Grand Dynasty Culture Hotel

Add.: 172 Lian Hu Road, Xian, Shaanxi Province 710002, P.R. China

Tel: (86 29) 8721 6868
Fax: (86 29) 8721 9754  87317043  87210708
Hotel Layout

Capital Ballroom
Area B

Poster Area

Sensetime
Exhibition1

Sugon
Exhibition2

PINGAN
Exhibition3

DiDi
Exhibition4

VRView
Exhibition5

SeetaTech
Exhibition6

Baidu
Exhibition7

TAL
Exhibition8
Welcome to FG 2018

Welcome to the 13th IEEE International Conference on Automatic Face and Gesture Recognition (FG 2018) in Xi’an, China. FG is the premier international conference on vision-based automatic face and body behavior analysis and applications. Since its first meeting in Zurich in 1994, the conference has been held twelve times throughout the world. This 13th meeting is held in Xi’an, a historical ‘Center’ of China. Xi’an has more than 3,100 years of history and is home of the world-renowned Terracotta Warriors (8th wonder of the world). Xi’an ranks alongside Rome and Athens as one of the world’s greatest centers of civilization. It affords visitors with excellent opportunities for tourism before and after the conference. The conference venue is the Grand Dynasty Culture Hotel, a 4-star hotel located in the heart of Xi’an, next to the well-known city wall, major tourist attractions, and only an hour from the airport.

In response to the increasing breadth and impact of research and applications in automatic face and gesture analysis, FG 2018 marks the advance of the conference from a biennial to an annual event. Submission and acceptance rates for FG 2018 maintain the high standards set by previous conferences. The main conference received nearly 170 submissions. Following FG’s established standards, the Program Committee brought together a technical committee of 223 experts to perform a rigorous double-blind review of all submissions. The review was conducted in two phases: the review phase and the author-rebuttal phase. During the review phase, each submission was reviewed by at least three experts. They commented on the strengths, weaknesses, novelty and impact of the work. During the author-rebuttal phase, authors were given the opportunity to respond to the reviewers’ comments and concerns. Following this step, the Area Chairs prepared meta-reviews along with a recommendation to “Accept” or “Reject”. The Program Chairs used the recommendation and meta-reviews of the Area Chairs, the reviewers’ comments, and the authors’ responses to render a final decision on each paper. Through this rigorous review process, 34 papers were accepted for oral presentations and 45 were accepted for poster presentations, an acceptance rate of about 47%. The accepted papers cover a wide range of topics, from the latest advances in automated face and gesture analysis to state of the art advances in applied technologies. The selected papers will comprise 12 single-track oral sessions, including special sessions on “Perception, Cognition and Psychophysiology of Gesture Interaction” and “Deep Learning for Face Analysis,” and two poster sessions. The posters will be highlighted in spotlight presentations.

The main program will feature three keynote presentations that reflect the interdisciplinary vigor of our community. The speakers are distinguished innovators in FG research. Professor Hillel Aviezer of Hebrew University is a leading expert on neuropsychology, with a focus on human perception and emotion expression in neuropsychological and neuropsychiatric disorders. Professor Nadia Berthouze of University College London is a world-renowned expert in developing technologies for analysis of human body movement for emotion recognition and intervention. Dr. Jian Sun of Face++ is a leading expert in development of automatic facial processing technology. As the chief scientist of Face++, Dr. Sun was involved in the developments of several widely used deep learning models, including the ResidualNet and the Fast RCNN.

The conference will feature workshops, tutorials, demonstrations, exhibitions, challenges, and a Doctoral Consortium. 6 workshops and 9 tutorials address topics in human behavior understanding, emotion recognition, 3D face reconstruction, FG for health, face and micro-facial expression recognition, and the
Welcome to FG 2018

latest FG developments in China. The tutorial topics are equally diverse and timely. They include person re-identification, face alignment, hidden emotion reading, active authentication in mobile devices, deep learning for facial understanding, sign language recognition, physiological measurements from images/videos, statistical methods for affective computing, and large-scale face recognition. Demonstrations and exhibitions will showcase the latest developments and applications of FG technologies by companies and universities. We will have two challenge workshops: Holoscopic Micro-Gesture Recognition Challenge 2018 and Recognizing Families in the Wild (RFIW). The Doctoral Consortium will provide PhD level students with opportunities to present and discuss their work to the community.

We will have a grand banquet that features traditional Chinese food and entertainment. During the banquet, we will announce the next FG conference, calls for proposals for future conferences, and Best Papers and Test of Time awards.

