi, University of Central Florida, USA
Marcel Worring, University of Amsterdam, Nederland

Tutorial Chairs

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Qin Jin, Renmin University, China

Doctoral Symposium Chairs

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Asako Kanezaki, Tokyo University, Japan

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Min-Chun Hu, National Cheng Kung University, Taiwan

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Bingkun Bao, Nanjing University of Posts and Telecommunications, China

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Sharath Chandra Guntuku University of Pennsylvania
Sheng Tang Institute of Computing Technology, Chinese Academy of Sciences
Sheng Wei Rutgers University - New Brunswick
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Shih-Wei Sun Taipei National University of the Arts
Shiming Ge Chinese Academy of Sciences
Shintami Hidayati SINICA
Shu Shi AT&T Labs Research

Shuai Li BeihangUniversity
Shuang Li Beijing Institute of Technology
Shuang Qiu Beijing Jiaotong University
si liu Beihang University
Sicheng Zhao University of California Berkeley
Sijie Zhu University of North Carolina at Charlotte
Siyu Xia Southeast University, China
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Zhong Ji Tianjin University
Zhou Zhao Zhejiang University
Zhouhui Lian Peking University
Zichun Zhong Wayne State University
Hisashi Miyamori Kyoto Sangyo University
Gaobo Yang Hunan University

Program at a Glance

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Keynote 1 (Dec.17, 09:00-10:00)

Title: Digital Retina – Improvement of Cloud Artificial Vision System from Enlighten of HVS Evolution

Speaker: Wen Gao, Peking University, China

Room: Auditorium

Session Chair: Changsheng Xu

Abstract:

Smart city wave seems to be making more and more video devices in cloud vision system upgraded from traditional video camera into edge video device. However, there are some arguments on how much intelligence the device should be with, and how much the cloud should keep. Human visual system (HVS) took millions of years to reach its present highly evolved state, it might not be perfect yet, but much better than any of exist computer vision system. Most artificial visual systems are consisted of camera and computer, like eye and brain for human, but with very low level pathway between two parts, comparing to human being. The pathway model of human being between eye and brain is quite complex, but energy efficient and comprehensive accurate, evolved by natural selection. In this talk, I will discuss a new idea about how we can improve the cloud vision system by HVS-like pathway model, which is called digital retina, to make the cloud vision system being more efficient and smart. For the more, the bio-vision system encodes the world into spike train, a different form with conventional video, which inspires us to discover a totally new visual technical system, from new visual sensor to new vision models.

Bio:

Wen Gao now is a Boya Chair Professor at Peking university. He also serves as the president of China Computer Federation (CCF) from 2016. He received his Ph.D. degree in electronics engineering from the University of Tokyo in 1991. He joined with Harbin Institute of Technology from 1991 to 1995, and Institute of Computing Technology (ICT), Chinese Academy of Sciences (CAS) from 1996 to 2005. He joined the Peking University since 2006. Prof. Gao works in the areas of multimedia and computer vision, topics including video coding, video analysis, multimedia retrieval, face recognition, multimodal interfaces, and virtual reality. His most cited contributions are model-based video coding and feature-based object representation. He published seven books, over 280 papers in refereed journals, and over 700 papers in selected international conferences. He is a fellow of IEEE, a fellow of ACM, and a member of Chinese Academy of Engineering.

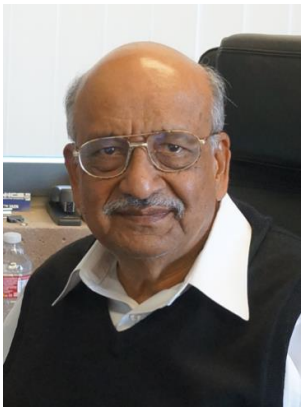
Keynote 2 (Dec.18, 09:00-10:00)

Title: Multimodal Health Surveillance

Speaker: Ramesh Jain, UCI, USA

Room: Auditorium

Session Chair: Kiyoharu Aizawa



Abstract:

Though surveillance evokes mixed feelings, surveillance has been a dominant motivator for computer vision and related technologies. The primary purpose of an intelligent surveillance systems is to detect and monitor real-time evolving situations using all observed data with an implicit goal to help manage situations for the benefit of humans. Since health is the most important factor in determining quality of human life, one wonders how we could use surveillance technology in this area. We know that from diverse medical imaging to video based facial expression detection and gait analyses are being used to understand an individual's health. We can go far beyond these early applications using various biomarkers and wearable devices for understanding personal health using a multimodal surveillance approach. The central element of personalization is the model of a person from a healthy perspective. Deep personal models require personal chronicle of events not only from cyberspace as used by many current search systems and social networks, but also from physical, environmental, and biological aspects. Episodic models are very shallow for personalization. Multimodal processing inspired by surveillance system principles, including computer vision, plays a key role in creating detailed personal chronicles, aka Personicles, for such emerging applications. We are building such Personicles for health applications using smart phones, wearable devices, different biological sensors, cameras, and social media. These Personicles and other relevant event streams may then be used to build personal models using event mining and related AI approaches. In this presentation, we will discuss and demonstrate an

approach to build Personicles using diverse data streams and show how this could result in deeper personal models for applications like personal health navigators.

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 research interests covered Control Systems, Computer Vision, Artificial Intelligence, and Multimedia Computing. His current research passion is in addressing health issues using cybernetic principles building on the progress in sensors, mobile, processing, artificial intelligence, computer vision, and storage technologies. He is founding director of the Institute for Future Health at UCI. 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.

