

ACMmultimedia25



Computer History Museum

**Let's Make History!**

Oct 23, 2017 – Oct 27, 2017 • Mountain View, CA USA

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## General Chairs' Welcome ACM Multimedia 2017

We warmly welcome you to the 25th ACM Multimedia conference, which is hosted in the heart of Silicon Valley at the wonderful Computer History Museum in Mountain View, CA, USA. As you will notice, the second floor of the Computer History Museum is still nearly empty these days. 25 years later, the second floor will be filled with artifacts people have created today. Hopefully some of these artifacts are created by attendees of this conference. Let us work together and make history.

We are celebrating our 25th anniversary with an extensive program consisting of technical sessions covering all aspects of the multimedia field in both form of oral and poster presentations, tutorials, panels, exhibits, demonstrations and workshops, bringing into focus the principal subjects of investigation, competitions of research teams on challenging problems, and an interactive art program stimulating artists and computer scientists to meet and discover together the frontiers of artistic communication.

For our 25th ACM Multimedia conference, ACM Multimedia 2017, we unified for the first time the long and short papers into a single submission track and review process. In order to support the traditional short and long papers, the unified track has had a flexible range of paper lengths (6-8 pages plus references), which is not much longer than the previous short paper length (5 pages), while also supporting the traditional long papers with 8 pages plus references. This change was decided at the SIGMM Business Meeting at ACM Multimedia 2016 in Amsterdam. It aims at making the review process more consistent than the former short and long paper track.

The call for contributions attracted submissions from all over the world, which were all thoroughly reviewed for their merit in terms of scientific quality, innovation, and match to the conference. In summary, the various dedicated program committees reviewed and accepted the following:

Track	Reviewed	Accepted
Main Paper Track	684	189 (27.63%)
Thematic Workshops	495	64 (12.93%)
Brave New Ideas	17	5 (29.41%)
Doctorial Symposium	11	5 (45.45%)
Open Source Competition	10	6 (60.00%)
Demonstrations	41	23 (56.10%)

We are also very proud of this year's exceptional set of high-profile keynote speeches. We encourage everyone to attend and use them as source of inspiration and for valuable insights. They are:

- **Enhancing and Augmenting Human Perception with Artificial Intelligence**  
Dr. Achin Bhowmik, CTO & EVP, Starkey, USA
- **Efficient Methods and Hardware for Deep Learning**  
Bill Dally, Senior Vice President and Chief Scientist, NVidia, USA
- **Building Multi-Modal Interfaces for Smartphones**  
Injong Rhee, CTO & EVP, Samsung Electronics, Korea
- **DeepQ: Advancing Healthcare Through AI and VR**  
Edward Y. Chang, President, HTC, Taiwan
- **Bringing a Billion Hours to Life**  
Scott Silver, Vice President, Google, USA
- **Bringing Gaming, VR, and AR to Life with Deep Learning**  
Danny Lange, Vice President, Unity Technologies, USA

Furthermore, a visionary presentation will be given by Arnolds Smeulders from the University of Amsterdam. He is this year's winner of the SIGMM Award for Outstanding Technical Contributions to Multimedia Computing, Communications and Applications. The award is given in recognition of his outstanding and pioneering contributions to defining and bridging the semantic gap in content-based image retrieval.

The main program is accompanied by 14 workshops to discuss challenging topics and 6 tutorials to bring you up to speed on important foundations of our multimedia field. Putting together a conference like ACM Multimedia is a team effort with many people volunteering their precious time. We would like to thank all who contributed to making this year's conference a success: the authors for submitting their latest work, the chairs and reviewers of the various tracks and activities for realizing a high quality program, and all others who assured smooth organization and realization of the conference. Finally, we would like to thank our sponsors and supporters, SIGMM, FXPAL, Alibaba, Google, IBM Research, Microsoft, Lenovo, Huawei, Houzz and Springer for allowing us to bring you more than just the scientific program.

## ACM Multimedia 2017 General Chairs

**Qiong Liu**  
FXPAL, USA

**Haohong Wang**  
TCL America, USA

**Rainer Lienhart**  
University of Augsburg, Germany

## Message from Program Chairs

### ACM Multimedia 2017

We are pleased to introduce to you to the Technical Program for the ACM International Conference on Multimedia (ACM Multimedia) 2017, which will take place in Mountain View, California, US in October 2017.

While adopting the best practices from previous ACM Multimedia conferences, this year we introduced new formats of the submissions and ensured the rigor of the review process to ensure an efficient and fair evaluation of all submissions in providing a high quality conference.

From 2017 on, the conference invites research papers of varying length from 6 to 8 pages, plus additional pages for the reference pages; i.e., the reference page(s) are not counted to the page limit of 6 to 8 pages. There is no longer the distinction between long and short papers but the authors may themselves decide on the appropriate length of the paper. All papers will undergo the same review process and review period.

In this year, a total of 22 areas of interest were grouped into 5 research themes, including a Systems and Applications Theme (covering Multimedia Systems and Middleware, Multimedia Transport and Delivery, Multimedia Telepresence and Virtual/Augmented/Mixed Reality, Mobile and Wearable Multimedia), an Experience Theme (covering Perceptual Multimedia, Ubiquitous Multimedia, Novel Interactions with Multimedia, Social, Emotional and Affective Multimedia, Multimedia Storytelling and Curation, Multimedia for Collaboration and Public Spaces), an Understanding Theme (covering Deep Learning for Multimedia, Multimodal/Multisensor Analysis and Description, Multimedia and Vision), and an Engagement Theme (covering Multimedia Art, Entertainment and Culture, Multimedia Search and Recommendation, Big Data, Digital Society, Multimedia Technology for Autonomous Vehicles). Comparing to the last year, we introduced the Novel Topics theme (covering Privacy Implications of Multimedia, Multimedia Data Collections, Multimedia in Data Science, New Fields in Multimedia) in order to embrace to the emerging topics in multimedia research.

Each research theme was overseen by one of this year's Technical Program Chairs. For each area of interest, a team of Area Chairs (ACs), ranging from one to seven members, was recruited to handle the paper review process. Any submissions co-authored by program chairs or area chairs were handled by in a separate Conflict-of-Interest (Col) track led by the Col program chair. In total, 87 ACs were appointed.

We have received a total of 684 paper submissions entered into the review process, where 101 submissions are co-authored by program chairs and/or area chairs and thus handled on the separate Col track. The table below gives the exact submission numbers across the various research areas:

Area	# of Submissions
Engagement – Col	12
Engagement - Autonomous Vehicles	3
Engagement - Big Data	5
Engagement - Digital Society	5
Engagement – Entertainment	21
Engagement – Search	57
Experience - Col	18
Experience – Perceptual multimedia	19
Experience - Ubiquitous multimedia	2
Experience - Novel Interactions with multimedia	12
Experience - Social, emotional and affective multimedia	42
Experience – Multimedia Storytelling and Curation	6
Experience – Multimedia for Collaboration and Public Spaces	4
Novel Topics - Col	21
Novel Topics - Data Collections	6
Novel Topics - Data Science	10
Novel Topics - New Fields	18
Novel Topics - Privacy	9
Systems - Col	12
Systems - Delivery	24
Systems – Mobile	16
Systems – MVAR	26
Systems – Systems	29
Understanding - Col	38
Understanding – Analysis	50
Understanding - Deep Learning	106
Understanding – Vision	113
<b>Total</b>	<b>684</b>

During the review process, we aimed to have 4 high-quality reviews for each submission. We have recruited 608 program committee members to contribute their professional reviews to the submissions in a double-blind approach. On average, we received more than 3.3 reviews for each submission by the review deadline which enabled the ACs to write meta reviews and proposed initial recommendations before the TPC meetings.

This year we adopted a more distributed manner in holding the TPC meetings. Each program chair organized a one-day TPC meeting with the ACs s/he led some time in June. The emphasis of the TPC meeting was on borderline and controversial paper submissions. The discussions were detailed and intensive, taking into account all the available data, including reviews, the authors’ advocates’ investigations, the initial recommendations by the ACs and any reviews performed by ACs during the meeting.

Finally, the Program Committee accepted 189 out of 684 submissions, yielding an acceptance rate of 27.63%. Among the 189 accepted full papers, 49 are selected to give oral presentations on the conference, while the rest are arranged to present to conference attendees in a poster format. Also, the papers with poster presentations are scheduled to have a short pitch with videos in a dedicated pitch session.

The entire Technical Program Committee has worked diligently during the last few months to ensure that the technical program of this year’s conference is of the highest possible quality. We would like to recognize the great effort and hard work from the volunteer team of ACs and reviewers who helped shape an exciting technical program.

We look forward to seeing you this autumn, in Mountain View, California for a compelling ACM Multimedia 2017 technical program.

**Kuan-Ta Chen**

Academia Sinica, Taiwan

**Susanne Boll**

University of Oldenburg, Germany

**Phoebe Chen**

La Trobe University, Australia

**Gerald Friedland**

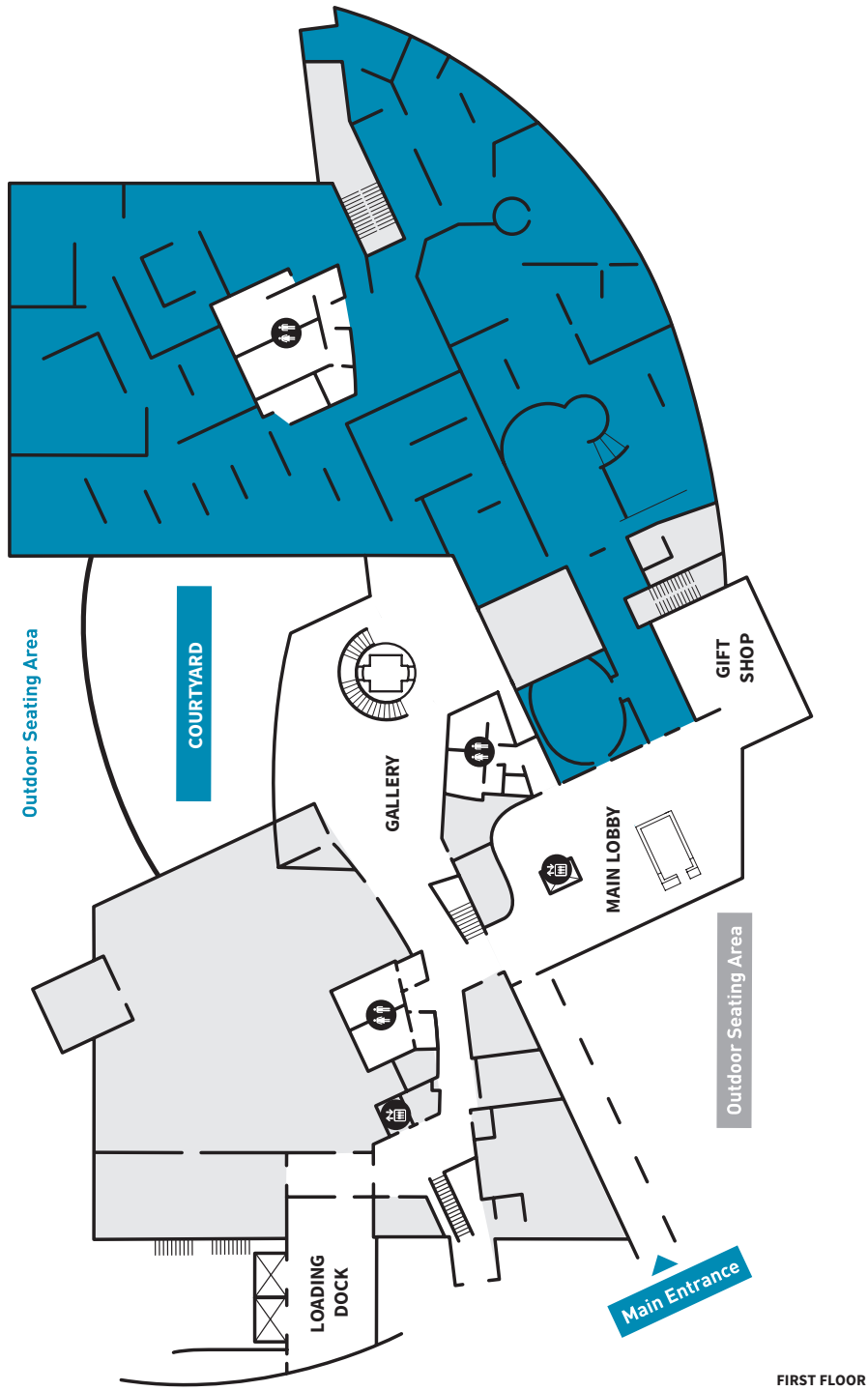
UC Berkeley / LLNL, USA

**Jia Li**

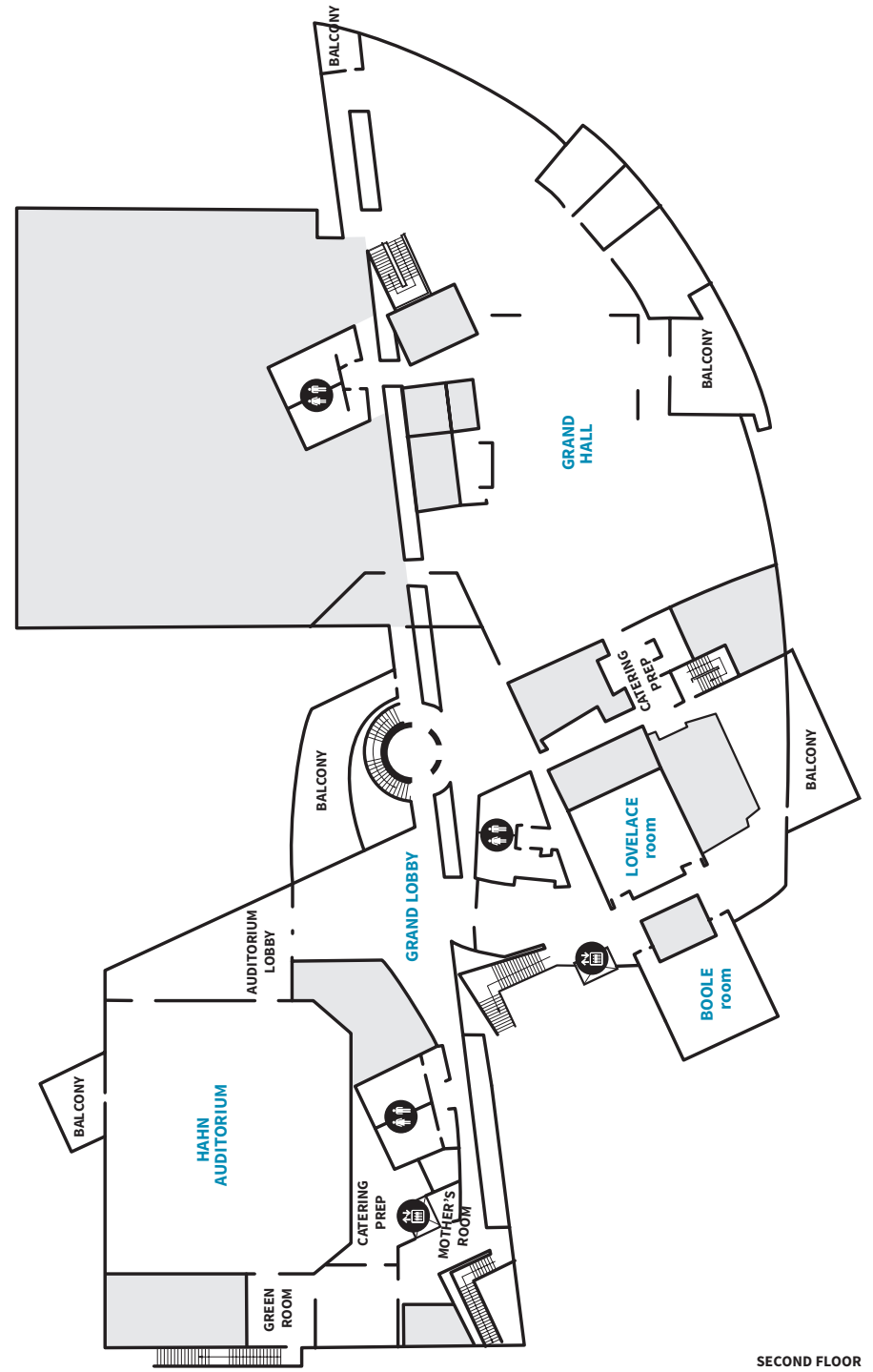
Google, USA

**Shuicheng Yan**

Qihoo 360, China



FIRST FLOOR



SECOND FLOOR

# Schedule

## ACM Multimedia 2017

### Monday, October 23 / Workshop Day 1

	08:00	08:25	09:00	09:30	10:00	10:30	11:00	11:30	12:00	12:30	13:00	
Foyer + Grand Lobby					Coffee					Lunch		
	Registration											
Hahn Auditorium				Thematic Workshop Pitches - I					Tutorial - 1: Human-like Visual Learning and Reasoning			
Boole				MMHealth					MMHealth			
Lovelace				AVEC					AVEC			
Hopper				SA					SA			
Grand Hall	Interactive Art Poster											

	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30	
	Lunch				Coffee							
	Registration											
				Tutorial - 2: Social Multimedia Sentiment Analysis					Tutorial - 3: Deep Learning for Intelligent Video Analysis			
				MMHealth					MMHealth			
				AVEC					AVEC			
				LTA					LTA			
	Interactive Art Poster											

### Tuesday, October 24 / Conference Day - 1

	08:00	08:25	09:00	09:30	10:00	10:30	11:00	11:30	12:00	12:30	13:00	
Foyer + Grand Lobby					Coffee					Lunch		
	Registration											
Hahn Auditorium	Open Note	Keynote Talk - 1 Achin Bhoumik FF - 1 CTO & EVP, Starkey, USA					Best Paper Presentation		Women / Diversity in MM			
Boole												
Lovelace												
Hopper												
Grand Hall	Interactive Art											
	Industry Exhibition											

	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30	19:00-21:00
				Coffee								
	Registration											
FF - 2	Keynote - 2 Bill Dally Sr. VP, NVidia, USA					Understanding - 1		System - 1				
				Panel - 1		Engagement - 1						
				Experience - 1		Business Idea Venture						
	Interactive Art											
				Poster session - 1			Poster session - 2			Reception		
	Industry Exhibition											

### Wednesday, October 25 / Conference Day - 2

	08:00	08:25	09:00	09:30	10:00	10:30	11:00	11:30	12:00	12:30	13:00	
Foyer + Grand Lobby					Coffee					Lunch		
	Registration											
Hahn Auditorium	FF - 3	Keynote Talk - 3 Injong Rhee CTO & EVP, Samsung Electronics, Korea					SIGMM Award Session					
Boole							Doctoral symposium					
Lovelace							ACM TOMM Meeting					
Hopper							IEEE Computer Society Meeting					
Grand Hall	Interactive Art											
	Industry Exhibition											