In closing, a large event such as FG cannot take place without the contributions of many people. We would like to express our sincere thanks to the area chairs and the reviewers. They gave generously of their time and expertise to create the excellent program. We are grateful to other conference organizers who worked diligently and effectively to solicit an outstanding collection of workshops, tutorials, challenges, special sessions, sponsorships, demos and exhibits and to publicize the conference, handle the finances and registration, and deal with the many details involved in putting together a first-rate conference. We would also like to express our thanks to the FG steering committee for their advice and guidance. Our thanks also go to our sponsors. Their support allows us to provide additional services to the conference attendees and enables the participation of a large number of graduate students in the Doctoral Consortium. Finally, we would like to express thanks to our technical sponsors: IEEE Computer Society and the IEEE Biometrics Council.

Last but not least, we wish to thank all of the authors who will share research findings and progress in conference and workshop papers, demos, Doctoral Consortium, and rich array of informal meetings. Their work is the reason the conference exists. We invite all attendees to actively participate in the conference activities and thoroughly enjoy the conference. May your experience at FG 2018 be rewarding both professionally and personally! Welcome to Xi’an!

Sincerely,

Bir Bhanu, Xilin Chen, and Qiang Ji, General Chairs
Sidney D’Mello, Louis-Philippe Morency, Michel Valstar, Lijun Yin, Program Chairs

http://www.fg2018.org/
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Jeffrey Cohn, University of Pittsburgh
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Guoying Zhao, University of Oulu
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Ronald Poppe, University of Twente
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Kevin Bailly
Tadas Baltrusaitis
Nadia Berthouze
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Sergio Escalera
Hatice Gunes
Ehsan Hoque
Rachael Jack
Laszlo Attila Jeni
Xiaoming Liu
Zicheng Liu
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Arun Ross

Walter J. Scheirer
Shiguang Shan
Linlin Shen
Terence Sim
Yale Song
Yan Tong
Yorgos Tzimiropoulos
Jacob Whitehill
Stefanos Zafeiriou
Lei Zhang
People

FG 2018 Special Session Organizers

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Richard Voyles
Adar Pelah
Guosheng Hu
Neil Robertson
Josef Kittler
Stan Z Li
Zhen Lei

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Timur Almaev
Gholamreza Anbarjafari
Epameinondas Antonakos
Oya Aran
Antonis Argyros
Rúbia Eliza De Oliveira
Schultz Ascari
Akshay Asthana
Min Aung
Amirali Bagher Zadeh
Sarah Bargal
Igor Bastos
Olga Bellon
Carlos Benitez-Quiroz
Piotr Bilinski
Xavier Binefa
Christophe Blanc
Ronald Böck
Nigel Bosch
Mason Bretan
Xavier P. Burgos-Artiztu
Carlos Busso
Necati Cihan Camgoz
Shaun Canavan
Alice Caplier
Oya Celiktutan
Xiujuan Chai
Ishani Chakraborty
Guillaume Chanel
Thierry Chateau
Sotirios Chatzis
Cunjian Chen
Jixu Chen
Mohamed Chetouani
Nicholas Cummins
Mohamed Daoudi
Arnaud Dapogny
Adrian Davison
Weihong Deng
Nick Depalma
Abhinav Dhall
Hamdi Dileklioglu
Alex Dillhoff
Zhengming Ding
Shichuan Du
Joy O. Egede
Hazim Kemal Ekenel
Hugo Jair Escalante
Justin Estepp
Julian Fierrez
Matt Flagg
Yun Fu
Rikke Gade
Jiangning Gao
Shangqian Gao
Lihao Ge
Xin Geng
Jeffrey Girard
Joseph Grafsgaard
Ishaan Grovery
Guodong Guo
Peihong Guo
Otkrist Gupta
Hu Han
Harald Hanselmann
Ran He
Ursula Hess
Juliane Hoebel-Mueller
Xiaopeng Hong
Guosheng Hu
Kaoning Hu
Di Huang
Michael Xuelin Huang
Xiaohua Huang
Patrik Huber
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Julio Jacques Junior
Shashank Jaiswal
Youngkyoon Jang
Sooyeon Jeong
Zhuolin Jiang
Alan Johnston
Jungseock Joo
Ajen Joshi
Amin Jourabloo
Andrew Kae
Ioannis Kakadiaris
Chandra Kambhamettu
Georgios Kapidis
Konstantinos Karpouzis
Mohsen Kheirandishfard
Jaebok Kim
Kanggeon Kim
Ahmet Alp Kindiroglu
Furkan Kirac
Josef Kittler
Deguang Kong
Yu Kong
Dimitrios Kosmopoulos
Richard Kulpa
Zhen Lei
Daniel Leightley
Hong Va Leong
James Lester
Dawei Li
People