Panel (Dec.18, 10:30-12:00)

Title: Frontier in Multimedia

Room: Auditorium

Chair: Liqiang Nie

In this panel, we have invited four leading scholars in our multimedia community to introduce recent advances in multimedia research, including compression, visual recognition, domain adaptation and differentiable neural architecture search.

Invited Panelists:

- **Zhu Li,** University of Missouri, Kansas City

Talk title: Recent Advances in Deep Learning for Compression

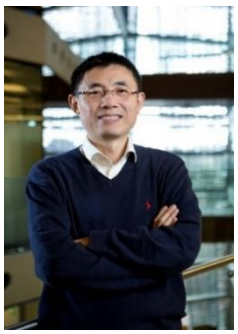
Deep learning has found many applications in vision and image processing tasks with impressive results. In recent years deep learning based tools are also getting into the compression and have demonstrated quite some new performance gains in improving the standard based compression technology like HEVC, and at the same time, purely learning based and data driven compression also starts showing promises. I will review some current state of the art in the area, and discuss the new opportunities, challenges, and directions.

- **Lingxi Xie,** Noah's Ark Lab, Huawei Inc.

Talk title: Differentiable Neural Architecture Search: Promises, Challenges, and Our Solutions

Recently, differentiable neural architecture search has attracted a lot of research attention, mainly due to its high efficiency in exploring a large search space. However, researchers also noticed significant drawbacks in its instability, which obstacles us from applying it freely to a wide range of vision tasks. In this talk, we first explain why differentiable search is important and promising, and then we delve deep into the reason for instability, based on which we present our solutions for alleviating it. We hope that our research can inspire future work in this direction.

- **Jian Zhang,** University of Technology Sydney



Talk title: Webly Supervised Fine-Grained Visual Recognition

Labeling objects at the subordinate level typically requires expert knowledge, which is not always available from a random annotator. Accordingly, learning directly from web images for fine-grained visual classification (FGVC) has attracted broad attention. However, the existence of noise in web images is a huge obstacle for training robust deep neural networks. To this end, we propose a novel approach to remove irrelevant samples from the real-world web images during training, and only utilize useful images for updating the networks. Thus, our network can alleviate the harmful effects caused by irrelevant noisy web images to achieve better performance.

- **Liang Zheng,** Australian National University

Talk title: Content-level Domain Adaptation

Domain adaptation (DA) has been an important research problem, aiming to reduce the impact of domain gaps. Given images in the source and target domains, existing DA methods typically perform domain alignment on the feature- or pixel-level. In this talk, I will introduce a new scheme named content-level domain adaptation, where the source domain consists of images simulated by 3D renderers like Unity, and the target domain contains real-world images. Different from existing DA methods, content-level DA is featured by an editable source domain, where the source images can be freely edited in Unity in terms of illumination, viewpoint, background, etc. Using a supervision signal from the target domain, we design an attribute descent method to automatically generate a source domain that aligns well with the distributions in the target domain. On several vehicle re-identification datasets, we show that our method effectively edits the content of the source domain, generates consistent source images with the target domain, and brings about consistent improvement on top of traditional DA methods.

Tutorial 1: Human-centric Visual Understanding

Time: Dec.16, 09:00-17:00

Location: 301AB

Human-centric visual understanding is one of the fundamental problems of computer vision and multimedia understanding. With the development of deep learning and multi-modalities analysis techniques, researchers have strived to push the limits of human-centric visual understanding in a wide variety of applications, such as intelligent surveillance, retailing, fashion design, and services. This tutorial will present recent advances under the umbrella of human-centric visual understanding, which range from the fundamental problems of face detection and recognition, human face and body pattern analysis, person re-identification, finally to multimedia event analysis and understanding in complex scenarios and industrial applications. We will discuss the key problems, common formulations, existing methodologies, real industrial applications, and future directions in the five topics. Our tutorial views not only come from the research filed, but also combine the real-world requirements and experiences in the industrial community. Therefore, this tutorial will inspire the audiences from the research and industrial community, and facilitate research in computer vision and multimedia for human behavior analysis and human-centric analysis modeling.

Speaker:

Wu Liu, Senior Researcher, JD AI Research
Hailin Shi, Senior Researcher, JD AI Research
Ning Xu, Assistant Professor, Tianjin University
Yinglu Liu, Researcher, JD AI Research
Lingxiao He, Researcher, JD AI Research
An-An Liu, Professor, Tianjin University

Tutorial 2: Multimedia Attractiveness Computing

Time: Dec.16, 14:00-18:00

Location: 302AB

This tutorial will focus on attractiveness computing for various types of media contents, such as images/videos, texts/tags, or social attributes. The tutorial will cover the methodology advancement and novel applications on topics including attractiveness prediction and enhancement, social affective/aesthetic analysis, and connections to industry such as creative multimedia advertising in order to inspire participants.

Speaker:

Xueting Wang, Postdoctoral Researcher, The University of Tokyo
Toshihiko Yamasaki, Associate Professor, The University of Tokyo
Bo Wu, Research Scientist, Columbia University

Multimedia Grand Challenge (MGC)

MGC 1: Zero-Shot Multimodal Video Recognition

With the rapid development of mobile Internet, video has attracted more and more attention from Internet users and has become one of the most important media sources of information acquisition. In many real-world scenarios, mainstream video websites still need to manually classify and monitor the uploaded videos, although such an approach is time-consuming and labor-intensive. Therefore, using the techniques of machine learning and artificial intelligence to automatically extract the key semantic information of the video content and recognize the key objects is an urgent technical requirement for the development of Internet video service. However, most of the existing video recognition algorithms rely too much on large-scale labeled training samples, which lacks versatility and extensibility in practical applications.