	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30	19:00-22:00
				Coffee								
	Registration											
FF - 4	Keynote Talk - 4 Edward Y. Chang President, HTC, Taiwan					Understanding - 2		Panel - 2				
				System - 2		Engagement - 2						
				Experience - 2		Open source software competition						
	Interactive Art											
				Poster sessions - 3 & 4						Buffet Dinner		
	Demo session + Video Program +Makers' Program											
	Industry Exhibition											

# Schedule

## ACM Multimedia 2017

### Thursday, October 26 / Conference Day - 3

	08:00	08:25	09:00	09:30	10:00	10:30	11:00	11:30	12:00	12:30	13:00	
Foyer + Grand Lobby					Coffee				Lunch			
	Registration											
Hahn Auditorium	FF - 5		Keynote Talk - Scott Silver VP, Google, USA		Understanding - 3			SIGMM Business Lunch				
Boole												
Lovelace					Novel - 1							
Hopper												
Grand Hall	Interactive Art											
	Industry Exhibition											

	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30	
				Coffee								
	Registration											
Hahn Auditorium	FF - 6		Keynote Talk - 6 Danny Lange VP, Unity Technologies, USA		Understanding - 4			Understanding - 5				
Boole					Brave New Ideas			Novel - 2				
Lovelace					Grand Challenge			Grand Challenge				
Hopper					MM17 to MM18 Transition Meeting							
Grand Hall	Interactive Art											
					Poster session - 5				Poster session - 6			
	Industry Exhibition											

### Friday, October 27 / Workshop Day - 2

	08:00	08:25	09:00	09:30	10:00	10:30	11:00	11:30	12:00	12:30	13:00	
Foyer + Grand Lobby					Coffee				Lunch			
	Registration											
Hahn Auditorium					Thematic Workshop Pitches - II		Tutorial - 4: Deep reinforce learning with applications in computer games					
Boole					AltMM		AltMM					
Lovelace					MUSA		MUSA					
Hopper					MultiEdTech		MultiEdTech					
Grand Hall	Poster session											

	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30	
				Coffee								
	Registration											
Hahn Auditorium					Tutorial - 5: Deep learning/CNN models		Tutorial - 6: Medical Multimedia Information Systems					
Boole					RFIW		RFIW					
Lovelace					LSVC		LSVC					
Hopper					MuVer		MuVer					
Grand Hall	Poster session											



# ACM Multimedia

## 2017 Conference Organization

- General Chairs:** Qiong Liu (*FXPAL, USA*), Rainer Lienhart (*Universität Augsburg, Germany*), Haohong Wang (*TCL America, USA*)
- Honorary Chair:** J.J. Garcia-Luna-Aceves (*PARC, USA*)
- Program Chairs:** Sheng-Wei “Kuan-Ta” Chen (*Academia Sinica, Taiwan*), Susanne Boll (*University of Oldenburg, Germany*), Phoebe Chen (*La Trobe University, Australia*), Gerald Friedland (*Lawrence Livermore National Lab, USA*), Jia Li (*Google, USA*), Shuicheng Yan (*Qihoo 360, China*)
- Best Paper Committee Chair:** Zhengyou Zhang (*Microsoft, USA*)
- Brave New Idea Chairs:** Lynn Wilcox (*FXPAL, USA*), Jie Yang (*NSF, USA*)
- Workshop Chairs:** Roger Zimmermann (*National University of Singapore, Singapore*), Wanmin Wu (*Google, USA*), Jianchao Yang (*Snap, USA*), Qi Tian (*University of Texas at San Antonio, USA*)
- Tutorial Chairs:** Vivek Singh (*Rutgers University, USA*), Junfeng He (*Google Research, USA*), Ramesh Jain (*UC Irvine, USA*)
- Proceedings Chairs:** Hayley Hung (*Delft University of Technology, Netherlands*), Shuang Yang (*Alibaba Group, USA*)
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- Open Source Chairs:** Lei Zhang (*Microsoft, USA*), Zhu Li (*University of Missouri, USA*)
- Panels Chairs:** Thomas Plagemann (*University of Oslo, Norwegian*), Wenwu Zhu (*Tsinghua University, China*)
- Grand Challenge Chair:** Ketan Mayer-Patel (*University of North Carolina, USA*)
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- Fast Forward Program Chair:** Xin Yang (*Huazhong University of Science and Technology*)
- Business Idea Venture Chairs:** Tat-Seng Chua (*National University of Singapore, Singapore*), Shipeng Li (*Cogobuy Group, China*)
- Interactive Arts Chairs:** Don Kimber (*FXPAL, USA*), Weidong Yang (*Kineviz, USA*), Alberto Del Bimbo (*University of Firenze, Italy*)
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- Program Chairs:** Igor Kozintsev (*Magic Leap, USA*), Bjoern Hartmann (*UC Berkeley, USA*)
- History Preservation Chairs:** Michael Lew (*LIACS, Netherlands*), Meng Wang (*Hefei University of Technology, China*)
- SIGMM Chair:** Alan Smeaton (*Dublin City University, Ireland*)
- SIGMM Conference Director:** Gerald Friedland (*LLNL, USA*)

# ACM Multimedia

## 2017 Program Committee

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Sourav Bhattacharya	Anthony Chen	Francesca D'Errico	Huazhu Fu	Tal Hassner	Atsushi Imiya

# ACM Multimedia

## 2017 Program Committee (con't)

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Jack Jansen	Janis Keuper	Xuelong Li	Mathias Lux	Jayanta Mukherjee	Yuxin Peng
Herve Jegou	Mohammadreza Khalilbeigi	Yuncheng Li	Henning Müller	Henning Müller	Michal Perdoch
Rongrong Ji	Sheheryar Khan	Zechao Li	Zhigang Ma	Henning Müller	Dilruk Perera
Jia Jia	Ewa Kijak	Fei Fei Li	Will Maddern	Niall Murray	Paolo Petta
Lu Jiang	Gunhee Kim	Li-Jia Li	Joao Magalhaes	Mirco Musclesi	Julien Pinquier
Meng Jiang	Jinman Kim	Mark Liao	Marwa Mahomoud	Frank Nack	Alessandro Piva
Shuqiang Jiang	Akisato Kimura	Joo-Hwee Lim	Mike Mahoney	Klara Nahrstedt	Doug Poland
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Zequn Jie	Hartmut Koenitz	Yuanqing Lin	Fotini Markatopoulou	Heiko Neumann	Mu Qiao
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Liping Jing	Joke Kort	Anan Liu	Masoud Mazloom	Thi Ngoc Tram Nguyen	Alexander Raake
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Dhiraj Joshi	Iaroslav Kryvyi	Qingshan Liu	Tao Mei	Naoko Nitta	Federico Raue
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Ragavan Kalatharan	Gauthier Lafruit	Xueliang Liu	Bernard Merialdo	Neil O'Hare	Judith Redi
Ton Kalker	Shang-Hong Lai	Yong Liu	Michele Merler	Nuria Oliver	Slobodan Ribaric
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# ACM Multimedia

## 2017 Program Committee (con't)

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Darshan Santani	Ronan Sicre	Marko Tkalcic	Xialong Wang	Xinxing Xu	Lei Zhang
Nabil Sarhan	Behjat Siddiquie	David Tolley	Xiangyu Wang	Zhongwen Xu	Cha Zhang
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Klaus Schoeffmann	Vivek K. Singh	Akihiko Torii	Xinchao Wang	Dong Xu	Liyan Zhang
Peter Schelkens	Pinaki Sinha	Remi Trichet	Yao Wang	Toshihiko Yamasaki	Mengmi Zhang
Stefan Scherer	Satyam Sinha	Raphaël Troncy	Zhangyang Wang	Hong Yan	Tianzhu Zhang
Gregor Schiele	Mats Sjöberg	Khiet P. Truong	Zhi Wang	Yan Yan	Yong-Dong Zhang
Rossano Schifanella	Anton Slesarev	Chun-Yu Tsai	Zhiyong Wang	Zhicheng Yan	Fang Zhao
Klaus Schoeffmann	Alan F. Smeaton	Theodora Tsirikka	Zilei Wang	Shuicheng Yan	Xuefei Zhe
Johannes Schoening	John Smith	Christos Tzelepis	Xiaolong Wang	Keiji Yanai	Liang Zheng
Klaus Schöffmann	Cees Snoek	Rosario Uceda-Sosa	James Wang	Fan Yang	Shuai Zheng
Marco Schreyer	Mohammad Soleymani	Jasper Uijlings	Sheng Wei	Linjie Yang	Jun Zhou
Björn Schuller	Jingkuan Song	Tiberio Uricchio	Shikui Wei	Xiaoshan Yang	Wengang Zhou
Christian Schulze	Eleftherios Spyromitros-Xioufis	Thierry Urruty	Xiao-Yong Wei	Yang Yang	Xiangdong Zhou
Friedhelm Schwenker	Eckehard Steinbach	Michel Valstar	Hongkai Wen	Yi-Hsuan Yang	Linchao Zhu
Cristina Segalin	Thomas Steiner	Jagannadan Varadarajan	Yonggang Wen	Jianchao Yang	Wenwu Zhu
Hartmut Seichter	Ralf Steinmetz	David Vazquez	Cedric Westphal	Shuang Yang	Tao Zhuo
Debashis Sen	Håkom Stensland	Eduard Veas	Maarten Wijnants	Yi Yang	Jürgen Ziegler
Giuseppe Serra	Ramanathan Subramanian	Remco Veltkamp	Yongkang Wong	Li Yao	Roger Zimmermann
Vidhyasaharan Sethu	Chen Sun	Subramanyam Venkata	Marcel Worring	Naresh Yarlapati	Michael Zink
Rajiv Ratn Shah	Vishy Swaminathan	Nalini Venkatasubramanian	Di Wu	Guangnan Ye	Stefanie Zollmann
Caifeng Shan	Nicolas Szilas	Jonathan Ventura	Fei Wu	Yifang Yin	Goranka Zoric
Ling Shao	Bayan Taani	Chi Thanh Vi	Hui Wu	Quanzeng You	
Heng Tao Shen	Masahiro Takatsuka	Allesandro Vinciarelli	Jun Wu	Jun Yu	

# Workshop & Tutorial Summaries

Monday, Oct 23

## 09:00 AM - 10:30 Thematic Workshop Pitches – I (Hahn)

- 1. An evaluation of large-scale methods for image instance and class discovery**  
Matthijs Douze (Facebook AI Research); Jeff Johnson (Facebook AI Research);  
Hervé Jégou (Facebook AI Research)
- 2. Towards a Tangible Storytelling Kit for Exploring Emotions with Children**  
Torben Wallbaum (OFFIS - Institute for Information Technology); Swamy Ananthanarayan  
(University Oldenburg); Shadan Sadeghian (OFFIS - Institute for Information Technology);  
Wilko Heuten (OFFIS); Susanne Boll (University Oldenburg)
- 3. Intelligent Portrait Composition Assistance – Integrating Deep-learned Models  
and Photography Idea Retrieval**  
Farshid Farhat (The Pennsylvania State University); Mohammad Mahdi Kamani  
(The Pennsylvania State University); Sahil Mishra (The Pennsylvania State University);  
James Z. Wang (The Pennsylvania State University)
- 4. Beyond Saliency: Assessing Visual Balance with High-level Cues**  
Baris Kandemir (The Pennsylvania State University); Zihan Zhou (The Pennsylvania  
State University); Jia Li (The Pennsylvania State University); James Wang (The Pennsylvania  
State University)
- 5. Multispectral Object Detection for Autonomous Vehicles**  
Takumi Karasawa (The University of Tokyo); Kohei Watanabe (The University of Tokyo);  
Qishen Ha (The University of Tokyo); Antonio Tejero-De-Pablos (The University of Tokyo);  
Yoshitaka Ushiku (The University of Tokyo); Tatsuya Harada (The University of Tokyo)
- 6. Aggregated Deep Activation Clusters for Particular Object Retrieval**  
Zhenfang Chen (The university of Hongkong); Zhanghui Kuang (SenseTime Group Limited);  
Kwan-Yee K. Wong (The University of Hongkong); Wei Zhang (SenseTime Group Limited)
- 7. Local Deep Descriptors in Bag-of-Words for Image Retrieval**  
Xiaoling Gu (Zhejiang Univeristy); Yongkang Wong (National University of Singapore); Pai  
Peng (Tencent company); Lidan Shou (Zhejiang University); Gang Chen (Zhejiang University);  
Mohan S. Kankanhalli (National University of Singapore)
- 8. Beyond Sum and Weighted Aggregation: An Efficient Mixed Aggregation Method  
with Multiple Weights for Image Search**  
Shanmin Pang (School of Software Xi'an Jiaotong University); Wei Zhang (School of Software  
Xi'an Jiaotong University); Li Zhu (School of Software Xi'an Jiaotong University); Jihua Zhu  
(School of Software Xi'an Jiaotong University); Jianru Xue (Institute of Artificial Intelligence  
and Robotics Xi'an Jiaotong University)
- 9. Detecting culture-specific tags for news videos through multimodal embedding**  
Chun-Yu Tsai (Columbia University); John R. Kender (Columbia University)
- 10. Hybrid Indexes for Spatial-Visual Search**  
Abdullah Alfarrarjeh (University of Southern California); Cyrus Shahabi (University of Southern  
California); Seon Ho Kim (University of Southern California)
- 11. Unsupervised Triplet Hashing for Fast Image Retrieval**  
Shanshan Huang (Shanghai Jiao Tong University); Yichao Xiong (Shanghai Jiao Tong University);  
Ya Zhang (Shanghai Jiao Tong University); Jia Wang (Shanghai Jiao Tong University)

- 12. Relational Variational Autoencoder for Link Prediction with Multimedia Data**  
Xiaopeng Li (The Hong Kong University of Science and Technology); James She  
(The Hong Kong University of Science and Technology)
- 13. First Mile in Crowdsourced Live Streaming: A Content Harvest Network Approach**  
Haitian Pang (Tsinghua University); Zhi Wang (Tsinghua University Graduate School at  
Shenzhen); Chen Yan (Tsinghua University); Qinghua Ding (Tsinghua University); Lifeng Sun  
(Tsinghua University)
- 14. Efficient communications in training large scale neural networks**  
Yiyang Zhao (UESTC); Linnan Wang (UESTC); Wei Wu (UTK); George Bosilca (UTK); Wenqi  
Tang (UESTC); Zenglin Xu (UESTC)
- 15. Augmenting Cognitive Processes and Behavior of Intelligent Virtual Agents by  
Synthetic Perception**  
Sven Seele (Institute of Visual Computing Bonn-Rhein-Sieg University of Applied Sciences);  
Tobias Haubrich (Institute of Visual Computing Bonn-Rhein-Sieg University of Applied  
Sciences); Rainer Herpers (Institute of Visual Computing Bonn-Rhein-Sieg University of Applied  
Sciences); Marcin Grzegorzec (Research Group for Pattern Recognition University of Siegen);  
Jonas Schild (Institute of Visual Computing Bonn-Rhein-Sieg University of Applied Sciences)
- 16. Mobile Multispectral Video Streaming**  
Linsen Chen (Nanjing University); Cc Dong (Nanjing University); Du Chen (Nanjing University);  
Han Li (Nanjing University); Yuanyuan Zhao (Nanjing University); Xun Cao (Nanjing University);  
Zhan Ma (Nanjing University)
- 17. Impact of three-dimensional video scalability on multi-view activity recognition  
using deep learning**  
Jun-Ho Choi (Yonsei University); Manri Cheon (Yonsei University); Min-Su Choi (Yonsei  
University); Jong-Seok Lee (Yonsei University)
- 18. CloudHide: Towards the Latency Hiding Techniques for Thin-client Cloud Games**  
Dr. Bhojan Anand (National University of Singapore); Pan Wenren  
(National University of Singapore)
- 19. Mobile Instant Video Sharing: Does More Information Help?**  
Jan Willem Kleinrouweler (Centrum Wiskunde & Informatica); Fabijan Bajo (Centrum  
Wiskunde & Informatica); Britta Meixner (Centrum Wiskunde & Informatica); Sergio Cabrero  
(Centrum Wiskunde & Informatica); Pablo Cesar (Centrum Wiskunde & Informatica)
- 20. QoE-fair Adaptive Streaming of Free-viewpoint Videos over LTE Networks**  
Ahmed Hamza (Simon Fraser University); Hamed Ahmadi (Simon Fraser University); Saleh  
Almowuena (Simon Fraser University); Mohamed Hefeeda (Simon Fraser University)
- 21. Adaptive Multicast Streaming of Virtual Reality Content to Mobile Users**  
Hamed Ahmadi (Simon Fraser University); Omar Eltobgy (Simon Fraser University); Mohamed  
Hefeeda (Simon Fraser University)
- 22. Self-Gated Recurrent Neural Networks for Human Activity Recognition  
on Wearable Devices**  
Toan Vu (Department of Computer Science and Information Engineering National Central  
University); An Dang (Department of Computer Science and Information Engineering  
National Central University); Le Dung (School of Electronics and Telecommunications Hanoi  
University of Science and Technology); Jia-Ching Wang (Department of Computer Science  
and Information Engineering National Central University)
- 23. SeeNav: Seamless and Energy-Efficient Indoor Navigation using Augmented Reality**  
Marius Noreikis (Aalto); Yu Xiao (Aalto); Antti Ylä-Jääski (Aalto)

- 24. CloudAR: A Cloud-based Framework for Mobile Augmented Reality**  
Wenxiao Zhang (The Hong Kong University of Science and Technology); Sikun Lin (The Hong Kong University of Science and Technology); Farshid Hassani Bijarbooneh (The Hong Kong University of Science and Technology); Haofei Cheng (University of Minnesota Minneapolis)
- 25. A Stereoscopic Vision System with Delay Compensation for 360° Remote Reality**  
Tamay Aykut (Technical University of Munich); Stefan Lochbrunner (Technical University of Munich); Mojtaba Karimi (Technical University of Munich); Burak Cizmeci (Technical University of Munich); Eckehard Steinbach (Technical University of Munich)
- 26. Recognizing the presence of hidden visual markers in digital images**  
Liming Xu (University of Nottingham Ningbo)
- 27. Generating Virtual Avatars with Personalized Walking Gaits using Commodity Hardware**  
Sahil Narang (University of North Carolina at Chapel Hill); Andrew Best (University of North Carolina at Chapel Hill); Ari Shapiro (Institute for Creative Technologies University of Southern California); Dinesh Manocha (University of North Carolina at Chapel Hill)
- 28. Towards the Security of Motion Detection-based Video Surveillance on IoT Devices**  
Xianglong Feng (University of Nebraska-Lincoln); Mengmei Ye (University of Nebraska-Lincoln); Viswanathan Swaminathan (Adobe Systems Inc.); Sheng Wei (University of Nebraska-Lincoln)
- 29. Multimodal Context-Aware Recommenders for Post Popularity Prediction in Social Media**  
Masoud Mazloom (University of Amsterdam); Bouke Hendriks (University of Amsterdam); Marcel Worring (University of Amsterdam)
- 30. Multimodal Classification of Violent Online Political Extremism Content with Graph Convolutional Networks**  
Stevan Rudinac (University of Amsterdam); Iva Gornishka (University of Amsterdam); Marcel Worring (University of Amsterdam)
- 31. Compressed-domain Video Synopsis via Blank Frame Deletion**  
Shizheng Wang (Nanyang Technological University); Zhigang Tu (Nanyang Technological University); Wenjuan Liao (Nanyang Technological University); Yongzhou Li (Central South University); Rui Zhong (Vrije Universiteit Brussel); Huicai Zhong (Chinese Academy of Sciences Research and Development Center for Internet of Things)
- 32. A Collaborative Representation Approach to Detecting Error-Related Potentials in SSVEP-BCIs**  
Fotis Kalaganis