Jun Li
Kai Li
Peng Liu
Jiwen Lu
Miao Lu
Gale Lucas
Jiebo Luo
Shugao Ma
Marwa Mahmoud
Ioannis Marras
David Marshall
Alessandro Masullo
Tetsu Matsukawa
Hongying Meng
Zibo Meng
Vangelis Metsis
Alejandro Moreno
Franziska Mueller
Franck Multon
Sanath Narayan
Xavier Naturel
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Norimichi Ukita
Rafael Vareto
Gualtiero Volpe
Juan Wachs
Jun Wan
Chen Wan
He Wang
Lichen Wang
Limin Wang
Ruiping Wang
Shangfei Wang
Xiaolong Wang
Yang Wang
Jacqueline Kory Westlund
Yue Wu
Wei Xiang
Fan Yang
Zhaojun Yang
Moi Hoon Yap
Xi Yin
Sejong Yoon
Gang Yu
Hui Yu
Shiqi Yu
Xiang Yu
Flavio Zavan
Jiabei Zeng
Chenyang Zhang
Xing Zhang
Yanxia Zhang
Handong Zhao
Qijun Zhao
Kun Zhou
Yin Zhou
Zhigang Zhu
Fariba Zohrizadeh
# People

### Doctoral Consortium Reviewers

<table>
<thead>
<tr>
<th>Abhinav Dhall</th>
<th>Zakia Hammal</th>
<th>Costanza Navarretta</th>
</tr>
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<tbody>
<tr>
<td>Hamdi Dibeklioglu</td>
<td>Ehsan Hoque</td>
<td>Ronald Poppe</td>
</tr>
<tr>
<td>Anna Esposito</td>
<td>Xiaohua Huang</td>
<td>Yan Tong</td>
</tr>
<tr>
<td>Yun Raymond Fu</td>
<td>Xiaoming Liu</td>
<td>Shangfei Wang</td>
</tr>
</tbody>
</table>
Keynotes at a Glance

Wednesday, 16 May 2018, 9:00 - 10:00
Professor Hillel Aviezer, Hebrew University
Beyond Pleasure and Pain: The Case of Real-Life Extreme Emotional Expressions

Thursday, 17 May 2018, 9:00 - 10:00
Professor Nadia Berthouze, University College London
The Affective Body in A Technology-Mediated World

Friday, 18 May 2018, 9:00 - 10:00
Dr. Jian Sun, Face++
Towards “Human-Level” Visual Human Understanding

FG 2018 Keynotes

Prof. Hillel Aviezer, Hebrew University
Keynote: Beyond Pleasure and Pain: The Case of Real-Life Extreme Emotional Expressions

Hillel Aviezer graduated the clinical neuropsychology program at the Hebrew University of Jerusalem. He completed his thesis on contextualized emotion perception under the joint supervision of Professors Shlomo Bentin and Ran Hassin. After obtaining his PhD, he continued to a post-doc in Princeton University, where he worked with Prof. Alex Todorov. At 2012 Aviezer joined the faculty of the psychology department at Hebrew University, where he is currently an associate Professor.

Abstract: The distinction between positive and negative facial expressions is assumed to be clear and robust. Nevertheless, research with intense real-life faces has shown that viewers are unable to differentiate the valence of such expressions without the use of body context. Using FACS analysis, we supplied participants with valid information about objective facial activity that could be easily used to differentiate positive from negative expressions. Strikingly, ratings remained virtually unchanged and participants failed to differentiate between positive and negative faces. We propose that the immunity of participants to objectively useful facial information results from stereotypical (but erroneous) inner representations of extreme positive and negative expression. These results have several important implications for automated expression recognition efforts. First, they demonstrate that felt and expressed emotion may dissociate, thus theories of basic expressions may have serious limitations in real-life. Second, they suggest a surprising dissociation between information present in isolated facial expressions and information used by human perceivers. Finally, they highlight the critical role of context in the perception of facial expressions.
Keynotes

Prof. Nadia Berthouze, University College London
Keynote: The Affective Body in A Technology-Mediated World

Professor Nadia Berthouze is a Full Professor in Affective Computing and Interaction at the University College London Interaction Centre (UCLIC). Her research focuses on designing technology that can sense the affective state of its users and use that information to tailor the interaction process. She has pioneered the field of Affective Computing by investigating how body movement and touch behaviour can be used as means to recognize and measure the quality of the user experience. She also studied how full-body technology and body sensory feedback can be used to modulate people's perception of themselves and of their capabilities to improve self-efficacy and coping capabilities. Her work has been motivated by real-world applications such as physical rehabilitation (EPSRC Emo&Pain), textile design (EPSRC Digital Sensoria), education (H2020 WeDraw) and wellbeing on the industrial workfloor (H2020 Human Manufacturing). She has published more than 200 papers in Affective Computing, HCI, and Pattern Recognition.