Based on the above analysis, we organize a new multimodal video recognition challenge which will be held in conjunction with ACM MM ASIA 2019. The challenge provides a new multimodal video dataset GTCOM-OUC-Video. Participants are encouraged to use the multimodal features of the labeled seen classes and external semantic knowledge to recognize unseen classes without any labeled instance. This will help to achieve a zero-shot video understanding algorithm that increases the versatility and extensibility of the conventional model.

Time: Dec.17, 14:00-14:45

Location: 302AB

Organizer:

- GTCOM Digital Media & Entertainment Co., Ltd.
- Institute of Automation of Chinese Academy of Sciences (CASIA)
- Ocean University of China（OUC）

Website: http://challenge.yeefuntv.com/

MGC 2: Fine-grained vehicle footprint recognition

Background:
Car tire recognition is an important means in providing clues for criminal case solving and traffic accident management. With the rapid increase in the number of vehicles in use, there is urgent need to develop efficient and automatic car tire recognition system.

Data:
About 10,000 tire pattern images, in 63 classes. Each class contains 80 tire surface images and 80 indentation marks images taken at different scales and different angles.

Task:
Design a model to learn the transferring relationship between tire surface and tire indentation mark. Given query image as either tire surface or tire indentation mark, the algorithm need to provide high precision in tire pattern retrieval, finding the tire surface and tire indentation mark images of same tire model.

Time: Dec.17, 14:45-15:30

Location: 302AB

Organizer:

- Xi'an University of Posts and Telecommunications.
- Microsoft Research Asia

Website: http://www.xuptciip.com.cn/show.html?news-mgc2019

Detailed Program

Dec. 16, Monday

09:00 – 17:00 **Location:** 301AB

Tutorial 1: Human-centric Visual Understanding

14:00 – 18:00 **Location:** 302AB

Tutorial 2: Multimedia Attractiveness Computing

Dec. 17, Tuesday

08:30 – 09:00 **Location:** Auditorium

Welcome and Introduction

09:00 – 10:00 **Location:** Auditorium

Keynote Speech 1

Title: Digital Retina – Improvement of Cloud Artificial Vision System from Enlighten of HVS Evolution

Speaker: Wen Gao

Session Chair: Changsheng Xu

10:00 – 10:30 **Location:** Lobby outside Auditorium

Coffee Break

10:30 – 12:00 **Location:** Auditorium

Best Paper Session

Session Chair: Wen-Huang Cheng

- **Efficient Dense Modules of Asymmetric Convolution for Real-Time Semantic Segmentation (43)**
  Shao-Yuan Lo (National Chiao Tung University); Hsueh-Ming Hang (National Chiao Tung University); Sheng-Wei Chan (Industrial Tech Research Inst.); Jing-Jhih Lin (Industrial Tech Research Inst.)

- **Adaptive Bilinear Pooling for Fine-grained Representation Learning (39)**
  Shaobo Min (University of Science and Technology of China); Youliang Tian (Guizhou University); Hongtao Xie (University of Science and Technology of China); Hantao Yao (Institute of Automation, Chinese Academy of Sciences); Yongdong Zhang (University of Science and Technology of China)
- **Weakly Supervised Video Summarization by Hierarchical Reinforcement Learning (91)**
  Yiyan Chen (The University of Tokyo); Li Tao (The University of Tokyo); Xueting Wang (The University of Tokyo); Toshihiko Yamasaki (The University of Tokyo)*
- **Semantic Prior Guided Face Inpainting (164)**
  Zeyang Zhang (College of Electronics and Information Engineering, Tongji University); Xiaobo Zhou (College of Electronics and Information Engineering, Tongji University); Shengjie Zhao (College of Electronics and Information Engineering, Tongji University); Xiaoyan Zhang (College of Computer Science and Software Engineering, Shenzhen University)

14:00 – 15:30 **Location:** 301AB

Oral Session 1：Multimedia Search

Session Chair: Weiqing Min

- **Attention-Aware Feature Pyramid Ordinal Hashing for Image Retrieval (99)**
  Xie Sun (Nanjing University of Science and Technology); Lu Jin (Nanjing University of Science and Technology); Zechao Li (Nanjing University of Science and Technology)*
- **Measuring Similarity between Brands using Social Media Content (40)**
  Yiwei Zhang (The University of Tokyo); Xueting Wang (The University of Tokyo); Yoshiaki Sakai (Geomarketing Co.,Ltd.); Toshihiko Yamasaki (The University of Tokyo)*
- **Social Font Search by Multimodal Feature Embedding (146)**
  Saemi Choi (University of Tokyo); Shun Matsumura (The University of Tokyo); Kiyoharu Aizawa (The University of Tokyo)*
- **Video Summarization based on Sparse Subspace Clustering with Automatically Estimated Number of Clusters (150)**
  *Pengyi Hao (Zhejiang University of Technology); Edwin Manhando (Zhejiang University of Science and Technology); Taotao Ye (Zhejiang University of Technology); Cong Bai (Zhejiang University of Technology)**