**09:00 - 18:00 MMHealth 2017: Workshop on Multimedia for Personal Health and Health Care (Boole)**

**09:00 - 10:30 Session 1  
Welcome, Introduction**

- 09:15 Keynote**  
Prof. Alan F. Smeaton (Dublin City University, Ireland) Insight Centre for Data Analytics  
Dublin City University Insights from Data Analytics Into Our Personal Sensor Data
- 10:10 Paper Presentations 1: Cross-Topic Issues**  
Research Challenges of Emerging Technologies Supporting Life-Long Health and Wellbeing (*Jochen Meyer and Parisa Eslambolchilar*)

**11:00-12:30 Session 2 – Paper Presentations 2: Data Analytics**

- 11:00 Combining the benefits of CCA and SVMs for SSVEP-based BCIs in real-world conditions**  
(Elisavet Chatzilaris, Georgios Liaros, Kostas Georgiadis, Spiros Nikolopoulos and Yiannis Kompatsiaris)
- 11:20 Empirical Mode Decomposition of Throat Microphone Recordings for Intake Classification**  
(Mehmet Ali Tugtekin Turan and Engin Erzin)
- 11:40 Wearable Emotion Recognition System based on GSR and PPG Signals**  
(Goran Udovičić, Jurica Đerek, Mladen Russo and Marjan Sikora)
- 12:00 Denoising of Joint Tracking Data by Kinect Sensors using clustered Gaussian Process Regression**  
(An-Ti Chiang and Yao Wang)
- 12:20 Discussion**
- 14:00 - 16:00 Session 3 – Paper Presentations 3: Systems and Applications**
- 14:00 Artificial Intelligence in XPRIZE DeepQ Tricorder**  
(Edward Chang, Meng-Hsi Wu, Kai-Fu Tang, Hao-Cheng Kao and Chun-Nan Chou)
- 14:20 Live Personalized Nutrition Recommendation Engine**  
(Nitish Nag, Vaibhav Pandey and Ramesh Jain)
- 14:40 Gamification of Heel Raise Plantarflexion Physiotherapy**  
(Jeannie Lee, Darren Goh and Alfred Tan)
- 15:00 Discussion**
- 15:10 Poster and Demo Presentations (Grand Hall)**
- **DeepQ Arrhythmia Database: A Large-Scale Dataset for Arrhythmia Detector Evaluation**  
(Meng-Hsi Wu and Edward Chang)
  - **Toward Personalized Treatment of Chronic Diseases - the CKD Case Study**  
(Chih-Yang Chen, Chun-Nan Chou and I-Wen Wu)
  - **Elderly Living Alone: Detecting Home Visits with Ambient and Wearable Sensing**  
(Rui Hu, Hieu Pham, Philipp Buluscheck and Daniel Gatica-Perez)
  - **Few-shot Learning Using a Small-Sized Dataset of High-Resolution FUNDUS Images for Glaucoma Diagnosis**  
(Mijung Kim, Jasper Zuallaert and Wesley De Neve)
  - **Managing Family Healthcare with Multimedia Chat Apps: A Survey on What is Missing**  
(Britta Meixner, Matthew Lee and Scott Carter)
  - **Exploring Challenges in Automated Just-In-Time Adaptive Food Choice Interventions**  
(Nađa Terzimehić, Christina Schneegass and Heinrich Hussmann)
  - **MedFit: a Mobile Application for Recovering CVD Patients**  
(Jogile Kuklyte, Leonardo Gualano, Ghanashyama Prabhu, Kaushik Venkataraman, Deirdre Walsh, Catherine Woods, Kieran Moran and Noel E. O'Connor)
- 16:30 - 18:00 Session 4**
- 16:30 - 17:30 Poster and demo session**
- 17:30 - 18:00 Wrap-up, closing**

- 09:00 - 18:00 AVEC 2017 – Real-life Depression and Affect Challenge and Workshop** (*Lovelace*)
- Session 0 – Keynote Chair: Fabien Ringeval**
- 09:00 - 10:00 AVEC'17 Keynote Talk – Body Language Without Body: Social Signals in Technology Mediated Communication**  
Alessandro Vinciarelli
- Session 1 – Introduction Chair: Alessandro Vinciarelli**
- 10:00 - 10:30 Challenge Introduction: AVEC 2017 – Real-life Depression, and Affect Recognition Workshop and Challenge**  
Fabien Ringeval, Björn Schuller, Michel Valstar, Jonathan Gratch, Roddy Cowie, Stefan Scherer, Sharon Mozgai, Nicholas Cummins, Maximilian Schmitt, Maja Pantic
- Session 2 – AVEC 2017 Part 1 Chair: Yue Zhang**
- 11:00 - 11:25 Continuous Multimodal Emotion Prediction Based on Long Short Term Memory Recurrent Neural Network**  
(Jian Huang, Ya Li, Jianhua Tao, Zheng Lian, Zhengqi Wen, Minghao Yang and Jiangyan Yi)
- 11:25 - 11:50 Multimodal Multi-task Learning for Dimensional and Continuous Emotion Recognition**  
(Shizhe Chen, Qin Jin, Jinming Zhao and Shuai Wang)
- 11:50 - 12:15 Investigating Word Affect Features and Fusion of Probabilistic Predictions Incorporating Uncertainty in AVEC 2017**  
(Ting Dang, Brian Stasak, Zhaocheng Huang, Sadari Jayawardena, Mia Atcheson, Munawar Hayat, Phu Le, Vidhyasaharan Sethu, Roland Goecke and Julien Epps)
- Session 3 – AVEC 2017 Part 2 Chair: Fabien Ringeval**
- 14:00 - 14:25 Depression Severity Prediction Based on Biomarkers of Psychomotor Retardation**  
(Zafi Sherhan Syed, Kirill Sidorov and David Marshall)
- 14:25 - 14:50 Hybrid Depression Classification and Estimation from Audio Video and Text Information**  
(Le Yang, Hichem Sahli, Xiaohan Xia, Ercheng Pei, Meshia Cédric Oveneke and Dongmei Jiang)
- 14:50 - 15:15 Multimodal Measurement of Depression Using Deep Learning Models**  
(Le Yang, Dongmei Jiang, Xiaohan Xia, Ercheng Pei, Meshia Cédric Oveneke and Hichem Sahli)
- 15:15 - 15:40 A Random Forest Regression Method With Selected-Text Feature For Depression Assessment**  
(Bo Sun, Yinghui Zhang and Jun He)
- 15:40 - 16:05 Topic Modeling Based Multi-modal Depression Detection**  
(Yuan Gong and Christian Poellabauer)
- 16:05 - 16:15 Challenge Results**
- Session 4 – Panel Session Chairs: Yue Zhang, Fabien Ringeval**
- 17:00 - 17:30 Panel Session**

- 09:00 - 12:30 South African ACM MultiMedia Workshop 2017 SAWACMMM'17 – Supported by SIGMM** (*Hopper*)
- 09:00 - 10:00 Session 1: Machine Learning and Applications (A)**  
Session Chair: Riaan Wolhuter (Stellenbosch University, the SA Council for Scientific and Industrial Research (CSIR))
- 09:00 - 09:20 Welcome Address: Overview of South African research activities in probabilistic multimedia and communications applications**  
Prof Johan du Preez (Stellenbosch University, the SA Council for Scientific and Industrial Research (CSIR))
- 09:20 - 09:40 Paper 1: An empirical study of Gaussian belief propagation and application in the detection of F-formations**  
Francois Kamper (Stellenbosch University, the SA Council for Scientific and Industrial Research (CSIR))
- 09:40 - 10:00 Socially Aware CSMA/CA MAC Protocol**  
WSR Pretorius (Stellenbosch University, the SA Council for Scientific and Industrial Research (CSIR)); JA du Preez (Stellenbosch University, the SA Council for Scientific and Industrial Research (CSIR)); R Wolhuter (Stellenbosch University, the SA Council for Scientific and Industrial Research (CSIR))
- 10:30 - 12:45 Session 2: Machine Learning and Applications (B)**  
Session Chair: Johan du Preez (Stellenbosch University, the SA Council for Scientific and Industrial Research (CSIR))
- 10:30 - 10:50 Paper 3: An Overview of On-animal Behaviour classification for Rhino**  
SP le Roux (Stellenbosch University, the SA Council for Scientific and Industrial Research (CSIR)); TR Niesler (Stellenbosch University, the SA Council for Scientific and Industrial Research (CSIR)); R Wolhuter (Stellenbosch University, the SA Council for Scientific and Industrial Research (CSIR))
- 10:50 - 11:10 Paper 4: Leveraging Gaussian process approximations for rapid image overlay production**  
Michael Burke (Stellenbosch University, the SA Council for Scientific and Industrial Research (CSIR))
- 11:10 - 11:30 Paper 5: Graph Coloring: Comparing Cluster Graphs to Factor Graphs**  
SF Streicher (Stellenbosch University, the SA Council for Scientific and Industrial Research (CSIR)); JA du Preez (Stellenbosch University, the SA Council for Scientific and Industrial Research (CSIR))
- 11:30 - 11:50 Paper 6: (Provisional) An Innovative Saliency Detection Framework with an Example of Image Montage**  
Chunbiao Zhu (School of Electronic and Computer Engineering, Shenzhen Graduate School Peking University, Stellenbosch University, the SA Council for Scientific and Industrial Research (CSIR))
- 11:50 - 12:45 Session 3: Building an ACM Multimedia Community in South Africa: Opportunities and Challenges**  
Session Chair: Vincent Oria (Stellenbosch University, the SA Council for Scientific and Industrial Research (CSIR))
- 14:00 - 16:00 Afternoon: Discussions and personal contact**

- 14:00 - 18:00** **LTA 2017: The Second Workshop on Lifelogging Tools and Applications** (*Hopper*)
- 14:00 - 14:10** **Welcome & Introduction**  
LTA 2017 Organising Committee
- 14:10 - 15:00** **Keynote**  
LIAM - A Lifelog-driven Life Management System. Tahl Milburn - CEO LifeState.io
- 15:00 - 15:40** **Full Papers**  
Semantic Summarization of Egocentric Photo Stream Events. Aniol Lidon (Universitat Politècnica de Catalunya); Marc Bolaños (Universitat de Barcelona); Mariella Dimiccoli (Universitat de Barcelona); Petia Radeva (Universitat de Barcelona); Maite Garolera (Consorci Sanitari de Terrassa); Xavier Giro-I-Nieto (Universitat Politècnica de Catalunya)
- Are conversation logs useful sources for generating memory cues for recalling past memories?**  
Seyed Ali Bahrainian (University of Lugano - USI); Fabio Crestani (University of Lugano - USI).
- 15:40 - 16:00** **Short Papers: A Baseline Search Engine for Personal Life Archives**  
Liting Zhou (Insight Centre for Data Analytics at Dublin City University); Duc-Tien Dang-Nguyen (Insight Centre for Data Analytics at Dublin City University); Cathal Gurrin (Insight Centre for Data Analytics at Dublin City University)
- Big Five Personality Measurement Based On Lifelogs**  
Yewen Wang, Min Zhang, Pouneh Soleimaninejadian, Haoyue Tong and Zehui Feng Yewen Wang (Tsinghua University); Min Zhang (Tsinghua University); Pouneh Soleimaninejadian (Tsinghua University); Haoyue Tong (Tsinghua University); Zehui Feng (Tsinghua University).
- Pilot Study to Investigate Feasibility of Visual Lifelog Exploration in Virtual Reality**  
Aaron Duane (Insight Centre for Data Analytics at Dublin City University); Cathal Gurrin (Insight Centre for Data Analytics at Dublin City University)
- 16:30 - 17:20** **Poster Session** All five papers will present posters.
- 17:20 - 17:50** **Panel**  
A short panel discussion will be chaired by Cathal Gurrin and include three leaders in the field of lifelogging
- 17:50 - 18:00** **Closing remarks**  
Closing remarks by the organizers and suggestions for how to organizers LTA2018.

## Tutorials

### Monday, Oct 23

- Tutorial 1**  
**11:00 - 12:30** **Human-like Visual Learning and Reasoning** (*Hahn*)  
Peng Cui (Tsinghua University); Wenwu Zhu (Tsinghua University)
- Tutorial 2**  
**14:00 - 15:30** **Social Multimedia Sentiment Analysis** (*Hahn*)  
Jiebo Luo (University of Rochester); Damian Borth (DFKI); Quanzeng You (University of Rochester)
- Tutorial 3**  
**16:00 - 18:00** **Deep Learning for Intelligent Video Analysis** (*Hahn*)  
Ting Yao (Microsoft Research); Tao Mei (Microsoft Research); Cha Zhang (Microsoft AI & Research)



# Main Conference Day 1

Tuesday, Oct 24

08:25 - 08:40 **Opening Note** (*Hahn*)

08:40 - 09:00 **Fast Forward 1** (*Hahn, Chair: Chidansh Bhatt, FXPAL*)

15:00 - 16:30 **Poster Session 1** (*Grand Hall, Chair: Chidansh Bhatt*)

## Attention Transfer from Web Images for Video Recognition

Junnan Li (National University of Singapore); Yongkang Wong (National University of Singapore); Qi Zhao (University of Minnesota); Mohan Kankanhalli (National University of Singapore)

## SketchParse: Towards Rich Descriptions for Poorly Drawn Sketches using Multi-Task Hierarchical Deep Networks

Ravi Kiran Sarvadevabhatla (Indian Institute of Science); Isht Dwivedi (Indian Institute of Science); Abhijat Biswas (Indian Institute of Science); Sahil Manocha (Indian Institute of Technology, Hyderabad); Venkatesh Babu R. (Indian Institute of Science)

## Place-centric Visual Urban Perception with Deep Multi-instance Regression

Xiaobai Liu (San Diego State University); Qi Chen (San Diego State University); Yuanlu Xu (University of California, Los Angeles); Lei Zhu (University of Queensland); Xuming He (ShanghaiTech University)

## Future-Supervised Retrieval of Unseen Queries for Live Video

Spencer Cappallo (University of Amsterdam); Cees Snoek (University of Amsterdam)

## Learning to Compose with Professional Photographs on the Web

Yi-Ling Chen (University of California, Davis); Jan Klopp (National Taiwan University); Min Sun (National Tsing Hua University); Shao-Yi Chien (National Taiwan University); Kwan-Liu Ma (University of California, Davis)

## StructCap: Structured Semantic Embedding for Image Captioning

Fuhai Chen (Xiamen University); Rongrong Ji (Xiamen University); Jinsong Su (Xiamen University); Yongjian Wu (Tencent YouTu Lab); Yunsheng Wu (Tencent YouTu Lab)

## Is Foveated Rendering Perceivable in Virtual Reality? Exploring the Efficiency and Consistency of Quality Assessment Methods

Chih-Fan Hsu (Academia Sinica); Anthony Chen (Institute of Information Science, Academia Sinica); Cheng-Hsin Hsu (Department of Computer Science, National Tsing Hua University); Chun-Ying Huang (Department of Computer Science, National Chiao Tung University); Chin-Laung Lei (Department of Electrical Engineering, National Taiwan University); Kuan-Ta Chen (Institute of Information Science, Academia Sinica)

## FaceCollage: A Rapidly Deployable System for Real-time Head Reconstruction for On-The-Go 3D Telepresence

Fuwen Tan (University of Virginia); Chi-Wing Fu (the Chinese University of Hong Kong); Jianfei Cai (Nanyang Technological University); Teng Deng (Nanyang Technological University); Tat-Jen Cham (Nanyang Technological University)

## LiveJack: Integrating CDNs and Edge Clouds for Live Content Broadcasting

Bo Yan (New York University); Shu Shi (AT&T Labs Research); Yong Liu (New York University); Weizhe Yuan (New York University); Haoqin He (New York University); Rittwik Jana (AT&T Labs Research); Yang Xu (New York University); H. Jonathan Chao (New York University)

## Face Aging with Contextual Generative Adversarial Nets

Si Liu (Chinese Academy of Science); Yao Sun (Chinese Academy of Science); Wei Wang (University of Trento); Renda Bao (Chinese Academy of Science); Defa Zhu (Chinese Academy of Science); Shuicheng Yan (360 Artificial Intelligence Institute)

## Fashion World Map: Understanding Cities Through Streetwear Fashion

Yu-Ting Chang (Academia Sinica); Wen-Huang Cheng (Academia Sinica); Bo Wu (China University of Chinese Academy of Sciences, China); Kai-Lung Hua (CSIE, National Taiwan University of Science and Technology, Taiwan)

## Automatic Adjustment of Stereoscopic Content for Long-Range Projections in Outdoor Areas

Behnam Maneshgar (Concordia University); Leila Sujir (Concordia University); Sudhir Mudur (Concordia University); Charalambos Poullis (Concordia University)

## Multiview and Multimodal Pervasive Indoor Localization

Zhenguang Liu (National University of Singapore); Li Cheng (Agency for Science Technology and Research); Anan Liu (Tianjin University); Luming Zhang (Hefei University of Technology); Xiangnan He (National University of Singapore); Roger Zimmermann (National University of Singapore)

## Searching Personal Photos on the Phone with Instant Visual Query Suggestion and Joint Text-Image Hashing

Zhaoyang Zeng (SUN YAT-SEN UNIVERSITY); Jianlong Fu (Microsoft Research); Hongyang Chao (Sun Yat-Sen University); Tao Mei (Microsoft Research)

## A Unified Personalized Video Recommendation via Dynamic Recurrent Neural Networks

Junyu Gao (Institute of Automation, Chinese Academy of Sciences); Tianzhu Zhang (Institute of Automation, Chinese Academy of Sciences); Changsheng Xu (Institute of Automation, Chinese Academy of Sciences)

09:00 - 10:00 **Keynote Address 1** (*Hahn, Chair: Qiong Liu, FXPAL*)

## Enhancing and Augmenting Human Perception with Artificial Intelligence

(Achin Bhowmik: CTO & EVP, Starkey, USA)

10:30 - 12:00 **Best Paper Presentation** (*Hahn, Chair: Zhengyou Zhang, Microsoft*)