Abstract: Body movement and touch behaviour are important agents in the affective life of people. With the emergence of full-body sensing technology come new opportunities to support people's affective experiences and needs. Although we are now able to track people's body movements almost ubiquitously through a variety of low-cost sensors embedded in our environment as well as in our accessories and clothes, the information garnered is typically used for activity tracking more than for recognising and modulating affect. In my talk I will highlight how we express affect through our bodies in everyday activities and how technology can be designed to read those expressions and even to modulate them. Among various applications, I will present our work on technology for chronic pain management and discuss how such technology can lead to more effective physical rehabilitation through integrating it in everyday activities and supporting people at both physical and affective levels. I will also discuss how this sensing technology enables us to go beyond simply measuring and reflecting on one's behaviour by exploiting embodied bottom-up mechanisms that enhance the perception of one's body and its capabilities. I will conclude by identifying new challenges and opportunities that this line of work presents.

Dr. Jian Sun, Face++
Keynote: Towards “Human-Level” Visual Human Understanding

Dr. Jian Sun is Chief Scientist of Megvii Technology (Face++), a Computer Vision/AI startup (800+ FTE, 600M USD total funding, ranked at the 11th among 50 smartest companies 2017 by MIT Technology Review) located at Beijing, China. He received a B.S., a M.S. and a Ph.D., in Electronical Engineering at Xian Jiaotong University in 1997, 2000 and 2003. Following his dissertation, he joined Visual Computing Group in Microsoft Research Asia. He was promoted as Lead Researcher, Senior Researcher, Principal Researcher in 2008, 2010, and 2013. He relocated to Microsoft Research US in 2015, and was promoted as Principal Research Manager, Microsoft Partner in 2016.
His primary research interests are deep learning based image understanding, face recognition, and computational photography. Since 2002, he has published 100+ scientific papers on five tier-one conferences or journals (CVPR, ICCV, ECCV, SIGGRAPH, and PAMI). His Google Scholar citation number is 40,000+, H-index is 68, up to 02/2018. He is the recipient of Best Paper Awards of CVPR 2010 and CVPR 2016. In 2015, his team won five 1st places on ImageNet Challenge and COCO Visual Recognition Challenge, by invented "Residual Networks" and "Faster R-CNN" algorithms, which have been prevalently used in both academy and industry, including DeepMind's AlphaGo Zero in 2017. Jian was named one of the world’s top 35 young innovators (TR35) by MIT Technology Review in 2010. He severed as area chair of ICCV 2011, CVPR 2012/2015/2016/2017, and paper committee of Siggraph 2011. He is also the recipient of National Natural Science Award of China (second class) in 2016. His team at Megvii Research won three 1st places on COCO & Places Visual Recognition Challenge in 2017. He holds 40 International or US patents.

Abstract: In the first part of this talk, I will briefly present my views on the revolution and challenges in computer vision, by the rising of deep learning or deep neural networks. I will introduce some research works I have done in Microsoft Research and Megvii Research, including ResNet, Faster-RCNN, ShuffleNet, and MegDet, and some real-world applications I have built.

The second part of the talk focuses on the impacts of deep learning on visual understanding of human, the most important "object" in the world. This part will cover face recognition, anti-spoofing, human pose estimation, and pedestrian re-identification.
# Program at a Glance

## Week’s Schedule at a Glance

<table>
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<tr>
<th>Date</th>
<th>Session 1</th>
<th>Session 2</th>
<th>Session 3</th>
<th>Session 4</th>
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<tr>
<td><strong>Tuesday</strong></td>
<td>Workshops/Tutorials</td>
<td>Main Conference</td>
<td>Main Conference</td>
<td>Workshops/Tutorials/ Challenges</td>
</tr>
<tr>
<td>May 15, 2018</td>
<td>Lunch Break</td>
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</tr>
<tr>
<td><strong>Wednesday</strong></td>
<td>Workshops/Tutorials</td>
<td>Main Conference</td>
<td>Main Conference</td>
<td>Workshops/Tutorials/ Challenges</td>
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<tr>
<td>May 16, 2018</td>
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<tr>
<td><strong>Thursday</strong></td>
<td>Workshops/Tutorials/Doctoral Consortium</td>
<td>Main Conference</td>
<td>Main Conference</td>
<td>Workshops/Tutorials/ Challenges</td>
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<tr>
<td>May 17, 2018</td>
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</tbody>
</table>