14:00 – 15:30 **Location:** 302AB

Multimedia Grand Challenge

Challenge 1: Zero-Shot Multimodal Video Recognition

Challenge 2: Fine-grained vehicle footprint recognition

15:30 – 16:00 **Location:** Lobby outside 301/302

Coffee Break

15:30 – 16:30 **Location:** 302 AB

Poster Session 1

Session Chair: Tian Gan

- **Residual Graph Convolutional Networks for Zero-Shot Learning (62)**
  Jiwei Wei (University of Electronic Science and Technology of China); Yang Yang (University of Electronic Science and Technology of China); Jingjing Li (University of Electronic Science and Technology of China); Lei Zhu (Shandong Normal Unversity); Lin Zuo (University of Electronic Science and Technology of China); Heng Tao Shen (University of Electronic Science and Technology of China (UESTC))*
- **L0 Gradient Smoothing and Bimodal Histogram Analysis: A Robust Method for Sea-sky-line Detection (38)**
  *Jian Jiao (Fudan University); Hong Lu (Fudan University) *; Zijian Wang (Fudan University); Wenqiang Zhang (Fudan University); Lizhe Qi (Fudan University);*
- **Deep Distillation Metric Learning (24)**
  *Jiaxu Han (Tianjin University); Tianyu Zhao (Tianjin University); Changqing Zhang (Tianjin university)**
- **Self-balance motion and appearance model for multi-object tracking in UAV (98)**
  Hongyang Yu (Harbin Institute of Technology); Guorong Li (University of Chinese Academy of Sciences); Weigang Zhang (Harbin Institute of Technology, Weihai); Hongxun Yao (Harbin Institute of Technology); Qingming Huang (University of Chinese Academy of Sciences)*
- **Deep Spherical Gaussian Illumination Estimation for Indoor Scene (92)**
  Mengtian Li (Nanjing University); Jie Guo (Nanjing University); Xiufen Cui (Samsung Electronics (China)R&D Center); Rui Pan (Samsung Electronics (China)R&D Center); Yanwen Guo (Nanjing University); Chenchen Wang (Nanjing University); Piaopiao Yu (Nanjing University); Fei Pan (Nanjing University)*
- **NRQQA: A No-Reference Quantitative Quality Assessment Method for Stitched Images (116)**
  Shengju Yu (Huazhong University of Science and Technology); Tiansong Li(Huazhong University of Science and Technology); Xiaoyu Xu (Huazhong University of Science and Technology); Hao Tao (HuaZhong University of science and technology); Li Yu (HUST); Yixuan Wang (HuaZhong University of science and technology)*

- **Gradient Guided Image Deblocking Using Convolutional Neural Networks (19)**
  Jiawei Feng (Xidian University); Cheolkon Jung (Xidian University); Zhu Li (University of Missouri, Kansas City)*
- **Color Recovery from Multi-Spectral NIR Images Using Gray Information (90)**
  Qingtao Fu (Xidian University); Cheolkon Jung (Xidian University); Chen Su (Huawei Technologies)*
- **An EERM Efficient Parameter Optimization Algorithm and Its Application to Image Denoising (117)**
  *Yinhao Liu (Hangzhou Dianzi University); Mengting Fan (China Jiliang University); Xiaofeng Huang (xfhuang@hdu.edu.cn); Haibing Yin (Hangzhou Dianzi University)**
- **WaveCSN: Cascade Segmentation Network for Hip Landmark Detection (64)**
  Hai Wu (University of Science and Technology of China); Hongtao Xie (University of Science and Technology of China); Fanchao Lin (University of Science and Technology of China); Sicheng Zhang (Anhui Provincial Children's Hospital); Jun Sun (Anhui Provincial Children's Hospital); Yongdong Zhang (University of Science and Technology of China)*
- **Shifted Spatial-Spectral Convolution for Deep Neural Networks (50)**
  Yuhao Xu (The University of Tokyo); Hideki Nakayama (The University of Tokyo)*
- **Multi-Scale Invertible Network for Image Super-Resolution (57)**
  Zhuangzi Li (School of Computer and Information Engineering, Beijing Technology and Business University); Shanshan Li (Beijing Technology and Business University); Naiguang Zhang (Information Technology Institute, Academy of Broadcasting Science); Lei Wang (Academy of Broadcasting Science, SAPPRFT); Ziyu Xue (Information Technology Institute, Academy of Broadcasting Science, SART)*
- **Feature fusion adversarial learning network for liver lesion classification (26)**
  Peng Chen (jiangsu university); Yuqing Song (JIANGSU UNIVERSITY); Zhe Liu (Jiangsu University); Deqi Yuan (Zhenjiang First People's Hospital Branch)*
- **Fast and Accurately Measuring Crack Width via Cascade Principal Component Analysis (66)**
  *Lijuan Duan(Beijing University of Technology); HuiLing Geng (Beijing University of Technology) *; Jun Zeng(Beijing University of Technology); Junbiao Pang(Beijing Artificial Intelligence Institute); Qingming Huang(University of Chinese Academy of Sciences)*
- **Active Perception Network for Salient Object Detection (94)**
  Jun Wei (Institute of Computing Technology, Chinese Academy of Sciences); Shuhui Wang (VIPL,ICT,Chinese academic of science); Liang Li (Chinese Academy of Sciences); Qingming Huang (University of Chinese Academy of Sciences)*
- **Surface Normal Data Guided Depth Recovery with Graph Laplacian Regularization (100)**

Longhua Sun (Beijing University of Technology); Jin Wang (Beijing University of Technology); Yunhui Shi (Beijing University of Technology); Qing Zhu (Beijing University of Technology); Baocai Yin (Dalian University of Technology)*

- **An Adaptive Dark Region Detail Enhancement Method for Low-light Images (108)**
  Wengang Cheng (North China Electric Power University); Caiyun Guo (North China Electric Power University); Haitao Hu (North China Electric Power University)*