## H-TIME: Haptic-enabled Tele-Immersive Musculoskeletal Examination

Yuan Tian (University of Texas at Dallas); Suraj Raghuraman (University of Texas at Dallas); Thiru Annaswamy (Dallas VA Medical Center); Aleksander Borresen (UT Southwestern Medical School); Klara Nahrstedt (University of Illinois at Urbana-Champaign); Balakrishnan Prabhakaran (University of Texas at Dallas)

## Catching the Temporal Regions-of-Interest for Video Captioning

Ziwei Yang (Tianjin University); Yahong Han (Tianjin University); Zheng Wang (Tianjin University)

## Adversarial Cross-Modal Retrieval

Bokun Wang (University of Electronic Science and Technology of China); Yang Yang (University of Electronic Science and Technology of China); Xing Xu (University of Electronic Science and Technology of China); Alan Hanjalic (Delft University of Technology); Heng Tao Shen (University of Electronic Science and Technology of China)

## Deep Low-rank Sparse Collective Factorization for Cross-Domain Recommendation

Shuhui Jiang (Northeastern University); Zhengming Ding (Northeastern University); Yun Fu (Northeastern University)

**12:00 - 13:30 The Women/Diversity in MM Lunch at ACM MULTIMEDIA 2017**  
(Hahn)

**Coordinators:** Alan Smeaton (Dublin City University)  
and Lexing Xie (Australian National University)  
**Speakers:** Katherine Breeden (Harvey Mudd College)  
and Prof Noel O'Connor (Dublin City University)

**13:30 - 14:00 Fast Forward 2** (Hahn, Chair: Chidansh Bhatt, FXPAL)

**16:30 - 18:00 Poster Session 2** (Grand Hall, Chair: Chidansh Bhatt)

**Unconstrained Fashion Landmark Detection via Hierarchical Recurrent Transformer Networks**

Sijie Yan (The Chinese University of Hong Kong); Ziwei Liu (The Chinese University of Hong Kong); Ping Luo (The Chinese University of Hong Kong); Xiaogang Wang (The Chinese University of Hong Kong); Xiaoou Tang (The Chinese University of Hong Kong)

**Deep Attribute-preserving Metric Learning for Natural Language Object Retrieval**

Jianan Li (Beijing Institute of Technology); Yunchao Wei (National University of Singapore); Xiaodan Liang (Carnegie Mellon University); Fang Zhao (National University of Singapore); Jianshu Li (National University of Singapore); Tingfa Xu (Beijing Institute of Technology); Jiashi Feng (National University of Singapore)

**Understanding Fashion Trends from Street Photos via Neighbor-Constrained Embedding Learning**

Xiaoling Gu (Zhejiang University); Yongkang Wong (National University of Singapore); Pai Peng (Tencent company); Lidan Shou (Zhejiang University); Gang Chen (Zhejiang University); Mohan S. Kankanhalli (National University of Singapore)

**Skeleton-Aided Articulated Motion Generation**

Yichao Yan (Shanghai Jiao Tong University); Jingwei Xu (Shanghai Jiao Tong University); Bingbing Ni (Shanghai Jiao Tong University); Wendong Zhang (Shanghai Jiao Tong University); Xiaokang Yang (Shanghai Jiao Tong University)

**Deep Progressive Hashing for Image Retrieval**

Jiale Bai (Shanghai Jiao Tong University); Bingbing Ni (Shanghai Jiao Tong University); Minsi Wang (Shanghai Jiao Tong University); Hanjiang Lai (Sun Yat-Sen University); Yang Shen (Shanghai Jiao Tong University); Lin Mei (the Third Research Institute of the Ministry of Public Security); Chongyang Zhang (Shanghai Jiao Tong University); Chuanping Hu (the Third Research Institute of the Ministry of Public Security)

**The Role of Visual Attention in Sentiment Prediction**

Shaojing Fan (National University of Singapore); Ming Jiang (University of Minnesota); Zhiqi Shen (National University of Singapore); Bryan Koenig (Washington University in St. Louis); Mohan S. Kankanhalli (National University of Singapore); Qi Zhao (University of Minnesota)

**Robust Visual Object Tracking with Top-down Reasoning**

Mengdan Zhang (National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences); Jiashi Feng (National University of Singapore); Weiming Hu (National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences)

**Pedestrian Path Forecasting in Crowd: A Deep Spatio-Temporal Perspective**

Yuke Li (Wuhan University)

**Stylized Adversarial AutoEncoder for Image Generation**

Yiru Zhao (Shanghai Jiao Tong University); Bing Deng (Alibaba Group); Jianqiang Huang (Alibaba Group); Hongtao Lu (Shanghai Jiao Tong University); Xian-Sheng Hua (Alibaba Group)

**ReGLE: Spatially Regularized Graph Learning for Visual Tracking**

Chenglong Li (Anhui University); Xiaohao Wu (Anhui University); Zhimin Bao (Anhui University); Jin Tang (Anhui University)

**Deep Unsupervised Convolutional Domain Adaptation**

Junbao Zhuo (Key Lab of Intellectual Information Processing(CAS), Institute of Computing Technology, Chinese Academy of Sciences, Beijing, 100190, China); Shuhui Wang (Key Lab of Intellectual Information Processing(CAS), Institute of Computing Technology, Chinese Academy of Sciences, Beijing, 100190, China); Weigang Zhang (Harbin Institute of Technology (Weihai)); Qingming Huang (University of Chinese Academy of Sciences)

**Improving Event Extraction via Multimodal Integration**

Tongtao Zhang (Rensselaer Polytechnic Institute); Spencer Whitehead (Rensselaer Polytechnic Institute); Hanwang Zhang (Columbia University); Hongzhi Li (Microsoft Research); Joseph Ellis (Columbia University); Lifu Huang (Rensselaer Polytechnic Institute); Wei Liu (Tencent Research); Heng Ji (Rensselaer Polytechnic Institute); Shih-Fu Chang (Columbia University)

**A Dual-Network Progressive Approach to Weakly Supervised Object Detection**

Xuanyi Dong (University of Technology Sydney); Deyu Meng (Xi'an Jiaotong University); Fan Ma (Xi'an Jiaotong University); Yi Yang (University of Technology Sydney)

**Multimodal Learning for Web Information Extraction**

Dihong Gong (University of Florida); Daisy Wang (University of Florida); Yang Peng (University of Florida)

**Fast Deep Matting for Portrait Animation on Mobile Phone**

Bingke Zhu (Institute of Automation, Chinese Academy of Sciences); Yingying Chen (Institute of Automation, Chinese Academy of Sciences); Si Liu (Institute of Information Engineering, Chinese Academy of Sciences); Bo Zhang (North China University of Technology); Jinqiao Wang (Institute of Automation, Chinese Academy of Sciences); Ming Tang (Institute of Automation, Chinese Academy of Sciences)

**An HTTP/2-Based Adaptive Streaming Framework for 360° Virtual Reality Videos**

Stefano Petrangeli (Ghent University - imec); Viswanathan Swaminathan (Adobe Systems - Adobe Research); Mohammad Hosseini (University of Illinois at Urbana-Champaign); Filip De Turck (Ghent University - imec)

**360ProbDASH: Improving QoE of 360 Video Streaming Using Tile-based HTTP Adaptive Streaming**

Lan Xie (Peking University); Zhimin Xu (Peking University); Yixuan Ban (Peking University); Xinggong Zhang (Peking University); Zongming Guo (Peking University)

**ShareRender: Bypassing GPU Virtualization to Enable Fine-grained Resource Sharing for Cloud Gaming**

Wei Zhang (Huazhong University of Science and Technology); Xiaofei Liao (Huazhong University of Science and Technology); Hai Jin (Huazhong University of Science and Technology); Peng Li (The University of Aizu); Li Lin (Huazhong University of Science and Technology)

**Temporal Binary Coding for Large-Scale Video Search**

Ke Xia (Beihang Univ.); Yuqing Ma (Beihang Univ.); Xianglong Liu (Beihang Univ.); Yadong Mu (Peking University); Li Liu (Malong Technologies Co., Ltd)

**One-Shot Fine-Grained Instance Retrieval**

Hantao Yao (Institute of Computing Technology (ICT), Chinese Academy of Sciences; University of Chinese Academy of Sciences); Shiliang Zhang (Electronic Engineering and Computer Science, Peking University); Yongdong Zhang (Institute of Computing Technology (ICT), Chinese Academy of Sciences); Jintao Li (Institute of Computing Technology (ICT), Chinese Academy of Sciences); Qi Tian (Computer Science University of Texas at San Antonio)

### **Modeling the Intransitive Pairwise Image Preference from Multiple Angles**

Jun Chen (Tsinghua University); Chaokun Wang (Tsinghua University); Jianmin Wang (Tsinghua University)

### **PD-Survey - Supporting Audience-Centric Research through Surveys on Pervasive Display Networks**

Florian Alt (University of Munich)

### **Learning Visual Emotion Distributions via Multi-Modal Features Fusion**

Sicheng Zhao (Tsinghua University); Guiguang Ding (Tsinghua University); Yue Gao (Tsinghua University); Jungong Han (Northumbria University)

### **Exploiting High-Level Semantics for No-Reference Image Quality Assessment of Realistic Blur Images**

Dingquan Li (Peking University); Tingting Jiang (Peking University); Ming Jiang (Peking University)

### **A Paralinguistic Approach To Speaker Diarisation**

Yue Zhang (Imperial College London); William McGehee (Imperial College London); Maximilian Schmitt (University of Passau); Florian Eyben (audEERING GmbH); Björn Schuller (University of Passau / Imperial College London)

### **Wheel: Accelerating CNNs with Distributed GPUs via Hybrid Parallelism and Alternate Strategy**

Xiaoyu Du (University of Electronic Science and Technology of China); Jinhui Tang (Nanjing University of Science and Technology); Zechao Li (Nanjing University of Science and Technology); Zhiguang Qin (University of Electronic Science and Technology of China)

### **A Delicious Recipe Analysis Framework for Exploring Multi-Modal Recipes with Various Attributes**

Weiqing Min (the Key Lab of Intelligent Information Processing, Institute of Computing Technology, Chinese Academy of Sciences); Shuqiang Jiang (the Key Lab of Intelligent Information Processing, Institute of Computing Technology, Chinese Academy of Sciences); Shuhui Wang (the Key Lab of Intelligent Information Processing, Institute of Computing Technology, Chinese Academy of Sciences); Jitao Sang (the National Lab of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences); Shuhuan Mei (Shandong University of Science and Technology)

### **Multi-Modal Knowledge Representation Learning via Webly-Supervised Relationships Mining**

Fudong Nian (Anhui University); Bingkun Bao (CASIA); Teng Li (Anhui University); Changsheng Xu (CASIA)

### **GLAD: Global-Local-Alignment Descriptor for Pedestrian Retrieval**

Longhui Wei (Peking University); Shiliang Zhang (Peking University); Hantao Yao (Institute of Computing Technology, Chinese Academy of Sciences; University of Chinese Academy of Sciences); Wen Gao (Peking University); Qi Tian (Department of Computer Science, University of Texas at San Antonio)

### **14:00 - 15:00 Keynote Address 2 (Hahn, Chair: Rainer Lienhart, University of Augsburg)**

#### **Efficient Methods and Hardware for Deep Learning**

(Bill Dally: Senior Vice President and Chief Scientist, NVidia, USA)

### **15:30 - 17:00 Understanding 1 – Deep Learning for MM (1) (Hahn, Chair: Liangliang Cao, HelloVera.AI)**

#### **Magic-wall: Visualizing Room Decoration**

Ting Liu (Beijing Jiaotong University); Yunchao Wei (National University of Singapore); Yao Zhao (Beijing Jiaotong University); Si Liu (Chinese Academy of Sciences); Shikui Wei (Beijing Jiaotong University)

#### **Multi-Scale Cascade Network for Salient Object Detection**

Xin Li (School of Computer Science and Engineering, University of Electronic Science and Technology of China); Fan Yang (School of Computer Science and Engineering, University of Electronic Science and Technology of China); Hong Cheng (Center for Robotics, School of Automation Engineering, University of Electronic Science and Technology of China); Junyu Chen (Department of Electrical and Computer Engineering, North Carolina State University); Yuxiao Guo (School of Computer Science and Engineering, University of Electronic Science and Technology of China); Leiteng Chen (University of Electronic Science and Technology of China)

#### **Sketch Recognition with Deep Visual-Sequential Fusion Model**

Jun-Yan He (Southwest Jiaotong University); Xiao Wu (Southwest Jiaotong University); Yu-Gang Jiang (Fudan University); Bo Zhao (Southwest Jiaotong University); Qiang Peng (Southwest Jiaotong University)

### **15:30 - 17:00 Panel 1 (Boole, Chair: Yung-Hsiang Lu, Purdue University)**

#### **Privacy Protection in Online Multimedia**

Panel: Yung-Hsiang Lu (Purdue University), Andrea Cavallaro (Queen Mary University of London); Catherine Crump (University of California Berkeley); Gerald Friedland (University of California Berkeley); Keith Winstein (Stanford University)

### **15:30 - 17:00 Experience 1 – Social and Affective Multimedia (Lovelace, Chair: Susanne Boll, University of Oldenburg)**

#### **What your Facebook Profile Picture Reveals about your Personality**

Cristina Segalin (California Institute of Technology); Fabio Celli (Fondazione Bruno Kessler); Luca Polonio (CIMEC - University of Trento); David Stillwell (University of Cambridge); Michal Kosinski (Stanford University); Nicu Sebe (University of Trento); Marco Cristani (University of Verona); Bruno Lepri (Fondazione Bruno Kessler)

#### **Capturing Spatial and Temporal Patterns for Distinguishing between Posed and Spontaneous Expressions**

Jiajia Yang (University of Science and Technology of China); Shangfei Wang (University of Science and Technology of China)

#### **An Image-based Deep Spectrum Feature Representation for the Recognition of Emotional Speech**

Nicholas Cummins (University of Passau); Shahin Amiriparian (University of Passau, TUM); Gerhard Hagerer (University of Passau, audEERING GmbH); Anton Batliner (University of Passau); Stefan Steidl (FAU Erlangen-Nuremberg); Björn Schuller (University of Passau / Imperial College London)

#### **Automatic Generation of Lyrics Parodies**

Lorenzo Gatti (FBK-irst); Gözde Özalp (FBK-irst); Oliviero Stock (FBK-irst); Carlo Strapparava (FBK-irst)

**17:15 - 18:45 Systems 1 – Systems and Applications** (*Hahn, Chair: Cheng-Hsin Hsu, National Tsing Hua University*)

**On Server Provisioning for Cloud Gaming**

Yusen Li (Nankai University, China); Yunhua Deng (Nanyang Technological University); Xueyan Tang (Nanyang Technological University); Wentong Cai (Nanyang Technological University); Xiaoguang Liu (Nankai University); Gang Wang (Nankai University)

**FastShrinkage: Perceptually-aware Retargeting Toward Mobile Platforms**

Zhenguang Liu (National University of Singapore); Luming Zhang (Zhejiang University); Rajiv Ratn (National University of Singapore); Yi Yang (UTS); Xuelong Li (Chinese Academy of Sciences)

**Real-time Monocular Dense Mapping for Augmented Reality**

Tangli Xue (Huazhong University of Science and Technology); Hongcheng Luo (Huazhong University of Science and Technology); Zikang Yuan (Huazhong University of Science and Technology); Xin Yang (Huazhong University of Science and Technology)

**17:15 - 18:45 Engagement 1 – Multimedia Search and Recommendation** (*Boole, Chair: Liangliang Cao, HelloVera.AI*)

**Automatic Music Video Generation Based on Simultaneous Soundtrack Recommendation and Video Editing**

Jen-Chun Lin (Academia Sinica); Wen-Li Wei (Academia Sinica); James Yang (National Chiao Tung University); Hsin-Min Wang (Academia Sinica); Hong-Yuan Mark Liao (Academia Sinica)

**Region-based Image Retrieval Revisited by Semantic Region Specification and Spatial Relationship Recommendation**

Ryota Hinami (The University of Tokyo); Yusuke Matsui (National Institute of Informatics); Shin'Ichi Satoh (National Institute of Informatics)

**Learning Multimodal Attention LSTM Networks for Video Captioning**

Jun Xu (University of Science and Technology of China); Ting Yao (Microsoft Research Asia); Yongdong Zhang (University of Science and Technology of China); Tao Mei (Microsoft Research Asia)

**17:15 - 18:45 Business Idea Venture** (*Lovelace, Tat-Seng Chua, National University of Singapore*)

**Profilio: Psychometric profiling to boost social media advertising**

Fabio Celli (Profilio Company); Pietro Massani Zani (Profilio Company); Bruno Lepri (FBK and Profilio Company)

**Pl@ntNet My Business**

Alexis Joly (Inria, LIRMM); Pierre Bonnet (CIRAD, AMAP); Antoine Affouard (Inria, LIRMM); Jean-Christophe Lombardo (Inria, LIRMM); Hervé Goëau (CIRAD, AMAP)

**Main Conference Day 2**  
**Wednesday, Oct 25**

**08:25 - 09:00 Fast Forward 3** (*Hahn, Chair: Xin Yang, Huazhong University of Science and Technology*)

**15:00 - 17:00 Poster Sessions 3 & 4** (*Grand Hall, Chair: Xin Yang*)

**Query-adaptive Video Summarization via Quality-aware Relevance Estimation**

Arun Balajee Vasudevan (ETH Zurich); Michael Gygli (ETH Zurich); Anna Volokitin (ETH Zurich); Luc Van Gool (ETH Zurich)

**Predicting Human Intentions from Motion Cues Only: A 2D+3D Fusion Approach**

Andrea Zunino (Istituto Italiano di Tecnologia); Jacopo Cavazza (Istituto Italiano di Tecnologia); Atesh Koul (Istituto Italiano di Tecnologia); Andrea Cavallo (Istituto Italiano di Tecnologia); Cristina Becchio (Istituto Italiano di Tecnologia); Vittorio Murino (Istituto Italiano di Tecnologia)

**RGB-D Scene Recognition with Object-to-Object Relation**

Xinhang Song (Institute of Computing Technology of Chinese Academy of Sciences (CAS)); Chengpeng Chen (Institute of Computing Technology of Chinese Academy of Sciences (CAS)); Shuqiang Jiang (Institute of Computing Technology of Chinese Academy of Sciences (CAS))

**Data Generation for Improving Person Re-identification**

Lin Chen (Shanghai Jiao Tong University); Hua Yang (Shanghai Jiao Tong University); Shuang Wu (Shanghai Jiao Tong university); Zhiyong Gao (Shanghai Jiao Tong university)

**Salient Object Detection with Chained Multi-Scale Fully Convolutional Network**

Youbao Tang (School of Computer Science and Technology, Harbin Institute of Technology); Xiangqian Wu (School of Computer Science and Technology, Harbin Institute of Technology)