## May 15, 2018 (3 Workshops + 5 Tutorials + 1 Doctoral Consortium)

<table>
<thead>
<tr>
<th>Room</th>
<th>Morning: 9:00am - 12:30pm</th>
<th>Afternoon: 1:00pm - 5:30pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room 1 (Board Room)</td>
<td>8th Int. Workshop on Human Behavior Understanding in conjunction with 2nd Int. Workshop on Automatic Face Analytics for Human Behavior (W1)</td>
<td></td>
</tr>
<tr>
<td>Room 2 (Qin Huang)</td>
<td>Statistical Methods For Affective Computing (T5)</td>
<td>Latest developments of FG technologies in China (W2)</td>
</tr>
<tr>
<td>Room 3 (Hua Shan)</td>
<td>Person Re-Identification: Recent Advances And Challenges (T1)</td>
<td>Facial Micro-Expression Grand Challenge (MEGC): Methods and Datasets (W3)</td>
</tr>
<tr>
<td>Room 4 (Tai Bai)</td>
<td>Representation Learning For Face Alignment And Recognition (T3)</td>
<td>Ms-Celeb-1m: Large Scale Face Recognition Challenge Tutorial (T2)</td>
</tr>
<tr>
<td>Room 5 (Li Shan)</td>
<td>Reading Hidden Emotions From Micro-Expression Analysis (T4)</td>
<td>Doctoral Consortium (DC) (Start at 12:30pm lunch with all participants)</td>
</tr>
</tbody>
</table>

## May 19, 2018 (3 Workshops + 4 Tutorials + 2 Challenges)

<table>
<thead>
<tr>
<th>Room</th>
<th>Morning: 9:00am - 12:30pm</th>
<th>Afternoon: 1:00pm - 5:30pm</th>
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</thead>
<tbody>
<tr>
<td>Room 1 (Board Room)</td>
<td>First Workshop on Large-scale Emotion Recognition and Analysis (W4)</td>
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<tr>
<td>Room 2 (Qin Huang)</td>
<td>Challenge 1 “Holoscopic Micro-Gesture Recognition Challenge 2018” (C1)</td>
<td>Face and Gesture Analysis for Health Informatics (FGAHI) (W5)</td>
</tr>
<tr>
<td>Room 3 (Hua Shan)</td>
<td>Sign Language Recognition And Gesture Analysis (T7)</td>
<td>1st Intern. Workshop on Real-World Face and Object Recognition from Low-Quality Images (FOR-LQ) (W6)</td>
</tr>
<tr>
<td>Room 4 (Tai Bai)</td>
<td>Active Authentication In Mobile Devices: Role Of Face And Gesture (T8)</td>
<td>Physiological Measurement From Images And Videos (T6)</td>
</tr>
<tr>
<td>Room 5 (Li Shan)</td>
<td>Introduction To Deep Learning For Facial Understanding (T9)</td>
<td>Challenge 2 “Recognizing Families In the Wild (RFIW) 2.0” (C2)</td>
</tr>
</tbody>
</table>
# Program at a Glance