16:30 – 18:00 **Location:** 301 AB

Oral Session 2: Multimedia Service

Session Chair: Toshihiko Yamasaki

- **Multiple Fisheye Camera Tracking via Real-Time Feature Clustering (46)**
  Chon Hou Sio (National Chiao Tung University); Hong-Han Shuai (National Chiao Tung University); Wen-Huang Cheng (EE, NCTU)*
- **Salient Time Slice Pruning and Boosting for Person-Scene Instance Search in TV Series (41)**
  Zheng Wang (National Institute of Informatics); Fan Yang (The University of Tokyo); Shin'ichi Satoh (National Institute of Informatics)*
- **Stop Hiding Behind Windshield: A Windshield Image Enhancer Based on a Two-way Generative Adversarial Network (81)**
  *Chi-Rung Chang (NCTU); Kuan-Yu Lung (NCTU); Yi-Chung Chen (NCTU); Zhi-Kai Huang (NCTU); Hong-Han Shuai (National Chiao Tung University); Wen-Huang Cheng (EE, NCTU)**
- **A Performance-Aware Selection Strategy for Cloud-based Video Services with Micro-Service Architecture (76)**
  Zhengjun Xu (Beijing University of Posts and Telecommunications); Haitao Zhang (Beijing University of Posts and Telecommunications); Han Huang (Beijing University of Posts and Telecommunications)*

Dec. 18, Wednesday

09:00 – 10:00 **Location:** Auditorium

Keynote Speech 2

Title: Multimodal Health Surveillance

Speaker: Ramesh Jain

Session Chair: Kiyoharu Aizawa

10:00 – 10:30 **Location:** Lobby outside Auditorium

Coffee Break

10:30 – 12:00 **Location:** Auditorium

Panel

Title: Frontier in Multimedia

Panelist: Zhu Li, Lingxi Xie, Jian Zhang, Liang Zheng

Chair: Liqiang Nie

14:00 – 15:30 **Location:** 301 AB

Oral Session 3: Human Analysis in Multimedia

Session Chair: Bing-Kun Bao

- **Dense Attention Network for Facial Expression Recognition in the Wild (184)**
  Cong Wang (University of Chinese Academy of Sciences); Ke Lu (University of Chinese Academy of Sciences); Jian Xue (University of Chinese Academy of Sciences); Yanfu Yan (University of Chinese Academy of Sciences)*
- **Make Skeleton-based Action Recognition Model Smaller, Faster and Better (23)**
  Fan Yang (Nara Institute of Science and Technology); Yang Wu (Kyoto University); Sakriani Sakti (Nara Institute of Science and Technology); Satoshi Nakaura (Nara Institute of Science and Technology)
- **A Cascade Sequence-to-Sequence Model for Chinese Mandarin Lip Reading (56)**
  Ya Zhao (Zhejiang University); Rui Xu (Zhejiang University); Mingli Song (Zhejiang University)
- **Learn to Gesture: Let Your Body Speak (80)**

Tian Gan (Shandong University); Zhixin Ma (Shandong University); Yuxiao Lu (Shandong University); Xuemeng Song (Shandong University); Liqiang Nie (Shandong University)*

14:00 – 14:45 **Location:** 302AB

Brave New Idea

Session Chair: Rongrong Ji

- **Multi-scale Features for Weakly Supervised Lesion Detection of Cerebral Hemorrhage with Collaborative Learning**
  Zhiwei Chen (Xiamen University); Rongrong Ji (Xiamen University); Jipeng Wu (Xiamen University); Yunhang Shen (Xiamen University)
- **Tumor Tissue Segmentation for Histopathological Images**
  Xiansong Huang (Peng Cheng Laboratory); Hongliang He (Peking University); Pengxu Wei (Sun Yat-sen University); Chi Zhang (Peking University); Juncen Zhang (Peng Cheng Laboratory); Jie Chen (Peking University)

14:45 – 15:30 **Location:** 302AB

Doctorial Symposium

Session Chair: Jia Jia

- **Artistic Text Stylization for Visual-Textual Presentation Synthesis**
  Shuai Yan (Peking University)
- **Multimedia Information Retrieval**
  Yangyang Guo (Shandong University)

15:30 – 16:00 **Location:** Lobby outside 301/302

Coffee Break

15:30 – 16:30 **Location:** 302 AB

Poster Session 2

Session Chair: Cong Bai

- **Deep Structural Feature Learning: Vehicle Re-Identification In Structure-Aware Map Space (58)**
  Wenqian Zhu (Wuhan University); Ruimin Hu (Wuhan University); Zhongyuan Wang (National Engineering Research Center for Multimedia Software, Wuhan University, China); Dengshi Li (Jianghan University); Xiyue Gao (Wuhan Univ.)*
- **Selective Attention Network for Single Image Dehazing and Deraining (173)**

Xiao Liang (School of Computer Science and Engineering, Nanjing University of Science and Technology); runde li (Nanjing University of Science & Technology); Jinhui Tang (Nanjing University of Science and Technology)*

- **Manifold Alignment with Multi-graph Embedding (87)**

  *Chang-Bin Huang (Jiangsu University); Timothy Apasiba Abeo (Jiangsu University); Xiang-Jun Shen (Jiangsu University)**
- **Multi-Label Image Classification with Attention Mechanism and Graph Convolutional Networks (119)**

  *Quanling Meng (Harbin Institute of Technology, Weihai); Weigang Zhang (Harbin Institute of Technology, Weihai)**
- **RSC-DGS: Fusion of RGB and NIR Images Using Robust Spectral Consistency and Dynamic Gradient Sparsity (20)**

  Shengtao Yu (Huawei Technologies); Cheolkon Jung (Xidian University); Kailong Zhou(Xidian University); Chen Su(Huawei Technologies)*
- **Multi-Feature Fusion for Multimodal Attentive Sentiment Analysis (103)**