**Fine-grained Discriminative Localization via Saliency-guided Faster R-CNN**

Xiangteng He (Peking University); Yuxin Peng (Peking University); Junjie Zhao (Peking University)

**Learning to Recognise Unseen Classes by A Few Similes**

Yang Long (The University of Sheffield); Ling Shao (The University of East Anglia)

**Deep Cross-Modality Alignment for Multi-Shot Person Re-Identification**

Zhichao Song (Shanghai Jiao Tong University); Bingbing Ni (Shanghai Jiao Tong University); Yichao Yan (Shanghai Jiao Tong University); Zhe Ren (Shanghai Jiao Tong University); Yi Xu (Shanghai Jiao Tong University); Xiaokang Yang (Shanghai Jiao Tong University)

**Improved Multimodal Representation Learning with Skip Connections**

Ning Zhang (UMass Lowell); Yu Cao (UMass Lowell); Yan Luo (UMass Lowell); Benyuan Liu (UMass Lowell)

**Modeling Image Virality with Pairwise Spatial Transformer Networks**

Abhimanyu Dubey (Harvard University); Sumeet Agarwal (IIT Delhi)

**Metric-based Generative Adversarial Network**

Guoxian Dai (New York University Abu Dhabi); Jin Xie (New York University Abu Dhabi); Yi Fang (New York University Abu Dhabi)

**More Than An Answer: Neural Pivot Network for Visual Question Answering**

Yiyi Zhou (Xiamen University); Rongrong Ji (Xiamen University); Jinsong Su (Xiamen University); Yongjian Wu (Tencent Yutu Lab); Yunsheng Wu (Tencent Yutu Lab)

**Aristo: An Augmented Reality Platform for Immersion and Interactivity**

Zhongyang Zheng, Bo Wang, Yakun Wang, Shuang Yang, Zhongqian Dong, Tianyang Yi, Cyrus Choi, Emily J. Chang, Edward Y. Chang (HTC Research)

### **Sports VR Content Generation from Regular Camera Feeds**

Kiana Calagari (Simon Fraser University); Mohamed Elgharib (Qatar Computing Research Institute); Mohamed Hefeeda (Simon Fraser University); Shervin Shirmohammadi (University of Ottawa)

### **OpTile: Toward Optimal Tiling in 360-degree Video Streaming**

Mengbai Xiao (George Mason University); Chao Zhou (SUNY Binghamton); Yao Liu (SUNY Binghamton); Songqing Chen (George Mason University)

### **Too Many Pixels to Perceive: Subpixel Shutoff for Display Energy Reduction on OLED Smartphones**

Zhisheng Yan (State University of New York at Buffalo); Chang Wen Chen (State University of New York at Buffalo)

### **Exploring Consistent Preferences: Discrete Hashing with Pair-Exemplar for Scalable Landmark Search**

Lei Zhu (The University of Queensland); Zi Huang (The University of Queensland); Xiaojun Chang (Carnegie Mellon University); Jingkuan Song (Columbia University); Heng Tao Shen (University of Electronic Science and Technology of China)

### **Fast and Accurate Pedestrian Detection using Dual-Stage Group Cost-Sensitive RealBoost with Vector Form Filters**

Chengju Zhou (NTU); Meiqing Wu (NTU); Siew-Kei Lam (NTU)

### **Online Cross-Modal Scene Retrieval by Binary Representation and Semantic Graph**

Mengshi Qi (Beihang University); Yunhong Wang (Beihang University); Annan Li (Beihang University)

### **NeuroStylist: Neural Compatibility Modeling for Clothing Matching**

Xuemeng Song (Shandong University); Fuli Feng (National University of Singapore); Jinhuan Liu (Shandong University); Zekun Li (Shandong University); Liqiang Nie (Shandong University); Jun Ma (Shandong University)

### **It's All Around You: Exploring 360° Video Viewing Experiences on Mobile Devices**

Marc van den Broeck (Bell Labs); Fahim Kawsar (Bell Labs); Johannes Schöning (University of Bremen)

### **Exploring Domain Knowledge for Affective Video Content Analyses**

Tanfeng Chen (USTC); Yaxin Wang (USTC); Shangfei Wang (USTC); Shiyu Chen (USTC)

### **Occlusion-aware Video Temporal Consistency**

Chun-Han Yao (National Taiwan University); Chia-Yang Chang (National Taiwan University); Shao-Yi Chien (National Taiwan University)

### **Protest Activity Detection and Perceived Violence Estimation from Social Media Images**

Dong Hyeon Won (UCLA); Zachary Steinert-Threlkeld (UCLA); Jungseock Joo (UCLA)

### **Multimodal Fusion with Recurrent Neural Networks for Rumor Detection on Microblogs**

Zhiwei Jin (Institute of Computing Technology, Chinese Academy of Sciences); Han Guo (Institute of Computing Technology, Chinese Academy of Sciences); Juan Cao (Institute of Computing Technology, Chinese Academy of Sciences, Beijing 100080, China); Yongdong Zhang (Institute of Computing Technology, Chinese Academy of Sciences); Jiebo Luo (University of Rochester)

## **09:00 - 10:00 Keynote Address 3 (Hahn, Chair: Rainer Lienhart, Universität Augsburg)**

### **Building Multi-Modal Interfaces for Smartphones**

(Injong Rhee: CTO & EVP, Samsung Electronics, Korea)

## **10:30 - 12:00 SIGMMM Award session (Hahn, Chair: Rainer Lienhart, Universität Augsburg)**

### **ACM SIGMM Technical Achievement Award 2017**

(Recipient: Prof. Dr. Arnold Smeulders)

### **ACM SIGMM Rising Star Award 2017**

(Recipient: Dr. Liangliang Cao)

### **ACM SIGMM Outstanding Ph.D. Thesis Award 2017**

(Recipient: Dr. Chien-Nan Chen)

## **12:00 - 13:30 Doctoral Symposium (Boole, Chair: Carsten Griwodz, University of Oslo)**

### **Using DASH Assisting Network Elements for Optimizing Video Streaming Quality**

Jan Willem Kleinrouweler (Centrum Wiskunde & Informatica)

### **Who Composes the Music? Musicality Evaluation for Algorithmic Composition via Electroencephalography**

Gong Chen (The Hong Kong Polytechnic University)

### **Cross-media Relevance Computation for Multimedia Retrieval**

Jianfeng Dong (Zhejiang University)

### **Towards Global Optimization in Display Advertising by Integrating Multimedia Metrics to Real-Time Bidding**

Xiang Chen (National University of Singapore)

## **12:00 - 13:30 ACM TOMM Editorial Board Meeting (Lovelace)**

## **12:00 - 14:00 IEEE Computer Society Meeting (Hopper)**

## **13:30 - 14:00 Fast Forward 4 (Hahn, Chair: Xin Yang, Huazhong University of Science & Technology)**

## **15:00 - 17:00 Poster Sessions 3 & 4 (Grand Hall, Chair: Xin Yang)**

### **Indefinite Kernel Logistic Regression**

Fanghui Liu (Shanghai Jiao Tong University); Xiaolin Huang (Shanghai Jiao Tong University); Jie Yang (Shanghai Jiao Tong University)

### **Positive and Unlabeled Learning for Anomaly Detection with Multi-features**

Jiaqi Zhang (Nanyang Technological University); Zhenzhen Wang (Nanyang Technological University); Junsong Yuan (Nanyang Technological University); Yap Peng Tan (Nanyang Technological University)

### **Hierarchical Recurrent Neural Network for Video Summarization**

Bin Zhao (Northwestern Polytechnical University); Xuelong Li (Chinese Academy of Sciences); Xiaoqiang Lu (Chinese Academy of Sciences)

### **Learning a Target Sample Re-Generator for Cross-Database Micro-Expression Recognition**

Yuan Zong (Southeast University); Xiaohua Huang (University of Oulu); Wenming Zheng (Southeast University); Zhen Cui (Southeast University); Guoying Zhao (University of Oulu)

### **From Multimedia Logs to Personal Chronicles**

Hyungik Oh (University of California, Irvine); Ramesh Jain (University of California, Irvine)

### **From Hard to Soft: Towards more Human-like Emotion Recognition by Modelling the Perception Uncertainty**

Jing Han (University of Passau); Zixing Zhang (University of Passau); Maximilian Schmitt (University of Passau); Maja Pantic (Imperial College London); Björn Schuller (University of Passau / Imperial College London)

### **Two Birds One Stone: On both Cold-Start and Long-Tail Recommendation**

Jingjing Li (University of Electronic Science and Technology of China); Ke Lu (University of Electronic Science and Technology of China); Zi Huang (School of Information Technology and Electrical Engineering, The University of Queensland, St. Lucia, QLD 4072 Australia); Heng Tao Shen (University of Electronic Science and Technology of China)

### **Multi-Networks Joint Learning for Large-Scale Cross-Modal Retrieval**

Liang Zhang (ucas); Bingpeng Ma (UCAS); Guorong Li (ucas); Qingming Huang (ucas); Qi Tian (University of Texas at San Antonio)

### **Photo2Trip: Exploiting Visual Contents in Geo-tagged Photos for Personalized Tour Recommendation**

Pengpeng Zhao (Soochow University); Xiefeng Xu (Soochow University); Yanchi Liu (Rutgers University); Victor S. Sheng (University of Central Arkansas); Kai Zheng (Soochow University); Hui Xiong (Rutgers University)

### **Rethinking HTTP Adaptive Streaming with the Mobile User Perception**

Chao Wu (Tsinghua University); Wenwu Zhu (Tsinghua University); Qiushi Li (Tsinghua University); Yaoxue Zhang (Central South University)

### **REQUEST: Seamless Dynamic Adaptive Streaming over HTTP for Multi-Homed Smartphone under Resource Constraints**

Jonghoe Koo (Department of ECE and INMC, Seoul National University, Seoul, Korea); Juheon Yi (Department of ECE and INMC, Seoul National University, Seoul, Korea); Joongheon Kim (School of Computer Science and Engineering, Chung-Ang University, Seoul, Korea); Mohammad A. Hoque (University of Helsinki, Helsinki, Finland); Sunghyun Choi (Department of ECE and INMC, Seoul National University, Seoul, Korea)

### **Optimal Set of 360-Degree Videos for Viewport-Adaptive Streaming**

Xavier Corbillon (IMT Atlantique); Gwendal Simon (IMT Atlantique); Alisa Devlic (Huawei); Jacob Chakareski (University of Alabama)

### **Deep Active Learning Through Cognitive Information Parcels**

Wencang Zhao (Qingdao University of Science and Technology); Yu Kong (Northeastern University); Zhengming Ding (Northeastern University); Shangqian Gao (Northeastern University); Yun Fu (Northeastern University)

### **3DensiNet: A Robust Neural Network Architecture towards 3D Volumetric Object Prediction from 2D Image**

Meng Wang (New York University); Lingjing Wang (New York University); Yi Fang (New York University)

### **Towards Micro-video Understanding by Joint Sequential-Sparse Modeling**

Meng Liu (Shandong University); Liqiang Nie (Shandong University); Meng Wang (Hefei University of Technology); Baoquan Chen (Shandong University)

### **LEAF: Latent Extended Attribute Features Discovery for Visual Classification**

Hua Zhang (Institute of Information Engineering, Chinese Academy of Sciences); Rui Wang (Institute of Information Engineering, Chinese Academy of Sciences); Changqing Zhang (Tianjin University); Xiaochun Cao (Institute of Information Engineering, Chinese Academy of Sciences)

### **Single Shot Temporal Action Detection**

Tianwei Lin (Shanghai Jiao Tong University); Xu Zhao (Shanghai Jiao Tong University); Zheng Shou (Columbia University)

### **Finding the Secret of CNN Parameter Layout under Strict Size Constraint**

Liao Lixin (Beijing Jiaotong University); Yao Zhao (Beijing Jiaotong University); Shikui Wei (Beijing Jiaotong University); Wang Jingdong (Microsoft Research Asia); Liu Ruoyu (Beijing Jiaotong University)

### **Deep Temporal Models using Identity Skip-Connections for Speech Emotion Recognition**

Jaebok Kim (University of Twente); Gwenn Englebienne (University of Twente); Khiet Truong (University of Twente); Vanessa Evers (University of Twente)

### **Video Description with Spatial-Temporal Attention**

Yunbin Tu (Hangzhou Dianzi University); Xishan Zhang (Institute of Computing Technology, Chinese Academy of Sciences, Beijing, China); Bingtao Liu (Hangzhou Dianzi University); Chenggang Yan (Hangzhou Dianzi University)

### **Pedestrian Detection via Bi-directional Multi-scale Analysis**

Zhenyu Duan (Shanghai Jiao Tong University); Jinpeng Lan (Shanghai Jiao Tong University); Yi Xu (Shanghai Jiao Tong University); Bingbing Ni (Shanghai Jiao Tong University); Lixue Zhuang (Shanghai Jiao Tong University); Xiaokang Yang (Shanghai Jiao Tong University)

### **Fine-Grained Recognition via Attribute-Guided Attentive Feature Aggregation**

Yichao Yan (Shanghai Jiao Tong University); Bingbing Ni (Shanghai Jiao Tong University); Xiaokang Yang (Shanghai Jiao Tong University)

### **NormFace: L2 Hypersphere Embedding for Face Verification**

Feng Wang (University of Electronic Science and Technology of China); Xiang Xiang (Johns Hopkins University); Jian Cheng (University of Electronic Science and Technology of China); Alan Yuille (Johns Hopkins University)

### **Video Question Answering via Hierarchical Dual-Level Attention Network Learning**

Zhou Zhao (zhejiang university); Jinghao Lin (zhejiang university); Xinghua Jiang (zhejiang university); Deng Cai (Zhejiang University); Xiaofei He (Zhejiang University); Yueting Zhuang (Zhejiang University)

### **Region-based Activity Recognition Using Conditional GAN**

Xinyu Li (Rutgers University); Yanyi Zhang (Rutgers University); Jianyu Zhang (Rutgers University); Yueyang Chen (Rutgers University); Huangcan Li (Rutgers University); Ivan Marsic (Rutgers University); Randall Burd (Children's National Medical Center)

### **14:00 - 15:00 Keynote Address 4 (Hahn, Chair: Qiong Liu, FXPAL)**

#### **DeepQ: Advancing Healthcare Through AI and VR**

(Edward Y. Chang: President, HTC, Taiwan)

### **15:30 - 17:00 Understanding 2 – Deep Learning for MM (Hahn, Chair: Dr. Guo-Jun Qi, University of Central Florida)**

#### **Detecting Temporal Proposal for Action Localization with Tree-structured Search Policy**

Xinyang Jiang (Zhejiang University); Siliang Tang (Zhejiang University); Yang Yang (Zhejiang University); Zhou Zhao (Zhejiang University); Fei Wu (Zhejiang University); Yueting Zhuang (Zhejiang University)

### **Learning Fashion Compatibility with Bidirectional LSTMs**

Xintong Han (University of Maryland); Zuxuan Wu (University of Maryland); Yu-Gang Jiang (Fudan University); Larry Davis (University of Maryland)

### **3D CNNs on Distance Matrices for Human Action Recognition**

Alejandro José Hernández Ruiz (Institut de Robotica i Informatica Industrial, CSIC-UPC); Lorenzo Porzi (Institut de Robotica i Informatica Industrial, CSIC-UPC); Samuel Rota Bulò (Fondazione Bruno Kessler); Francesc Moreno Noguer (Institut de Robotica i Informatica Industrial, CSIC-UPC)

### **Sync-DRAW: Automatic Video Generation using Deep Recurrent Attentive Architectures**

Gaurav Mittal (ACM Student Member); Tanya Marwah (Indian Institute of Technology, Hyderabad); Vineeth N Balasubramanian (Indian Institute of Technology, Hyderabad)

### **15:30 - 17:00 Systems 2 – Video Streaming (Boole, Chair: Vishy Swaminathan, Adobe Research)**

#### **16K Cinematic VR Streaming**

Patrice Rondao Alface (Nokia Bell Labs); Maarten Aerts (Nokia Bell Labs); Donny Tytgat (Nokia Bell Labs); Sammy Lievens (Nokia Bell Labs); Christoph Stevens (Nokia Bell Labs); Nico Verzijp (Nokia Bell Labs); Jean-François Macq (Nokia Bell Labs)

#### **Where are the Sweet Spots? A Systematic Approach to Reproducible DASH Player Comparisons**

Denny Stohr (Technische Universität Darmstadt); Alexander Frömmgen (Technische Universität Darmstadt); Amr Rizk (Technische Universität Darmstadt); Michael Zink (University of Massachusetts Amherst); Ralf Steinmetz (Technische Universität Darmstadt); Wolfgang Effelsberg (Technische Universität Darmstadt)

#### **Towards Forward-looking Online Bitrate Adaptation for DASH**

Bo Wang (Tsinghua University); Fengyuan Ren (Tsinghua University)

#### **QUETRA: A Queuing Theory Approach to DASH Rate Adaptation**

Praveen Kumar Yadav (National University of Singapore); Arash Shafiei (National University of Singapore); Wei Tsang Ooi (National University of Singapore)

### **15:30 - 17:00 Experience 2 - Perceptual, Affect and Interaction (Lovelace, Chair: Susanne Boll, University of Oldenburg)**

#### **Vocktail: A Virtual Cocktail for Pairing Digital Taste, Smell, and Color Sensations**

Nimesha Ranasinghe (National University of Singapore); Thi Ngoc Tram Nguyen (National University of Singapore); Yan Liangkun (National University of Singapore); Lien-Ya Lin (National University of Singapore); David Tolley (NUS); Ellen Yi-Luen Do (Georgia Institute of Technology)

#### **Affect Recognition in Ads with Application to Computational Advertising**

Abhinav Shukla (International Institute of Information Technology, Hyderabad, India); Shruti Gullapuram (International Institute of Information Technology, Hyderabad, India); Harish Katti (National University of Singapore); Narasimha Karthik Yadati (National University of Singapore); Mohan Kankanhalli (National University of Singapore); Ramanathan Subramanian (Advanced Digital Sciences Center (ADSC), University of Illinois at Urbana-Champaign)

#### **Image Quality Assessment for DIBR Synthesized Views using Elastic Metric**

Suiyi Ling (university of nantes); Patrick Le Callet (university of nantes)

#### **ElasticPlay: Interactive Video Summarization with Dynamic Time Budgets**

Haojian Jin (Human-Computer Interaction Institute, Carnegie Mellon University); Yale Song (Yahoo Research); Koji Yatani (Department of Electrical Engineering and Information Systems, The University of Tokyo)

### **17:15 - 18:45 Panel 2 (Hahn, Chair: Fei Wu, Zhejiang University)**

#### **Cross-media Intelligence**

Panel: Yueting Zhuang (Zhejiang University); Ramesh Jain (University of California, Irvine); Wen Gao (Peking University); Liu Ren (Robert Bosch Research)

Moderator: Fei Wu (Zhejiang University)