## Main Conference Program at a Glance

<table>
<thead>
<tr>
<th>Time</th>
<th>Wednesday May 16, 2018</th>
<th>Thursday May 17, 2018</th>
<th>Friday May 18, 2018</th>
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<tbody>
<tr>
<td>8:45 - 9:00</td>
<td>Opening</td>
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<tr>
<td>9:00 - 10:00</td>
<td><strong>Keynote</strong></td>
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<tr>
<td><strong>Professor Hillel Aviezer, Hebrew University</strong></td>
<td><strong>Professor Nadia Berthouze, University College London</strong></td>
<td><strong>Dr. Jian Sun, Face++</strong></td>
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<tr>
<td>10:00 - 10:30</td>
<td><strong>Coffee break</strong></td>
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<tr>
<td>10:30 - 11:30</td>
<td><strong>Oral Session 1</strong></td>
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<tr>
<td><strong>Face Recognition</strong></td>
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<td><strong>Oral Session 5</strong></td>
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<tr>
<td>11:30 - 12:10</td>
<td><strong>Oral Session 2</strong></td>
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<tr>
<td><strong>Facial Expression Recognition</strong></td>
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<td><strong>Oral Session 6</strong></td>
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<tr>
<td>12:10 - 14:00</td>
<td><strong>End of session till - 14:00: Lunch break</strong></td>
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<tr>
<td>14:00 - 15:00</td>
<td><strong>Oral Session 3</strong></td>
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<tr>
<td><strong>Special Session on Perception, Cognition and Psychophysiology of Gesture Interaction</strong></td>
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<td><strong>Oral Session 7</strong></td>
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<tr>
<td>15:00 – 15:30</td>
<td><strong>Coffee break</strong></td>
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<tr>
<td>15:30 - 16:30</td>
<td><strong>Oral Session 4</strong></td>
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<tr>
<td><strong>Databases and Tools</strong></td>
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<td><strong>Oral Session 8</strong></td>
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<tr>
<td>16:30 - 17:30</td>
<td><strong>Oral Session 12</strong></td>
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<tr>
<td><strong>Poster Highlights I</strong></td>
<td></td>
<td><strong>Oral Session 11</strong></td>
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<tr>
<td>17:30 - 19:00</td>
<td><strong>Poster Session I</strong></td>
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<tr>
<td><em>Posters from Doctoral Consortium</em></td>
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<tr>
<td><em>Posters in areas of Face Gesture, Body, Affect, Technology and Applications</em></td>
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<tr>
<td><em>Posters from papers of Oral Sessions 1-4</em></td>
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<tr>
<td>17:30 - 19:00</td>
<td><strong>Demos</strong></td>
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<td>09:00 - 19:00</td>
<td><strong>Exhibits</strong></td>
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<td>19:30 - 21:30</td>
<td><strong>Reception</strong></td>
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<td><strong>Banquet</strong></td>
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Tuesday, May 15 2018

Tutorial-1: Person Re-Identification: Recent Advances and Challenges

Organizers: Shiliang Zhang
Jingdong Wang
Qi Tian
Wen Gao
Longhui Wei

Room: 3 (Hua Shan)

Time: 9:00 – 12:30 (Half day - Morning)

Description: As a research topic attracting more and more interests in both academia and industry, person Re-Identification (ReID) targets to identify the re-appearing persons from a large set of videos. It is potential to open great opportunities to address the challenging data storage problems, offering an unprecedented possibility for intelligent video processing and analysis, as well as exploring the promising applications on public security like cross camera pedestrian searching, tracking, and event detection. This tutorial aims at reviewing the latest research advances, discussing the remaining challenges in person ReID, and providing a communication platform for researchers working on or interested in this topic. This tutorial includes several talks given by researchers working closely on person ReID. Those talks cover our latest works on person ReID, as well as our viewpoints about the unsolved challenging issues in person ReID.

Tutorial-2: Ms-Celeb-1M: Large Scale Face Recognition Challenge Tutorial

Organizers: Yandong Guo
Lei Zhang
Yafeng Deng

Room: 4 (Tai Bai)

Time: 13:00 – 17:30 (Half day - Afternoon)

Description: Large scale face recognition is of great business value these days. In recent years, large scale training data, together with deep convolutional neural network, has demonstrated to be remarkably effective, especially in the face recognition domain. We have published MS-Celeb-1M two years ago, which has been the largest training data for face recognition and attracted a lot of attentions. Cutting-edge performance has been achieved by leveraging this dataset in many typical challenges in face recognition, especially,

a. Face representation learning
b. Large-scale celebrity recognition based on face
c. Large-scale celebrity recognition based on face

In the tutorial, we will first review the training data (format, download method, etc.). Then, we will introduce and summarize the research work based on this dataset for the above problems. One advantage for this tutorial is that we review not only the algorithms, but also the corresponding training dataset used, so that the research work can be reproduced by many other researchers/institute to inspire further research in the direction.

Last but not least, MS-Celeb-1M provides not only the training data, but also concrete benchmark tasks to evaluate the performance for each of the above tasks. We will also introduce in detail how we design these benchmark tasks, and how people should use these benchmark tasks. Please refer to http://www.msceleb.org/ for more details.

Tutorial-3: Representation Learning for Face Alignment and Recognition

Organizers: Hao Liu
Yueqi Duan
Jiwen Lu

Room: 4 (Tai Bai)

Time: 9:00 – 12:30 (Half day - Morning)

Description: Over the past decade, face alignment and recognition have been developed as two of the most widely-used applications in
computer vision where representation learning plays an important role in these tasks. In this tutorial, we will overview the trend of face alignment and recognition and discuss how representation learning techniques boost the performance of the two tasks. First, we briefly introduce the basic concept of face alignment and recognition, and show the key advantages and disadvantages of existing representation learning methods in the tasks. Second, we introduce some of our newly proposed representation learning methods from two aspects: representation learning for face alignment and representation learning for face recognition, which are developed for different application-specific representation learning techniques, respectively. Lastly, we will discuss some open problems in face alignment and recognition to show how to further develop more advanced representation learning algorithms for the two tasks in the future.