  Man A (Yunnan University); Pu yuanyuan (yunnan university); Dan Xu (Yunnan University); Wenhua Qian (Yunnan University); Zhengpeng Zhao (Yunnan University); Qiuxia Yang (Yunnan University)*
- **Multimodal Attribute and Feature Embedding for Activity Recognition (168)**

  Weiming Zhang (Beijing Jiaotong University); Yi Huang (Chinese Academy of Sciences); WanTing Yu (Beijing Jiaotong University); XiaoShan Yang (Chinese Academy of Sciences); Wei Wang(Suwen Intelligence); JiTao Sang (Beijing Jiaotong University)*
- **Representative Feature Matching Network for Image Retrieval (31)**

  Zhuangzi Li (School of Computer and Information Engineering, Beijing Technology and Business University); Feng Dai (Beijing Technology and Business University); Naiguang Zhang (Information Technology Institute, Academy of Broadcasting Science); Lei Wang (Academy of Broadcasting Science, SAPPRFT); Ziyu Xue (Information Technology Institute, Academy of Broadcasting Science, SART)*
- **Deep Feature Interaction Embedding for Pair Matching Prediction (93)**

  Luwei Zhang (The University of Tokyo); Xueting Wang (The University of Tokyo); Toshihiko Yamasaki (The University of Tokyo)*
- **Multi-source User Attribute Inference based on Hierarchical Auto-encoder (67)**

  Boyu Zhang (Beijing Jiaotong University); Xiangguo Ding (Beijing Jiaotong University); Xiaowen Huang (National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences,); Yang Cao (CETC Big Data Research Institute); Jitao Sang (Beijing Jiaotong University, China); Jian Yu (Beijing Jiaotong University)*
- **Comprehensive Event Storyline Generation from Microblogs (48)**

  Wenjin Sun (Beijing Jiaotong University); Yuhang Wang (Beijing Jiaotong University); Yuqi Gao (Nanjing University); Zesong Li (CETC Big Data Research*

Institute);; Jitao Sang (Beijing Jiaotong University, China); Jian Yu (Beijing Jiaotong University)

- **Domain specific and idiom adaptive video summarization (34)**

  Yi Dong (Nanyang Technological University); Chang Liu (Nanyang Technological University); Zhiqi Shen (NTU); Zhanning Gao (Alibaba Group); Pan Wang (Alibaba Group); Changgong Zhang (Alibaba Group); Peiran Ren (Alibaba Group); Xuansong Xie (Alibaba); Han Yu (Nanyang Technological University (NTU)); Qingming Huang (University of Chinese Academy of Sciences)*

- **An Automated Lung Nodule Segmentation Method Based On Nodule Detection Network and Region Growing (169)**

  *Yanhao Tan (University of Chinese Academy of Sciences); Ke Lu (University of Chinese Academy of Sciences); Jian Xue (University of Chinese Academy of Sciences)**

- **Food Photo Enhancement with Single Domain Generative Adversarial Networks (47)**

  Shudan Wang (University of Science and Technology Beijing); Liang Sun (University of Science and Technology Beijing); Weiming Dong (NLPR, Institute of Automation, Chinese Academy of Sciences); Yong Zhang (Tencent AI Lab)*

- **Generalizing Rate Control Strategies for Real-time Video Streaming via Learning from Deep Learning (25)**

  Tianchi Huang (Tsinghua University); Ruixiao Zhang (Tsinghua University); Chenglei Wu (Tsinghua University); Xin Yao (Tsinghua University); Chao Zhou (Beijing Kuaishou Technology Co., Ltd); Bing Yu (Beijing Kuaishou Technology Co., Ltd); Lifeng Sun (Tsinghua University)*

- **IKDMM: Iterative Knowledge Distillation Mask Model for Robust Acoustic Beamforming (65)**

  *Zhaoyi Liu (Peking university); Yuexian Zou (Peking University)**

- **Multi-Objective Particle Swarm Optimization for ROI based Video Coding (77)**

  Guangjie Ren (Wuhan University); Feiyang Liu (Wuhan University); Daiqin Yang (Wuhan University); Yiyong Zha (Tencent); Yunfei Zhang (Tencent); Xin Liu (Tencent)*

- **An LSTM based rate and distortion prediction method for low-delay video coding (69)**

  Feiyang Liu (Wuhan University); Guiyan Cao (Wuhan University); Daiqin Yang (Wuhan University); Yiyong Zha (Tencent); Yunfei Zhang (Tencent); Xin Liu (Tencent)*

16:30 – 18:00 **Location:** 301 AB

Oral Session 4: Vision in Multimedia

Session Chair: Hsueh-Ming Hang

- **Multi-Dilation Network for Crowd Counting (63)**
  Shuheng Wang (Tongji University); Hanli Wang (Tongji University); Qinyu Li (Tongji University)*
- **Excluding the Misleading Relatedness Between Attributes in Multi-Task Attribute Recognition Network (113)**
  *Sirui Cai (Shanghai University); Yuchun Fang (Shanghai University)**
- **Robust Visual Tracking via Statistical Positive Sample Generation and Gradient Aware Learning (60)**
  *Lijian Lin (Xiamen University); Haosheng Chen (Xiamen University); Yanjie Liang (Xiamen University); Yan Yan (Xiamen University); Hanzi Wang (Xiamen University)**
- **Exploring Semantic Segmentation on the DCT Representation (42)**
  *Shao-Yuan Lo (National Chiao Tung University); Hsueh-Ming Hang (National Chiao Tung University)**

Social Activities

Reception (Dec.16, 18:00)

Location: Function Hall AB, 1F, China National Convention Center

Banquet (Dec.17, 18:00)

Location: Function Hall AB, 1F, China National Convention Center

Lunch (Dec.16 ~18, 12:00-14:00)

Lunch is provided in the form of voucher during the conference. You can use the voucher to pay for lunch at the Xin Ao Shopping Center (新奥购物中心，100m east to the China National Convention Center).