### **17:15 - 18:45 Engagement 2 – Digital Society & Multimedia Art, Entertainment and Culture (Boole, Chair: Bart Thomee, Google)**

#### **From Part to Whole: Who is Behind the Painting?**

Daiqian Ma (SECE of Shenzhen Graduate School, Peking University); Feng Gao (National Engineering Lab for Video Technology, Peking University); Yan Bai (SECE of Shenzhen Graduate School, Peking University); Yihang Lou (SECE of Shenzhen Graduate School, Peking University); Shiqi Wang (Rapid-Rich Object Search Laboratory, Nanyang Technological University); Tiejun Huang (National Engineering Lab for Video Technology, Peking University); Ling-Yu Duan (National Engineering Lab for Video Technology, Peking University)

#### **DeepArt: Learning Joint Representations of Visual Arts**

Hui Mao (HKUST-NIE Social Media Lab); Ming Cheung (HKUST-NIE Social Media Lab); James She (HKUST-NIE Social Media Lab)

#### **Enhancing Micro-video Understanding by Harnessing External Sounds**

Liqiang Nie (Shandong University); Xiang Wang (National University of Singapore); Jianglong Zhang (Communication University of China); Xiangnan He (National University of Singapore); Hanwang Zhang (Columbia University); Richang Hong (Hefei University of Technology); Qi Tian (USA The University of Texas at San Antonio)

### **17:15 - 18:45 Open Source Software Competition (Lovelace, Chair: Lei Zhang, Microsoft)**

#### **TensorLayer: A Versatile Library for Efficient Deep Learning Development**

Hao Dong (United Kingdom Imperial College London); Akara Supratak (United Kingdom Imperial College London); Luo Mai (United Kingdom Imperial College London); Fangde Liu (United Kingdom Imperial College London); Axel Oehmichen (United Kingdom Imperial College London); Simiao Yu (United Kingdom Imperial College London); Yike Guo (United Kingdom Imperial College London)

#### **NUBOMEDIA: The First Open Source WebRTC PaaS**

Boni García (Universidad Rey Juan Carlos); Luis López (Universidad Rey Juan Carlos); Francisco Gortázar (Universidad Rey Juan Carlos); Micael Gallego (Universidad Rey Juan Carlos); Giuseppe Antonio Carella (Technische Universität Berlin)

#### **BMXNet: An Open-Source Binary Neural Network Implementation Based on MXNet**

Haojin Yang (Hasso Plattner Institute); Martin Fritzsche (Hasso Plattner Institute); Christian Bartz (Hasso Plattner Institute); Christoph Meinel (Hasso Plattner Institute)

#### **WebDNN: Fastest DNN Execution Framework on Web Browser**

Masatoshi Hidaka (The University of Tokyo); Yuichiro Kikura (The University of Tokyo); Yoshitaka Ushiku (The University of Tokyo); Tatsuya Harada (The University of Tokyo / RIKEN)

#### **ChainerCV: a Library for Deep Learning in Computer Vision**

Yusuke Niitani (The University of Tokyo); Toru Ogawa (The University of Tokyo); Shunta Saito (Preferred Networks); Masaki Saito (Preferred Networks)

### **UnrealCV: Virtual Worlds for Computer Vision**

Weichao Qiu (Johns Hopkins University); Fangwei Zhong (Peking University); Yi Zhang (Johns Hopkins University); Siyuan Qiao (Johns Hopkins University); Zihao Xiao (Johns Hopkins University); Tae Soo Kim (Johns Hopkins University); Yizhou Wang (Peking University); Alan Yuille (Johns Hopkins University);

**13:30 - 17:00 Demo (Grand Hall, Chair: Balakrishnan Prabhakaran, University of Texas at Dallas)**

### **A System for Spatiotemporal Anomaly Localization in Surveillance Videos**

Huimin Wu (University of Electronic Science and Technology of China); Jie Shao (University of Electronic Science and Technology of China); Xing Xu (University of Electronic Science and Technology of China); Fumin Shen (University of Electronic Science and Technology of China); Heng Tao Shen (University of Electronic Science and Technology of China)

### **A Tag Recommendation System for Popularity Boosting**

Yiwei Zhang (University of Tokyo); Jiani Hu (University of Tokyo); Shunmpei Sano (University of Tokyo); Toshihiko Yamasaki (University of Tokyo); Kiyoharu Aizawa (University of Tokyo)

### **DeepCADx: Automated Prostate Cancer Detection and Diagnosis in mp-MRI based on Multimodal Convolutional Neural Networks**

Zhiwei Wang (University of Science and Technology); Chaoyue Liu (University of Science and Technology); Xiang Bai (University of Science and Technology); Xin Yang (University of Science and Technology)

### **MatPlanner: Plan Your Days in Conferences by Resolving Conflicting Events**

Saemi Choi (The University of Tokyo); Onkar Krishna (The University of Tokyo); Wen Yu Lee and Kiyoharu Aizawa (The University of Tokyo)

### **Natural Experiences in Museums through Virtual Reality and Voice Commands**

Andrea Ferracani, Marco Faustino, Gabreile Xavier Giannini, Lea Landucci and Alberto Del Bimbo (MICC - Media Integration and Communication Center - University of Firenze)

### **FaceCloud: Heterogeneous Cloud Visualization of Multiplex Networks for Multimedia Archive Exploration**

Benjamin Renoust (NII, Tokyo, Japan & JFLI, CNRS UMI 3527), Haolin Ren (National Audiovisual Institute), Guy Melançon (Université de Bordeaux, CNRS LaBRI UMR 5800), Marie-Luce Viaud (Ina) and Shin'ichi Satoh (National Institute of Informatics)

### **Real-Time Dense Monocular SLAM for Augmented Reality**

Hongcheng Luo (Huazhong University of Science and Technology); Tangli Xue (Huazhong University of Science and Technology); Xin Yang (Huazhong University of Science and Technology)

### **Enhancing Music Events Using Physiological Sensor Data**

Thomas Röggl (CWI); Najereh Shirzadian (CWI); Zhiyuan Zheng (CWI); Alice Panza (CWI); Pablo Cesar (CWI)

### **Teleconsultant: Communication and analysis of wearable videos in Emergency Medical Environments**

Tarek Elgamel (University of Illinois Urbana-Champaign); Bo Chen (University of Illinois Urbana-Champaign); Klara Nahrstedt (University of Illinois Urbana-Champaign);

### **mIDoT-key: A Smart Key Instantly Generated on Your Item**

Yuta Kudo (NEC Corporation); Shoji Yachida (NEC Corporation); Toru Takahashi (NEC Corporation); Rui Ishiyama (NEC Corporation)

### **Time Traveler: a real-time face aging system**

Lejian Ren (Institute of Information Engineering, Chinese Academy of Sciences), Si Liu (Institute of Information Engineering, Chinese Academy of Sciences), Yao Sun (Institute of Information Engineering, Chinese Academy of Sciences), Luoqi Liu (Qihoo 360 AI Institute, Beijing, China) and Shuicheng Yan (Qihoo 360 AI Institute, Beijing, China)

### **Outdoor Object Recognition for Smart Audio Guides**

Claudio Baecchi, Lorenzo Seidenari, Tiberio Uricchio and Alberto Del Bimbo

### **IBM High-Five: Highlights From Intelligent Video Engine**

Dhiraj Joshi (IBM Corporation); Michele Merler (IBM Corporation); Quoc-Bao Nguyen (IBM Corporation); Stephen Hammer (IBM Corporation); John Kent (IBM Corporation); John Smith (IBM Corporation); Rogerio Feris (IBM Corporation)

### **Shadow Puppetry with Robotic Arms**

Zhe Huang (University of Dayton); Vamshi Krishna Madaram (University of Dayton); Saad Albadrani (University of Dayton); Tam Nguyen (University of Dayton)

### **Smart Mirror: Intelligent Makeup Recommendation and Synthesis**

Tam Nguyen (University of Dayton); Luoqi Liu (National University of Singapore)

### **Real-Time Deep Video SpaTial Resolution UpConversion System (STRUCT++ Demo)**

Shihong Deng, Wenhan Yang, Mading Li, Sifeng Xia and Jiaying Liu

### **RSVP: A Real-Time Surveillance Video Parsing System with Single Frame Supervision**

Han Yu (State Key Laboratory of Information Security, Institute of Information Engineering, Chinese Academy of Sciences); Guanghui Ren (State Key Laboratory of Information Security, Institute of Information Engineering, Chinese Academy of Sciences); Ruihe Qian (State Key Laboratory of Information Security, Institute of Information Engineering, Chinese Academy of Sciences); Yao Sun (State Key Laboratory of Information Security, Institute of Information Engineering, Chinese Academy of Sciences); Hanqing Lu (State Key Laboratory of Information Security, Institute of Information Engineering, Chinese Academy of Sciences); Si Liu (State Key Laboratory of Information Security, Institute of Information Engineering, Chinese Academy of Sciences)

### **NexGenTV: Providing Real-Time Insight during Political Debates in a Second Screen Application**

Olfa Ben Ahmed (EURECOM), Gabriel Sargent (CNRS IRISA), Florian Garnier (AVISTO), Benoit Huet (EURECOM), Vincent Claveau (CNRS IRISA), Laurence Couturier (AVISTO), Raphaël Troncy (EURECOM), Guillaume Gravier (CNRS IRISA), Philémon Bouzy (AVISTO) and Fabrice Leménoel (WildMoka)

### **A Hybrid P2P/Multi-Server Quality-Adaptive Live-Streaming Solution Enhancing End-User's QoE**

Joachim Bruneau-Queyrex (Viotech Communications), Mathias Lacaud (Viotech Communications) and Daniel Negru (University of Bordeaux)

### **Diversified and Summarized Video Search System**

Tingting Dong (NEC Corporation); Shoji Nishimura (NEC Corporation); Jianquan Liu (NEC Corporation)

### **T2U: A Deep Cross-Platform Video Recommendation System with Novel Interface**

Zhe Shen (Tsinghua University); Shengze Yu (Tsinghua University); Wenwu Zhu (Tsinghua University)



### Sketch-based Image Retrieval using Generative Adversarial Networks

Longteng Guo(National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences; University of Chinese Academy of Sciences); Jing Liu(National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences; University of Chinese Academy of Sciences); Yuhang Wang (National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences; University of Chinese Academy of Sciences); Hanqing Lu (National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences; University of Chinese Academy of Sciences)

**13:30 - 17:00 Video** (*Grand Hall, Chair: Benoit Huet, Eurecom*)

### PIC2DISH: A Customized Cooking Assistant System

Yongsheng An, Yu Cao, Jingjing Chen, Jia Jia, Chong-Wah Ngo and Huanbo Luan

**09:00 - 17:00 Interactive Art** (*Grand Hall, Chair: Don Kimber, FXPAL*)

### Drag A Star 3.0

James She (HKUST-NIE Social Media Lab, Hong Kong University of Science & Technology NIE); Kong Cheng Tan (Center for Interactive Media Multimedia University Malaysia); Soon Xuan Yong (Center for Interactive Media Multimedia University Malaysia)

### PPROBABLY/POSSIBLY?

JoAnn Kuchera-Morin (AlloSphere Research Facility University of California Santa Barbara); Lance Putnam (Department of Computing Goldsmiths University of London); Luca Peliti (University "Federico II" of Naples); Dennis Adderton (AlloSphere Research Facility University of California Santa Barbara); Andres Cabrera (AlloSphere Research Facility University of California Santa Barbara); Kon Hyong Kim (AlloSphere Research Facility University of California Santa Barbara); Gustavo Rincon (AlloSphere Research Facility University of California Santa Barbara); Joseph Tilbian (AlloSphere Research Facility University of California Santa Barbara); Hannah Wolfe (AlloSphere Research Facility University of California Santa Barbara); Tim Wood (AlloSphere Research Facility University of California Santa Barbara); Keehong Youn (AlloSphere Research Facility University of California Santa Barbara)

### Touch Me Here

Sahar Sajadieh (Media Arts and Technology University of California)

### Filters

Brianna Ondris (Virginia Commonwealth University)

### Split Consideration for Foreground and Background Painting Using Artificial Neural Networks

Megan Hardy ;Sumanto Pal

### A Quatre Mains

Yagiz Mungan (Independent)

### Las Barricadas Misteriosas

Edouard Beau

### Presently Untitled: Data Mapping of 2016 U.S. Presidential Election Twitter Activity, Phase III

Jiayi Young (University of California, Davis); Weidong Yang (Kineviz); Shih-Wen Young; Qilian Yu (University of California, Davis); Bartek Kusek

## Main Conference Day 3

Thursday, Oct 26

**08:25 - 09:00 Fast Forward 5** (*Hahn, Chair: Matthew Cooper, FXPAL*)

**15:00 - 16:30 Poster Session 5** (*Grand Hall, Chair: Xin Yang, Huazhong University of Science & Technology*)

**Visual Sentiment Analysis for Review Images with Item-Oriented and User-Oriented CNN**  
Quoc-Tuan Truong (Singapore Management University); Hady Lauw (Singapore Management University)

### Mutually Guided Image Filtering

Xiaojie Guo (IIE, CAS); Yu Li (ADSC); Jiayi Ma (Wuhan University)

### Learning Semantic Feature Map for Visual Content Recognition

Rui-Wei Zhao (Fudan University); Zuxuan Wu (University of Maryland); Jianguo Li (Intel Labs China); Yu-Gang Jiang (Fudan University)

### Video Visual Relation Detection

Xindi Shang (National University of Singapore); Tongwei Ren (Nanjing University); Jingfan Guo (Nanjing University); Hanwang Zhang (Columbia University); Tat-Seng Chua (National University of Singapore)

### Deep Location-Specific Tracking

Lingxiao Yang (The Hong Kong Polytechnic University); Risheng Liu (Dalian University of Technology); David Zhang (The Hong Kong Polytechnic University); Lei Zhang (The Hong Kong Polytechnic University)

### A Multi-Task Framework for Weather Recognition

Zhigang Wang (Northwestern Polytechnical University); Xuelong Li (Chinese Academy of Sciences); Xiaoqiang Lu (Chinese Academy of Sciences)

### Discriminative Training of Complex-valued Deep Recurrent Neural Network for Singing Voice Separation

Yuan-Shan Lee (National Central University (NCU)); Kuo Yu (National Central University (NCU)); Sih-Huei Chen (National Central University (NCU)); Jia-Ching Wang (National Central University)

### Adaptive Low-Rank Multi-Label Active Learning for Image Classification

Jian Wu (Soochow University); Anqian Guo (Soochow University); Victor S. Sheng (University of Central Arkansas); Pengpeng Zhao (Soochow University); Zhiming Cui (Soochow University)

### Adaptively Attending to Visual Attributes and Linguistic Knowledge for Captioning

Yi Bin (University of Electronic Science and Technology of China); Yang Yang (University of Electronic Science and Technology of China); Jie Zhou (University of Electronic Science and Technology of China); Zi Huang (The University of Queensland); Heng Tao Shen (University of Electronic Science and Technology of China)

### Efficient Binary Coding for Subspace-based Query-by-Image Video Retrieval

Ruicong Xu (University of Electronic Science and Technology of China); Yang Yang (University of Electronic Science and Technology of China); Fumin Shen (University of Electronic Science and Technology of China); Ning Xie (University of Electronic Science and Technology of China); Heng Tao Shen (University of Electronic Science and Technology of China)

### FRACTaL: FEC-based Rate Control for RTP

Balázs Kreith (callstats.io & University of Debrecen), Varun Singh (callstats.io), Jörg Ott (Technical University of Munich & callstats.io)

### **When Cloud Meets Uncertain Crowd: An Auction Approach for Crowdsourced Livestream Transcoding**

Yifei Zhu (Simon Fraser University); Jiangchuan Liu (Simon Fraser University); Zhi Wang (Tsinghua University); Cong Zhang (Simon Fraser University)

### **Multicamera Summarization of Rehabilitation Sessions in Home Environment**

Tarek Elgamal (University of Illinois Urbana Champaign); Klara Nahrstedt (University of Illinois Urbana Champaign)

### **Visualization of Stone Trajectories in Live Curling Broadcasts using Online Machine Learning**

Masaki Takahashi (Japan Broadcasting Corporation (NHK)); Shinsuke Yokozawa (Japan Broadcasting Corporation (NHK)); Hideki Mitsumine (Japan Broadcasting Corporation (NHK)); Tomoyuki Mishina (Japan Broadcasting Corporation (NHK)); Yasuyuki Matsuhisa (Japan Broadcasting Corporation (NHK)); Sawako Muramatsu (Japan Broadcasting Corporation (NHK))

### **Deep Binary Reconstruction for Cross-modal Hashing**

Xuelong Li (Northwestern Polytechnical University); Di Hu (Northwestern Polytechnical University); Feiping Nie (Northwestern Polytechnical University)

### **Semi-Dense Depth Interpolation using Deep Convolutional Neural Networks**

Ilya Makarov (National Research University Higher School of Economics, School of Data Analysis and Artificial Intelligence); Vladimir Aliev (National Research University Higher School of Economics, School of Data Analysis and Artificial Intelligence); Olga Gerasimova (National Research University Higher School of Economics, School of Data Analysis and Artificial Intelligence, International Laboratory for Intelligent Systems and Structural Analysis)

### **Venues in Social Media: Examining Ambiance Perception Through Scene Semantics**

Yassir Benkhedda (Idiap); Darshan Santani (Idiap); Daniel Gatica-Perez (Idiap-EPFL)

### **Moving as a Leader: Detecting Emergent Leadership in Small Groups using Body Pose**

Cigdem Beyan (Istituto Italiano di Tecnologia, Pattern Analysis and Computer Vision); Vasiliki-Maria Katsageorgiou (Istituto Italiano di Tecnologia, Pattern Analysis and Computer Vision); Vittorio Murino (Istituto Italiano di Tecnologia, Pattern Analysis and Computer Vision; University of Verona, Department of Computer Science)

### **#VisualHashtags: Visual Summarization of Social Media Events Using**

#### **Mid-Level Visual Elements**

Sonal Goel (IIIT-Delhi); Sarthak Ahuja (IBM Research, India); A V Subramanyam (IIIT-Delhi); Ponnurangam Kumaraguru (IIIT-Delhi)

### **Multi-scale Context Based Attention for Dynamic Music Emotion Prediction**

Ye Ma (Tsinghua University); Xinxing Li (Tsinghua University); Mingxing Xu (Tsinghua University); Lianhong Cai (Tsinghua University)

### **A Simplified Topological Representation of Text for Local and Global Context**

Ishrat Rahman Sami (Goldsmiths, University of London); Katayoun Farrahi (Goldsmiths, University of London)

### **Experimental Analysis of Bandwidth Allocation in Automated Video Surveillance Systems**

Sina Gholamnejad Davani (Wayne State University); Nabil Sarhan (Wayne State University)