**Tutorial-4: Reading Hidden Emotions from Micro-Expression Analysis**

**Organizers:** Guoying Zhao  
Matti Pietikäinen

**Room:** 5 (Li Shan)

**Time:** 9:00 – 12:30 (Half day - Morning)

**Description:** Facial expressions are one of the major ways that humans convey emotions. Aside from ordinary facial expressions that we see every day, under certain circumstances emotions can also manifest themselves in the special form of micro-expressions (ME). Micro-expressions (MEs) are rapid, involuntary facial expressions which reveal emotions that people do not intend to show. Studying MEs is valuable as recognizing them has many important applications, particularly in forensic science and psychotherapy. Even though micro-expressions have been studied for many years by Psychologists, it is really new in computer vision field. There are three main problems related to MEs: spontaneous micro-expression inducement and collection; ME spotting; and ME recognition. All of them will be covered in the tutorial.

**Tutorial-5: Statistical Methods for Affective Computing**

**Organizers:** Jeffrey Girard  
Jeffrey Cohn

**Room:** 2 (Qin Huang)

**Time:** 9:00 – 12:30 (Half day - Morning)

**Description:** Statistical methods of data analysis emphasize inference and interpretability. As such, they are indispensable tools for enhancing scientific understanding, and they deserve a place alongside machine learning in the toolkits of scientists and engineers working in affective computing. This tutorial will provide training on contemporary statistical methods with high relevance to conference attendees. Its emphasis will be on providing high-level intuitions and practical recommendations rather than exhaustive theoretical and technical details. Prior exposure to statistics, while helpful, will not be required of attendees. Applied examples, complete with syntax and write-ups, will be provided in both R (www.r-project.org) and MATLAB; tutorial attendees are encouraged to bring a laptop with one of these software packages installed. Cross-cutting themes will include (A) measurement, (B) validity, and (C) uncertainty. Specific methods to be discussed include (1) measures of inter-rater reliability, (2) measures of criterion validity, (3) effect sizes, (4) confidence intervals, and (5) generalized linear modeling. These tools will help attendees answer such questions as: What are we measuring? How well are we measuring it? When are our measurements wrong? Do our measurements systematically vary across groups, times, etc.? How can we design our research studies to be maximally informative?
Tutorials

Saturday, May 19 2018

Tutorial-6: Physiological Measurement from Images and Videos
Organizers:  Daniel McDuff
Room: 4 (Tai Bai)
Time: 13:00 – 17:30 (Half day - Afternoon)
Description: Over the past 10 years there have been significant advances in remote imaging methods for capturing physiological signals. Remote measurement of physiology using cameras has numerous applications. In certain situations (e.g., burns, babies, delicate skin) long-term contact sensor application causes skin irritation and discomfort. In applications with high levels of body motion (e.g., athletics) contact sensors can be corrupted with muscle or sensor movement artifacts. Finally, there are applications in which the use of body-worn sensors is impractical (e.g., tele-health). Many measurement approaches involve analysis of the human face. The face has several advantages for analysis over other regions of the body: 1) it has high levels of blood perfusion (beneficial for optical and thermal imaging of blood flow); 2) it is typically not obstructed by clothing, thus allowing accurate motion tracking and measurement of visual signals, and 3) there are a number of effective, automated methods for face detection and tracking.

Approaches for the remote measurement of physiology utilize machine learning and digital signal and image processing to recover very subtle changes in videos caused by human physiology. Methods for measurement of pulse rate, respiration rate, pulse rate variability, blood oxygenation, blood perfusion, and pulse transit time from images have been presented. These signals are clinically important as vital signs and are also influenced by autonomic nervous system activity.

The first part of this tutorial will cover the fundamentals of remote imaging photoplethysmography. Following this there will be a deeper dive into state-of-the-art techniques for motion and dynamic illumination tolerance. Newer methods that leverage deep neural networks will be discussed, as will related approaches for skin segmentation and face detection/tracking. The impact of frame rate, image resolution and video compression on blood volume pulse signal-to-noise ratio and physiological parameters accuracy will be characterized and discussed. Advancements in multispectral and hyperspectral imaging will also be presented, highlighting how hardware as well as software can be adapted to improve physiological measurement. Finally, examples of visualization techniques and applications will be presented. Specifically, applications in clinical settings (ICU and NICU) and examples of measuring heart rate variability as a measure of cognitive stress will be addressed.