Conference Information

Registration

Dec.16-17

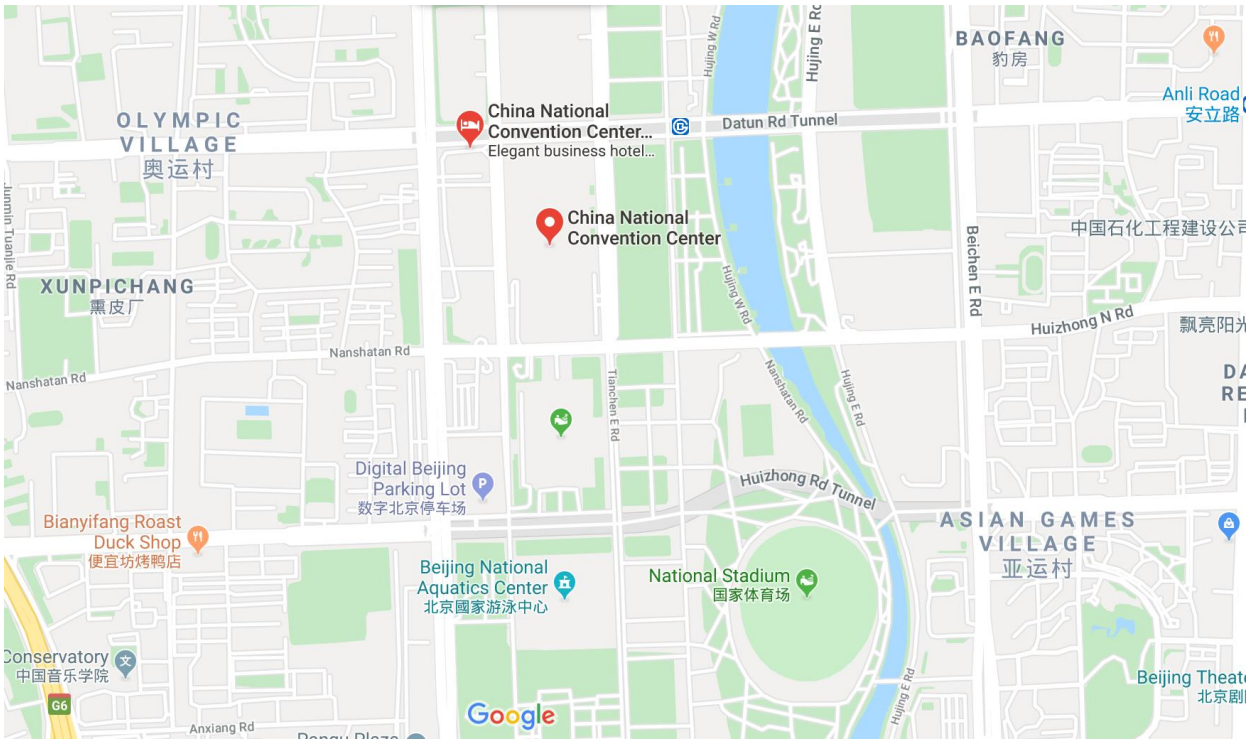
09:00 – 18:00 **Location**: Lobby outside Auditorium, 3F

Venue

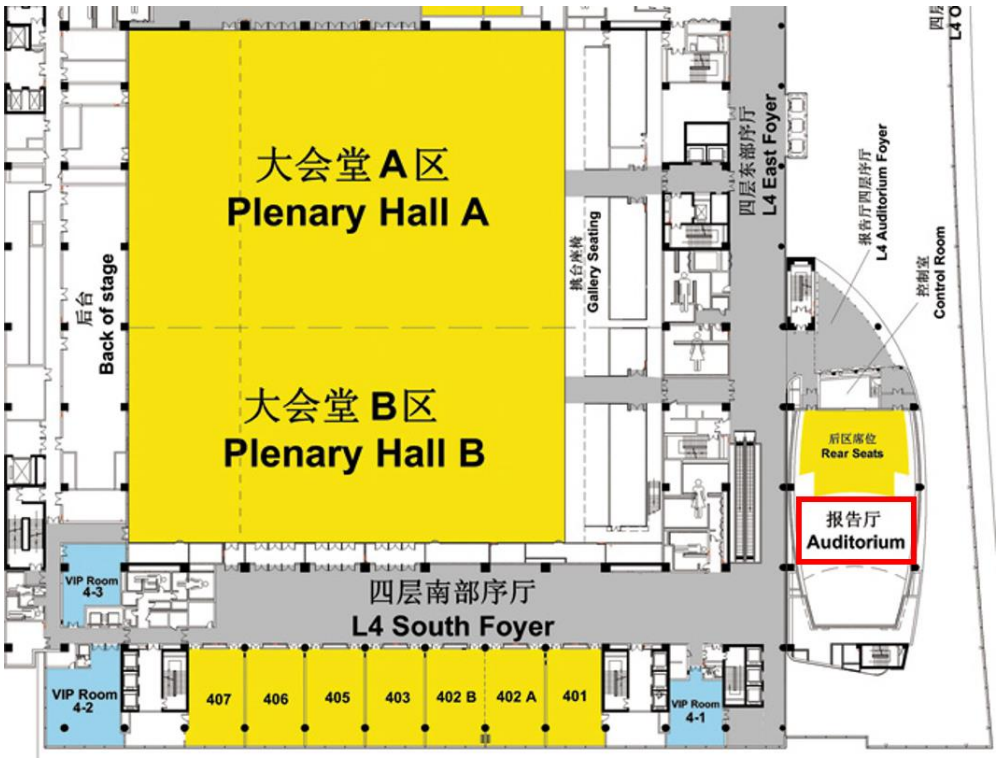
China National Convention Center (中国国家会议中心)