### **Multimedia Semantic Integrity Assessment Using Joint Embedding Of Images And Text**

Ayush Jaiswal (USC Information Sciences Institute); Ekraam Sabir (USC Information Sciences Institute); Wael Abd-Almageed (USC Information Sciences Institute); Prem Natarajan (USC Information Sciences Institute)

### **Real-Time False-Contours Removal for Inverse Tone Mapped HDR Content**

Gonzalo Luzardo (Ghent University); Jan Aelterman (Ghent University); Hiep Luong (Ghent University); Wilfried Philips (Ghent University); Daniel Ochoa (Escuela Superior Politécnica del Litoral)

### **Deep Matching and Validation Network**

Yue Wu (Information Sciences Institute); Wael Abdalmageed (Information Sciences Institute); Prem Natarajan (Information Sciences Institute)

### **09:00 - 10:00 Keynote Address 5 (Hahn, Chair: Qiong Liu, FXPAL)**

#### **Bringing a Billion Hours to Life**

(Scott Silver: Vice President, Google, USA)

### **10:30 - 12:00 Understanding 3 – Deep Learning for MM (3) (Hahn, Chair: Benoit Huet, Eurecom)**

#### **Learning Object-Centric Transformation for Video Prediction**

Xiongtao Chen (Peking University); Wenmin Wang (Peking University); Jinzhuo Wang (Peking University); Weimian Li (Peking University)

#### **Two-Stream Attentive CNNs for Image Retrieval**

Fei Yang (BeiJing jiaotong University); Jia Li (Beihang University); Shikui Wei (BeiJing jiaotong University); Qinjie Zheng (BeiJing jiaotong University); Ting Liu (BeiJing jiaotong University); Yao Zhao (BeiJing jiaotong University)

#### **Deep Asymmetric Pairwise Hashing**

Xin Gao (University of Electronic Science and Technology of China); Fumin Shen (University of Electronic Science and Technology of China); Li Liu (Malong Technologies); Yang Yang (University of Electronic Science and Technology of China); Heng Tao Shen (University of Electronic Science and Technology of China)

#### **Integrated Face Analytics Networks through Cross-Dataset Hybrid Training**

Jianshu Li (National University of Singapore); Shengtao Xiao (National University of Singapore); Fang Zhao (National University of Singapore); Jian Zhao (National University of Singapore); Jianan Li (Beijing Institute of Technology University); Jiashi Feng (National University of Singapore); Shuicheng Yan (National University of Singapore); Terence Sim (National University of Singapore)

### **10:30 - 12:00 Novel 1 (Lovelace, Chair: Gerald Friedland, UC Berkeley/Lawrence Livermore National Lab)**

#### **Exploring Outliers in Crowdsourced Ranking for QoE**

Qianqian Xu (State Key Laboratory of Information Security (SKLOIS), Institute of Information Engineering of Chinese Academy of Sciences); Ming Yan (Department of Computational Mathematics, Science and Engineering and Department of Mathematics, Michigan State University); Chendi Huang (School of Mathematical Sciences, Peking University); Jiechao Xiong (School of Mathematical Sciences, Peking University); Qingming Huang (University of Chinese Academy of Sciences & Institute of Computing Technology of Chinese Academy of Sciences); Yuan Yao (The Hong Kong University of Science & Technology)

#### **Fluency-Guided Cross-Lingual Image Captioning**

Weiyu Lan (Renmin University of China); Xirong Li (Renmin University of China); Jianfeng Dong (Zhejiang University)

#### **MR.MAPP: Mixed Reality for Managing Phantom Pain**

Kanchan Bahirat (The University of Texas at Dallas); Thiru Annaswamy (VA North Texas Health Care System, Dallas & UT Southwestern Medical Center, Dallas); Balakrishnan Prabhakaran (The University of Texas at Dallas)

### **Anti-camera LED Lighting**

Xiao Shu (McMaster University); Xiaolin Wu (Shanghai Jiao Tong University); Qifan Gao (Shanghai Jiao Tong University)

**12:00 - 13:30 SIGMM Business Lunch (Hahn)**

**13:30 - 14:00 Fast Forward 6 (Hahn, Chair: Xin Yang, Huazhong University of Science & Technology)**

**16:30 - 18:00 Poster Session 6 (Grand Hall, Chair: Xin Yang)**

### **Incremental Accelerated Kernel Discriminant Analysis**

Nikolaos Gkalelis (ITI); Vasileios Mezaris (Informatics and Telematics Institute/ Centre for Research and Technology Hellas)

### **Pseudo Label based Unsupervised Deep Discriminative Hashing for Image Retrieval**

Qinghao Hu (Institute of Automation, Chinese Academy of Sciences); Jiayang Wu (Institute of Automation, Chinese Academy of Sciences); Jian Cheng (Institute of Automation, Chinese Academy of Sciences); Hanqing Lu (Institute of Automation, Chinese Academy of Sciences)

### **Multi-Modal Localization and Enhancement of Multiple Sound Sources from a Micro Aerial Vehicle**

Ricardo Sanchez-Matilla (Queen Mary University of London); Lin Wang (Queen Mary University of London); Andrea Cavallaro (Queen Mary University of London)

### **Selective Deep Convolutional Features for Image Retrieval**

Tuan Hoang Nguyen Anh (Singapore University of Technology and Design); Thanh-Toan Do (The University of Adelaide); Dang-Khoa Le Tan (Singapore University of Technology and Design); Ngai-Man Cheung (Singapore University of Technology and Design)

### **Statistical Inference of Gaussian-Laplace Distribution for Person Verification**

Zheng Wang (Wuhan University); Ruimin Hu (Wuhan University); Yi Yu (National Institute of Informatics); Junjun Jiang (National Institute of Informatics); Jiayi Ma (Wuhan University); Shin'ichi Satoh (National Institute of Informatics)

### **Beyond Human-level License Plate Super-resolution with Progressive Vehicle Search and Domain Prior GAN**

Wu Liu (Beijing University of Posts and Telecommunications); Xinchun Liu (Beijing University of Posts and Telecommunications); Huadong Ma (Beijing University of Posts and Telecommunications); Peng Cheng (Beijing University of Posts and Telecommunications)

### **Learning to Generate and Edit Hairstyles**

Weidong Yin (Fudan University); Yanwei Fu (Fudan University); Yiqing Ma (Fudan University); Yugang Jiang (Fudan University); Tao Xiang (Queen Mary University of London); Xiangyang Xue (Fudan University)

### **Adaptively Weighted Multi-task Deep Network for Person Attribute Classification**

Keke He (Fudan University); Zhanxiang Wang (Fudan University); Yanwei Fu (The school of Data Science, Fudan University); Yu-Gang Jiang (Fudan University); Rui Feng (Fudan University); Xiangyang Xue (Fudan University, China)

### **Video Question Answering via Gradually Refined Attention over Appearance and Motion**

Dejing Xu (ZheJiang University); Zhou Zhao (ZheJiang University); Jun Xiao (ZheJiang University); Fei Wu (ZheJiang University); Hanwang Zhang (Electrical Engineering, Columbia University); Xiangnan He (School of Computing, National University of Singapore); Yueting Zhuang (ZheJiang University)

### **Cross-Domain Image Retrieval with Attention Modeling**

Xin Ji (National University of Singapore); Wei Wang (National University of Singapore); Meihui Zhang (Singapore University of Technology and Design); Yang Yang (University of Electronic Science and Technology of China)

### **Modeling the Resource Requirements of Convolutional Neural Networks on Mobile Devices**

Zongqing Lu (Pennsylvania State University); Swati Rallapalli (IBM Research); Kevin Chan (US Army Research Laboratory); Thomas La Porta (Pennsylvania State University)

### **Adaptive Audio Classification for Smartphone in Noisy Car Environment**

Myounggyu Won (South Dakota State University); Haitham Alsaadan (South Dakota State University); Yongsoo Eun (Daegu Gyeongbuk Institute of Science and Technology)

### **A Novel System for Visual Navigation of Educational Videos Using Multimodal Cues**

Baoquan Zhao (Sun Yat-sen University); Xiaonan Luo (Guilin University Of Electronic Technology); Shujin Lin (Sun Yat-sen University); Songhua Xu (New Jersey Institute of Technology); Ruomei Wang (Sun Yat-sen University)

### **Adaptive 360-Degree Video Streaming using Scalable Video Coding**

Afshin Taghavi Nasrabadi (The University of Texas at Dallas); Anahita Mahzari (The University of Texas at Dallas); Joseph D. Beshay (The University of Texas at Dallas); Ravi Prakash (The University of Texas at Dallas)

### **Cross-media Retrieval by Learning Rich Semantic Embeddings of Multimedia**

Mengdi Fan (Peking University); Wenmin Wang (School of Electronic and Computer Engineering, Peking University); Peilei Dong (School of Electronic and Computer Engineering, Peking University); Liang Han (Peking University); Ronggang Wang (Shenzhen Graduate School, Peking University); Ge Li (Peking University Shenzhen Graduate School)

### **Deep Supervised Quantization by Self-Organizing Map**

Min Wang (University of Science and Technology of China); Wengang Zhou (University of Science and Technology of China); Qi Tian (University of Texas at San Antonio); Junfu Pu (University of Science and Technology of China); Houqiang Li (University of Science and Technology of China)

### **Laplacian-Steered Neural Style Transfer**

Shaohua Li (National University of Singapore); Xinxing Xu (Institute of High Performance Computing); Liqiang Nie (Shandong University); Tat-Seng Chua (National University of Singapore)

### **PQk-means: Billion-scale Clustering for Product-quantized Codes**

Yusuke Matsui (National Institute of Informatics); Keisuke Ogaki (Dwango Co., Ltd.); Toshihiko Yamasaki (The University of Tokyo); Kiyoharu Aizawa (The University of Tokyo)

### **Outlining Objects for Interactive Segmentation on Touch Devices**

Matthieu Pizenberg (University of Toulouse); Axel Carlier (University of Toulouse); Emmanuel Faure (CNRS - IRIT); Vincent Charvillat (University of Toulouse)

### **Temporally Selective Attention Model for Social and Affective State Recognition in Multimedia Content**

Hongliang Yu (Carnegie Mellon University); Liangke Gui (Carnegie Mellon University); Michael Madaio (Carnegie Mellon University); Amy Ogan (Carnegie Mellon University); Justine Cassell (Carnegie Mellon University); Louis-Philippe Morency (Carnegie Mellon University)

### **Quality-of-Experience of Adaptive Video Streaming: Exploring the Space of Adaptations**

Zhengfang Duanmu (University of Waterloo); Kede Ma (University of Waterloo); Zhou Wang (University of Waterloo)

**14:00 - 15:00 Keynote Address 6 (Hahn, Chair: Rainer Lienhart (Universität Augsburg))**

### **Bringing Gaming, VR, and AR to Life with Deep Learning**

(Danny Lange: Vice President, Unity Technologies, USA)

**15:30 - 17:00 Understanding 4 – Multimodal/Multisensor Analysis and Description** (*Hahn, Chair: Tat-Seng Chua, National University of Singapore*)

**Semi-Relaxation Supervised Hashing for Cross-Modal Retrieval**

Peng-Fei Zhang (Shandong University); Chuan-Xiang Li (Shandong University); Meng-Yuan Liu (Shandong University); Liqiang Nie (Shandong University); Xin-Shun Xu (Shandong University)

**Cross-modal Recipe Retrieval with Rich Food Attributes**

Jingjing Chen (City University of Hong Kong); Chong-Wah Ngo (City University of Hong Kong); Tat-Seng Chua (National University of Singapore)

**Exploring the use of Time-Dependent Cross-Network Information for Personalized Recommendations**

Dilruk Perera (National University of Singapore); Roger Zimmermann (National University of Singapore)

**15:30 - 17:00 Brave New Ideas** (*Boole, Chair: Lynn Wilcox, FXPAL*)

**To Create What You Tell: Generating Videos from Captions**

Yingwei Pan (University of Science and Technology of China); Zhaofan Qiu (University of Science and Technology of China); Ting Yao (Microsoft Research Asia); Houqiang Li (University of Science and Technology of China); Tao Mei (Microsoft Research Asia);

**Harnessing A.I. for Augmenting Creativity: Application to Movie Trailer Creation**

John R Smith (IBM T. J. Watson); Dhiraj Joshi (IBM T. J. Watson); Benoit Huet (EURECOM); Winston Hsu (IBM T. J. Watson); Zef Cota (IBM T. J. Watson);

**Brain2Image: Converting Brain Signals into Images**

Simone Palazzo (University of Catania); Concetto Spampinato (University of Catania); Isaak Kavasidis (University of Catania); Daniela Giordano (University of Catania); Mubarak Shah (University of Central Florida);

**Do Individuals Smile More in Diverse Social Company? Studying Smiles and Diversity Via Social Media Photos**

Vivek Singh (Rutgers University); Akanksha Atrey (University at Albany, State University of New York); Saket Hegde (Rutgers University);

**How Personality Affects our Likes: Towards a Better Understanding of Actionable Images**

Francesco Gelli (National University of Singapore); Xiangnan He; Tao Chen; Tat-Seng Chua (National University of Singapore);

**16:15 - 18:45 Grand Challenge** (*Lovelace, Chair: Ketan Mayer-Patel, University of North Carolina*)

**Social Media Prediction Based on Residual Learning and Random Forest**

Chih-Chung Hsu, Ying-Chin Lee, Ping-En Lu, Shian-Shin Lu, Hsiao-Ting Lai, Chih-Chu Huang, Chun Wang, Yang-Jiun Lin, Weng-Tai Su (National Tsing-Hua University)

**Richer Semantic Visual and Language Representation for Video Captioning**

Pengjie Tang, Hanli Wang, Hanzhang Wang, Kaisheng Xu (Tongji University)

**Multirate Multimodal Video Captioning**

Ziwei Yang, Youjiang Xu, Huiyun Wang, Bo Wang, Yahong Han (Tianjin University)

**Multi-feature Fusion for Predicting Social Media Popularity**

Jinna Lv, Wu Liu, Meng Zhang, He Gong, Bin Wu, Huadong Ma (Beijing University of Posts & Telecommunications)

**MANet: A Modal Attention Network for Describing Videos**

Sang Phan, Yusuke Miyao, Shin'ichi Satoh (National Institute of Informatics)

**Towards SMP Challenge: Stacking of Diverse Models for Social Image Popularity Prediction**

Xiaowen Huang (Institute of Automation, Chinese Academy of Sciences), Yuqi Gao (Nanjing University), Quan Fang (Institute of Automation, Chinese Academy of Sciences), Jitao Sang (Institute of Automation, Chinese Academy of Sciences & Nanjing University), Changsheng Xu (Institute of Automation, Chinese Academy of Sciences)

**Combining Multiple Features for Image Popularity Prediction in Social Media**

Wen Wang, Wei Zhang (East China Normal University)

**Knowing Yourself: Improving Video Caption via In-depth Recap**

Qin Jin, Shizhe Chen (Renmin University of China), Jia Chen, Alexander Hauptmann (Carnegie Mellon University)

**A Hybrid Model Combining Convolutional Neural Network with XGBoost for Predicting Social Media Popularity**

Liuwu Li, Runwei Situ, Junyan Gao, Zhenguo Yang, Wenyin Liu (Guangdong University of Technology)

**Popularity Meter: An Influence- and Aesthetics-aware Social Media Popularity Predictor**

Shintami Chusnul Hidayati (Academia Sinica), Yi-Ling Chen, Chao-Lung Yang, Kai-Lung Hua (National Taiwan University of Science and Technology)

**17:15 - 18:45 Understanding 5** (*Hahn, Chair: Changsheng XU, Chinese Academy of Science*)

**Video Captioning with Guidance of Multimodal Latent Topics**

Shizhe Chen (Renmin University of China); Jia Chen (Carnegie Mellon University); Qin Jin (Renmin University of China); Alexander Hauptmann (Carnegie Mellon University)

**Learning Non-local Image Diffusion for Image Denoising**

Peng Qiao (National University of Defense Technology); Yong Dou (National University of Defense Technology); Wensen Feng (University of Science and Technology Beijing); Yunjin Chen (National University of Defense Technology)

**Weighted Sparse Representation Regularized Graph Learning for RGB-T Object Tracking**

Chenglong Li (Anhui University); Nan Zhao (Anhui University); Yijuan Lu (Texas State University); Chengli Zhu (Anhui University); Jin Tang (Anhui University)

**17:15 - 18:45 Novel 2** (*Boole, Chair: Gerald Friedland, UC Berkeley/Lawrence Livermore National Lab*)

**Hashtag-centric Immersive Search on Social Media**

Yuqi Gao (State Key Laboratory for Novel Software Technology, Nanjing University); Jitao Sang (National Lab of Pattern Recognition Institute of Automation, Chinese Academy of Sciences); Tongwei Ren (State Key Laboratory for Novel Software Technology, Nanjing University); Changsheng Xu (National Lab of Pattern Recognition Institute of Automation, Chinese Academy of Sciences)

**Spatio-Temporal AutoEncoder for Video Anomaly Detection**

Yiru Zhao (Shanghai Jiao Tong University); Bing Deng (Alibaba Group); Chen Shen (Zhejiang University); Yao Liu (Alibaba Group); Hongtao Lu (Shanghai Jiao Tong University); Xian-Sheng Hua (Alibaba Group)

### **Deep Siamese Network with Multi-level Similarity Perception for Person Re-identification**

Chen Shen (Zhejiang University); Zhongming Jin (Alibaba Group); Yiru Zhao (Shanghai Jiao Tong University); Zhihang Fu (Zhejiang University); Rongxin Jiang (Zhejiang University); Yaowu Chen (Zhejiang University); Xian-Sheng Hua (Alibaba Group)

### **18:45 - 18:50 Main Conference Closing (Hahn)**

### **09:00 - 17:00 Interactive Art (Grand Hall, Chair: Alberto Del Bimbo, University of Firenze)**

#### **Drag A Star 3.0**

James She (HKUST-NIE Social Media Lab, Hong Kong University of Science & Technology NIE); Kong Cheng Tan (Center for Interactive Media Multimedia University Malaysia); Soon Xuan Yong (Center for Interactive Media Multimedia University Malaysia)

#### **PPROBABLY/POSSIBLY?**

JoAnn Kuchera-Morin (AlloSphere Research Facility University of California Santa Barbara); Lance Putnam (Department of Computing Goldsmiths University of London); Luca Peliti (University "Federico II" of Naples); Dennis Adderton (AlloSphere Research Facility University of California Santa Barbara); Andres Cabrera (AlloSphere Research Facility University of California Santa Barbara); Kon Hyong Kim (AlloSphere Research Facility University of California Santa Barbara); Gustavo Rincon (AlloSphere Research Facility University of California Santa Barbara); Joseph Tilbian (AlloSphere Research Facility University of California Santa Barbara); Hannah Wolfe (AlloSphere Research Facility University of California Santa Barbara); Tim Wood (AlloSphere Research Facility University of California Santa Barbara); Keehong Youn (AlloSphere Research Facility University of California Santa Barbara)

#### **Touch Me Here**

Sahar Sajadieh (Media Arts and Technology University of California)

#### **Filters**

Brianna Ondris (Virginia Commonwealth University)

#### **Split Consideration for Foreground and Background Painting Using Artificial Neural Networks**

Megan Hardy ;Sumanto Pal

#### **A Quatre Mains**

Yagiz Mungan (Independent)

#### **Las Barricadas Misteriosas**

Edouard Beau

#### **Presently Untitled: Data Mapping of 2016 U.S. Presidential Election**

Jiayi Young (University of California, Davis); Weidong Yang (Kineviz, Inc); Shih-Wen Young (American River College); Qilian Yu (University of California, Davis)

#### **Twitter Activity, Phase III**

Jiayi Young (University of California, Davis); Weidong Yang (Kineviz); Shih-Wen Young; Qilian Yu (University of California, Davis); Bartek Kusek

## **Workshop & Tutorial Summaries**

### **Friday, Oct 27**

#### **09:00 - 10:30 Thematic Workshop Pitches – II (Hahn)**

- 1. Learning Deep Contextual Attention Network for Narrative Photo Stream Captioning**  
Hanqi Wang (Zhejiang University); Siliang Tang (Zhejiang University); Jun Xiao (Zhejiang University); Yueting Zhuang (Zhejiang University); Fei Wu (Zhejiang University); Tao Mei (Microsoft Research Asia)
- 2. Robust and Real-Time Visual Tracking with Triplet Convolutional Neural Network**  
Jung Uk Kim (Korea Advanced Institute of Science and Technology (KAIST)); Hak Gu Kim (Korea Advanced Institute of Science and Technology (KAIST)); Yong Man Ro (Korea Advanced Institute of Science and Technology (KAIST))
- 3. Spatiotemporal Multi-Task Network for Human Activity Understanding**  
Yao Liu (Alibaba Group); Jianqiang Huang (Alibaba Group); Chang Zhou (Alibaba Group); Deng Cai (Zhejiang University); Xian-Sheng Hua (Alibaba Group)
- 4. Real-Time Image-based Smoke Detection in Endoscopic Videos**  
Andreas Leibetseder (Alpen-Adria-Universität Klagenfurt); Manfred Jürgen Primus (Alpen-Adria-Universität Klagenfurt); Stefan Petscharnig (Alpen-Adria-Universität Klagenfurt); Klaus Schoeffmann (Alpen-Adria-Universität Klagenfurt)
- 5. Watch What You Just Said: Image Captioning with Text-Conditional Semantic Attention**  
Luowei Zhou (University of Michigan); Chenliang Xu (University of Rochester); Parker Koch (University of Michigan); Jason Corso (University of Michigan)
- 6. Sensing Urban with Wi-Fi and Satellite: Functional Region Discovery across Cities**  
Chen Yan (Tsinghua University); Peng Wang (Tsinghua University); Lifeng Sun (Tsinghua University)
- 7. Reconstructable and Interpretable Representations for Time Series with Time-skip Sparse Dictionary Learning**  
Genta Yoshimura (National Institute of Advanced Industrial Science and Technology (AIST) Mitsubishi Electric Corporation); Atsunori Kanemura (National Institute of Advanced Industrial Science and Technology (AIST)); Hideki Asoh (National Institute of Advanced Industrial Science and Technology (AIST))
- 8. Towards improving canonical correlation analysis for cross-modal retrieval**  
Jie Shao (Beijing University of Posts and Telecommunications); Zhicheng Zhao (Beijing University of Posts and Telecommunications); Fei Su (Beijing University of Posts and Telecommunications); Ting Yue (Beijing University of Posts and Telecommunications)
- 9. Variation Robust Cross-Modal Metric Learning for Caricature Recognition**  
Jing Huo (Nanjing University); Yang Gao (Nanjing University); Yinghuan Shi (Nanjing University); Hujun Yin (The University of Manchester)
- 10. Deep Cross-Modal Audio-Visual Generation**  
Lele Chen (University of Rochester); Sudhanshu Srivastava (University of Rochester); Zhiyao Duan (University of Rochester); Chenliang Xu (University of Rochester)
- 11. Video Imagination from a Single Image with Transformation Generation**  
Baoyang Chen (Peking University); Wenmin Wang (Peking University); Jinzhuo Wang (Peking University)

**12. Image-Based Food Calorie Estimation Using Knowledge on Food Categories, Ingredients and Cooking Directions**

Takumi Ege (The University of Electro-Communications Tokyo); Keiji Yanai (Univ. of Electro-Communications Tokyo)

**13. Tag Prediction at Flickr: A View from the Darkroom**

Kofi Boakye (Yahoo Research); Sachin Farfade (Yahoo Research); Hamid Izadinia (University of Washington); Yannis Kalantidis (Facebook); Pierre Garrigues (Yahoo Research)

**14. Cross-View Gait Identification with Embedded Learning**

Suibing Tong (Shanghai Jiao Tong University); Yuzhuo Fu (Shanghai Jiao Tong University); Hefei Ling (Huazhong University of Science and Technology); Dan Wang (Huazhong University of Science and Technology)

**15. CTC Network with Statistical Language Modeling for Action Sequence Recognition in Videos**

Mengxi Lin (Tokyo Institute of Technology); Nakamasa Inoue (Tokyo Institute of Technology); Koichi Shinoda (Tokyo Institute of Technology)

**16. Evolution of Trajectories: A Novel Representation for Action Recognition**

Neelay Pandit (Intel Corporation); Sherine Abdelhak (Intel Corporation)

**17. Deep Face Recognition with Center Invariant Loss**

Yue Wu (neu.edu); Hongfu Liu (neu.edu); Jun Li (neu.edu); Yun Fu (neu.edu)

**18. Generative Attention Model with Adversarial Self-learning for Visual Question Answering**

Ilija Ilievski (National University of Singapore); Jiashi Feng (National University of Singapore)

**19. Learning Feature Embedding with Strong Neural Activations for Fine-Grained Retrieval**

Chen Shen (Zhejiang University); Chang Zhou (Alibaba Group); Zhongming Jin (Alibaba Group); Wenqing Chu (Zhejiang University); Rongxin Jiang (Zhejiang University); Yaowu Chen (Zhejiang university); Xian-Sheng Hua (Alibaba Group)

**20. Image Caption with Synchronous Cross-Attention**

Yue Wang (BUPT CIST); Jinlai Liu (BUPT CIST); Xiaojie Wang (BUPT CIST)

**21. Efficient Depth-aware Image Deformation Adaptation for Curved Screen Displays**

Shao-Ping Lu (Vrije Universiteit Brussel (VUB)); Ruxandra-Marina Florea (Vrije Universiteit Brussel (VUB)); Pablo Cesar (CWI: Centrum Wiskunde & Informatica); Peter Schelkens ((1)\tVrije Universiteit Brussel (VUB) Department of Electronics and Informatics

**22. Layout Style Modeling for Automating Banner Design**

Yunke Zhang (Hangzhou Normal University); Yunke Zhang (Hangzhou Normal University); Kangkang Hu (Alibaba Group); Kangkang Hu (Alibaba Group); Peiran Ren (Alibaba Group); Peiran Ren (Alibaba Group); Changyuan Yang (Alibaba Group); Changyuan Yang (Alibaba Group); Weiwei Xu (zhejiang university); Weiwei Xu (zhejiang university); Xian-Sheng Hua (Alibaba Group); Xian-Sheng Hua (Alibaba Group)

**23. Learning Social Image Embedding with Deep Multimodal Attention Networks**

Feiran Huang (Beihang University); Xiaoming Zhang (Beihang University); Zhoujun Li (Beihang University); Tao Mei (Microsoft Research); Yueying He (National Computer Network Emergency Response Technical Team/Coordination Center of China); Zhonghua Zhao (National Computer Network Emergency Response Technical Team/Coordination Center of China)

**24. Liquid Jets as Logic-Computing Fluid-User-Interfaces**

Audrey Ziwei Hu (University of Toronto); Ryan Janzen (University of Toronto); Max Hao Lu (University of Toronto); Steve Mann (University of Toronto)

**25. An Experiential Model of the Atmosphere: Rich State Transitions in a Media Choreography Framework**

Brandon Mechtley (Arizona State University); Julian Stein (Arizona State University); Christopher Roberts (Regis University); Xin Wei Sha (Arizona State University)

**26. Comparing user QoE of AR and VR applications using physiological and interaction measurements**

Conor Keighrey (Athlone Institute of Technology); Ronan Flynn (Athlone Institute of Technology); Siobhan Murray (Health Service Executive); Sean Brennan (Software Research Institute Athlone Institute of Technology); Niall Murray (Software Research Institute Athlone Institute of Technology)

**27. Measuring and Improving the Viewing Experience of First-person Videos**

Biao Ma (Purdue University); Amy R. Reibman (Purdue University)

**28. An Experimental Study of Markerless Image Registration Methods on Varying Quality of Images for Augmented Reality Applications**

Neetika Gupta (Birla Institute of Technology & Science); Mukesh Kumar Rohil (Birla Institute of Technology & Science)

**29. Comparison of Subjective Quality Evaluation for HEVC Encoded Omnidirectional Videos at Different Bit-rates for UHD and FHD Resolution**

Ashutosh Singla (TU Ilmenau); Stephan Fremerey (TU Ilmenau); Werner Robitza (Deutsche Telekom); Pierre Lebreton (Zhejiang University); Alexander Raake (TU Ilmenau)

**30. Surveillance Video Quality Assessment Based on Face Recognition**

Wen Heng (Peking University); Tingting Jiang (Peking University)

**31. Learning Transferable Features for Speech Emotion Recognition**

Alison Marczewski (Universidade Federal de Minas Gerais and Kunumi); Adriano Veloso (Universidade Federal de Minas Gerais); Nivio Ziviani (Universidade Federal de Minas Gerais and Kunumi)

**32. Hierarchical Representation based on Bayesian Nonparametric Tree-Structured Mixture Model for Playing Technique Classification**

Sih-Huei Chen (National Central University); Shao-Hui Wu (National Central University); Yuan-Shan Lee (National Central University); Rocky Lo (National Central University); Jia-Ching Wang (National Central University)

**33. A Smart Mirror for Music Conducting Exercises**

Andrea Salgian (College of New Jersey); David Vickerman (College of New Jersey); David Vassallo (College of New Jersey)

**09:00 - 12:30 AltMM 2017 – 2nd International Workshop on Multimedia Alternate Realities (Boole)**

**09:00 - 12:30 MUSA2 - First ACM Workshop on Multimodal Understanding of Social, Affective and Subjective Attributes (Lovelace)**

**09:00 Opening**

**09:05 Keynote by David A. Shamma and Saide Bakhshi**

**09:50 Oral Session 1: Mining**

- User Group based Viewpoint Recommendation using User Attributes for Multiview Videos
- Beyond Concept Detection: The Potential of User Intent for Image Retrieval

**10:25 Spotlights**

- Image Captioning in the Wild: How people caption images on Flickr
- A Deep Multi-Modal Fusion Approach for Semantic Place Prediction in Social Media
- Movie Genre Classification based on Poster Images with Deep Neural Networks
- Robust Multi-Modal Cues for Dyadic Human Interaction Recognition

**11:00 Oral Session 2: Modeling**

- Head Pose Recommendation for Taking Good Selfies
- More cat than cute? Interpretable Prediction of Adjective-Noun Pairs

**11:35 Conclusion**

**11:40 Poster session (all ORAL and SPOTLIGHT papers)**

**09:00 - 10:30 MultiEdTech 2017: 1st International Workshop on Multimedia-based Educational and Knowledge Technologies for Personalized and Social Online Training (Hopper)**

**09:00 - 09:15 Opening remarks**

**09:15 - 10:30 Keynote 1 – Pablo Cesar: Sensing Engagement: Helping Performers to Evaluate their Impact**

**11:00 - 12:30 Oral session**

**11:00 - 11:20 Train in Virtual Court: Basketball Tactic Training via Virtual Reality**  
Wan-Lun Tsai, Ming-Fen Chung, Tse-Yu Pan and Min-Chun Hu

**11:20 - 11:40 Surgical Action Retrieval for Assisting Video Review of Laparoscopic Skills**  
Sabrina Kletz, Klaus Schoeffmann, Bernd Münzer and Manfred J. Primus

**11:40 - 12:00 Automatic MOOC video classification using transcript features and convolutional neural networks**  
Houssem Chatbri, Kevin McGuinness, Suzanne Little, Jiang Zhou, Keisuke Kameyama, Paul Kwan and Noel E. O'Connor

**12:00 - 12:20 Chat2Doc: From Chats to How-to Instructions, FAQ, and Report**

**12:20 - 12:30 Closing remarks and closing of the workshop**

**14:00 - 18:00 RFIW 2017: 1st Large-Scale Kinship Recognition Challenge (Boole)**

**14:00 RFIW Data Workshop Introduction and Overview**

**14:15 Keynote 1: Caiming Xiong of Salesforce Research, “Recent Advances in Deep Reinforcement Learning for Computer Vision and NLP”**

**15:05 Oral 1: Yong Li “KinNet: Fine-to-Coarse Deep Metric Learning for Kinship Verification”**

**15:15 Oral 2: Qingyan Duan “AdvNet: Adversarial Contrastive Residual Net for 1 Million Kinship Recognition”**

**15:24 3- 2 minute presentations by poster presenters**

**15:30 Conference-wide coffee Break + RFIW Poster Presentation**

**16:00 Past, Present, and Future of Kinship Recognition and FIW database**

**16:50 Keynote 2: Christopher Miles of Department of Homeland Security, "Rapid DNA Performance Results on Family Relationship Verification."**

**17:50 Closing Remarks**

**18:00 RFIW Data Challenge Workshop adjourns**

**14:00 - 18:00 Large-Scale Video Classification Challenge (LSVC 2017) (Lovelace)**

**14:00 Overview of the data and challenge results**

**14:20 Keynote 1, Speaker TBD**

**15:00 Champion: iDST VENUS**

**15:15 Team: Sense Time**

**15:30 Tea break**

**16:00 Keynote 2, Speaker TBD**

**16:40 Team: SARI & QINIUI**

**16:55 Team: ECNU**

**17:10 Team: Sogang University**

**17:25 Conclusion and Award Ceremony**

**14:00 - 18:00 MuVer'17 – First International Workshop on Multimedia Verification (Hopper)**

**14:00 - 14:05 Opening remarks**

**14:05 - 15:00 Keynote 1 – Giulia Boato: Multimedia Forensics: An Overview of Recent Advances and Open Issues**

**15:00 - 16:00 Oral session**

**15:00 - 15:20 Collaborative Networks for Person Verification**  
Yihao Zhang, Wenmin Wang and Jinzhao Wang

**15:20 - 15:40 Video Retrieval for Multimedia Verification of Breaking News on Social Networks**  
Lyndon Nixon, Shu Zhu, Walter Rafelsberger, Fabian Fischer, Max Göbel and Arno Scharl

**15:40 - 16:00 The InVID Plug-in: Web Video Verification on the Browser**

**16:30 - 17:30 Keynote 2 – Gerald Friedland: Privacy vs Multimedia Verification: A Conundrum**

**17:30 - 17:45 Closing remarks and closing of the workshop**

# Tutorials

Friday, Oct 27

## Tutorial 4

**11:00 - 12:30** **Deep Reinforce Learning and Its Applications in Games** (*Hahn*)

Dr. Yuandong Tian from Facebook AI research

## Tutorial 5

**14:00 - 15:30** **Deep Learning for Image Classification with Large and Small Dataset** (*Hahn*)

Dr. Francois Chollet from Google Research

## Tutorial 6

**16:00 - 18:00** **Medical Multimedia Information Systems** (*Hahn*)

Klaus Schoeffmann (Klagenfurt University); Bernd Münzer (Klagenfurt University);  
Michael Riegler (Simula Research and University of Oslo); Pål Halvorsen  
(Simula Research and University of Oslo)





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## SUBMISSION DEADLINES

- Research papers: November 30, 2017
- Special sessions: December 15, 2017
- Open datasets & software, demos: February 25, 2018
- Workshops: March 1, 2018

## WORKSHOPS

- PV2018: 23rd Packet Video Workshop, <https://2018.packet.video>
- NOSSDAV2018: 28th ACM SIGMM Workshop on Network and Operating Systems Support for Digital Audio and Video, <http://www.nossdav.org>
- MMVE2018: 10th International Workshop on Immersive Mixed and Virtual Environment Systems, <http://www.mmve-workshop.org>
- NetGames2018: 16th Annual Workshop on Network and Systems Support for Games, <http://conferences.telecom-bretagne.eu/netgames18>

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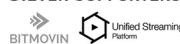
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## Call for Papers

ICMR 2018 is a premier conference to display scientific achievements and innovative industrial products in the field of multimedia retrieval. We are seeking original high quality submissions addressing innovative research in the field. Contributions addressing the challenges of large-scale search and user behavior analysis are especially welcome.

## Topics of Interest

- Content and context based indexing, search and retrieval of multimedia data
- Multimodal content analysis and retrieval
- Deep learning for multimedia retrieval
- Advanced descriptors and similarity metrics for multimedia data
- Complex multimedia event detection and recounting
- Learning and relevance feedback in multimedia retrieval
- Query models, paradigms, and languages for multimedia retrieval
- Hashing and indexing algorithms for large-scale retrieval
- Cross-media retrieval
- Fine-grained visual search
- Human perception based multimedia retrieval
- Studies of information-seeking behavior among image/video users
- Affective/emotional interaction or interfaces for image/video retrieval
- HCI issues in multimedia retrieval
- Crowdsourcing in multimedia retrieval
- Community-based multimedia content management
- Internet of multimedia things
- Image/video summarization and visualization
- Mobile visual search
- Applications of multimedia retrieval
- Evaluation of multimedia retrieval systems

## Important Dates

- **Technical paper Submission:** January 20, 2018
- **Doctoral symposium and Demo paper submission:** February 17, 2018
- **Notification of acceptance:** March 30, 2018
- **Camera-Ready Papers Due:** April 27, 2018
- **Workshop proposal:** December 15, 2017
- **Workshop notification of acceptance:** December 28, 2017
- **Tutorial proposal:** February 17, 2018
- **Tutorial notification of acceptance:** February 28, 2018

## Conference venue: Yokohama Media and Communication Center

Yokohama, that now-a-days can be accessed from Tokyo within an hour by train, was the first port to open up to the World in 1859 after more than two centuries of the government's isolation policy. Since its opening, it has been the international gateway of the Country towards the World until recently, following the change in the means of transportation. Although it is now-a-days considered as one of the satellite cities that compose the Greater Tokyo Metropolitan area, it still keeps the nostalgic atmosphere of the good-old-days with historical buildings and monuments standing here. The Conference is planned to be held at Yokohama Media and Communication Center, a historical building built in the 1920s situated in the heart of the port-town Yokohama.

<http://www.icmr2018.org/>