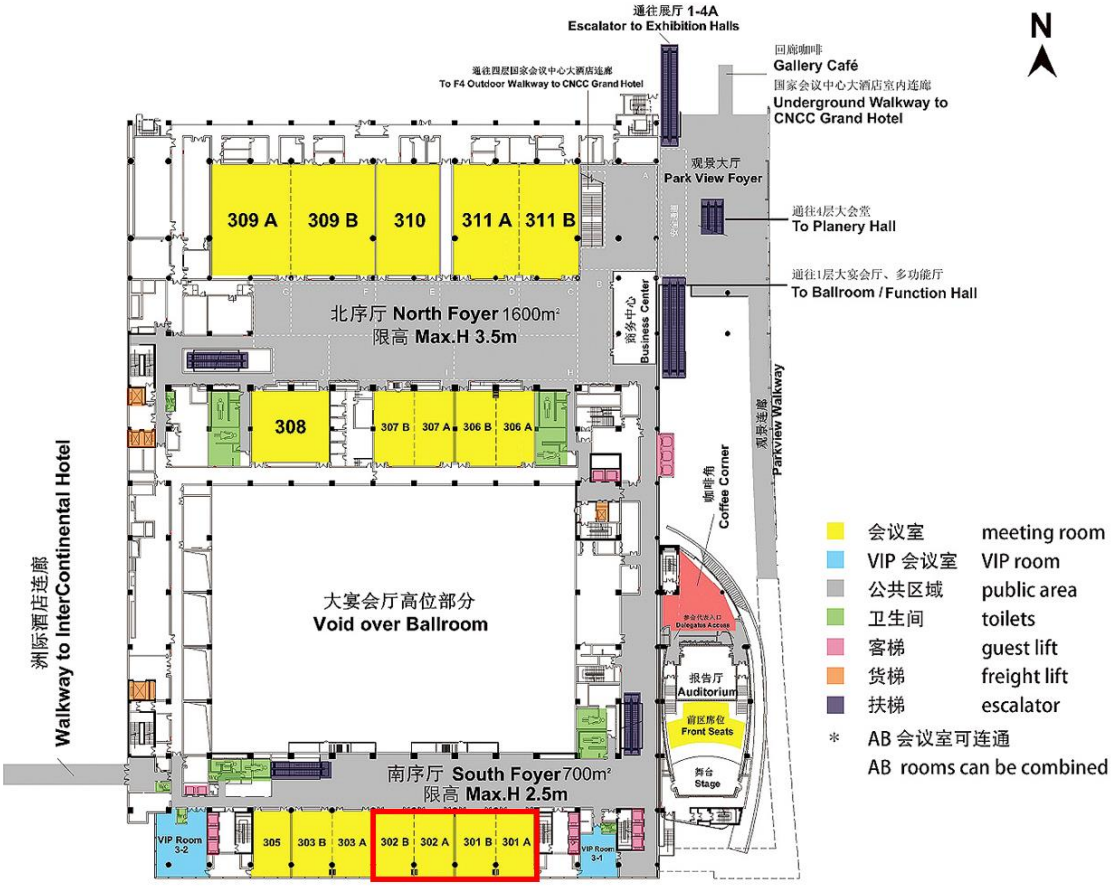
Address: No.7 Tianchen East Road, Chaoyang District, Beijing 100105 China

（北京市朝阳区天辰东路 7 号）



Conference Website: http://www.acmmmasia.org/


大会堂A区
Plenary Hall A
大会堂B区
Plenary Hall B
后台
Back of stage
挑台座席
Gallery Seating
四层东部序厅
L4 East Foyer
报告厅四层序厅
L4 Auditorium Foyer
控制室
Control Room
后区席位
Rear Seats
报告厅
Auditorium
VIP Room 4-3
四层南部序厅
L4 South Foyer
VIP Room 4-2
407
406
405
403
402 B
402 A
401
VIP Room 4-1


通往展厅 1-4A
Escalator to Exhibition Halls
通往四层国家会议中心大酒店连廊
To F4 Outdoor Walkway to CNCC Grand Hotel
回廊咖啡
Gallery Café
国家会议中心大酒店室内连廊
Underground Walkway to CNCC Grand Hotel
观景大厅
Park View Foyer
通往4层大会堂
To Planery Hall
通往1层大宴会厅、多功能厅
To Ballroom / Function Hall
309 A
309 B
310
311 A
311 B
北序厅 North Foyer 1600m²
限高 Max.H 3.5m
商务中心
Business Center
308
307 B
307 A
306 B
306 A
观景连廊
Parkview Walkway
咖啡角
Coffee Corner
洲际酒店连廊
Walkway to InterContinental Hotel
大宴会厅高位部分
Void over Ballroom
代表入口
Delegates Access
报告厅
Auditorium
前区席位
Front Seats
舞台
Stage
南序厅 South Foyer 700m²
限高 Max.H 2.5m
VIP Room 3-2
305
303 B
303 A
302 B
302 A
301 B
301 A
VIP Room 3-1
N
会议室 meeting room
VIP 会议室 VIP room
公共区域 public area
卫生间 toilets
客梯 guest lift
货梯 freight lift
扶梯 escalator
* AB 会议室可连通
AB rooms can be combined

Organizers


acm
Association for
Computing Machinery


acm
SIGMM
Special Interest Group on Multimedia