Sensing physiological signals from the face is a very nice complement to other forms of facial expression and gesture analysis. For example, facial expressions capture rich affective information particularly related to emotional valence, whereas physiological responses capture equally rich affective information related more strongly to emotional arousal. Furthermore, remote physiological analysis from the face leverages many techniques of interest to the AFGR community including: face detection, skin region detection, face tracking and registration, and robustness of these approaches to motion, lighting and appearance changes.

Tutorial-7: Sign Language Recognition and Gesture Analysis
Organizers:  Xiujuan Chai  
             Xin Zhang
Room: 3 (Hua Shan)
Time: 9:00 – 12:30 (Half day - Morning)
Description: In recent years, as a complex
non-rigid object, the analysis to hand related activities attracts more and more researcher’s attention, especially the sign language recognition (SLR), hand/fingertip detection and hand pose estimation. Our tutorial will overview the trend of these three aspects and discuss the mainstream techniques involving manifold learning, dictionary learning, metric learning and deep learning etc. First, we briefly introduce the development of SLR and then show the progress on the sign representation and modeling, signer-independent SLR and continuous SLR. Secondly, the hand pose estimation is surveyed on three categories, i.e. frame-based, video-based and 3D skeleton based, respectively. Then, the hand/fingertip detection and classification are introduced both from fist person view and third person view. Lastly, we will discuss some open problems in SLR and hand gesture analysis to show how to further develop more advanced learning algorithms for visual recognition in the future.

Tutorial-8: Active Authentication in Mobile Devices: Role of Face And Gesture
Organizers: Vishal M. Patel
Julian Fierrez
Room: 4 (Tai Bai)
Time: 9:00 – 12:30 (Half day - Morning)
Description: Recent developments in sensing and communication technologies have led to an explosion in the use of mobile devices such as smartphones and tablets. With the increase in use of mobile devices, one has to constantly worry about the security and privacy as the loss of a mobile device would compromise personal information of the user. To deal with this problem, active authentication (also known as continuous authentication) systems have been proposed in which users are continuously monitored after the initial access to the mobile device. This tutorial will provide an overview of different continuous authentication methods on mobile devices, with special focus in those based on face and gesture. We will discuss merits and drawbacks of available approaches and identify promising avenues of research in this rapidly evolving field. The tutorial should prove valuable to security and biometrics experts, exposing them to opportunities provided by continuous authentication approaches. It should also prove beneficial to experts in computer vision, signal and image processing, introducing them to a new paradigm of practical importance with very interesting research challenges.

Tutorial-9: Introduction To Deep Learning For Facial Understanding
Organizers: Raymond Ptucha
Room: 5 (Li Shan)
Time: 9:00 – 12:30 (Half day - Morning)
Description: Deep learning has been revolutionizing the machine learning community. This tutorial will first review Convolutional Neural Networks (CNNs) and Recurrent Neural Networks (RNNs). After understanding what and how CNNs and RNNs work, participants will cover techniques such as fully convolutional, sequence models, and latent representations in preparation to understand the latest methods for face detection, facial recognition, super resolution for faces, generative networks for faces, people detection, pose estimation, facial swapping, and facial video redaction. Sample code will be reviewed and distributed so that upon completion, participants can run code on their own data. The final third of this tutorial includes a hands-on portion where participants will practice building and testing their own deep models using provided cloud resources.
Tuesday, May 15 2018

8th International Workshop on Human Behavior Understanding and 2nd International Workshop on Automatic Face Analytics for Human Behavior Understanding

Organizers: Carlos Busso
Xiaohua Huang
Takatsugu Hirayama
Guoying Zhao
Albert Ali Salah
Matti Pietikäinen
Roberto Vezzani
Wenming Zheng
Abhinav Dhall

Room: 1 (Board Room)
Time: 9:00 – 17:30 (Full day)

9:00 - 10:00: Keynote
   Designing new user interfaces for cars
   Stephen Brewster

10:00 - 10:30: Coffee break

10:30 - 11:40: Behavior analysis for smart cars
1. Hands on the wheel: a Dataset for Driver Hand Detection and Tracking
   Guido Borghi, Elia Frigieri, Roberto Vezzani and Rita Cucchiara
2. Analysis of yawning behaviour in spontaneous expressions of drowsy drivers
   Zhuoni Jie, Marwa Mahmoud, Quentin Stafford-Fraser, Peter Robinson, Eduardo Dias and Lee Skrypchuk
3. Continuous Real-Time Vehicle Driver Authentication Using Convolutional Neural Network Based Face Recognition
   Ekberjan Derman and Albert Ali Salah
4. Towards understanding emotional reactions of driver-passenger dyads in automated driving
   Healey, Ignacio J. Alvarez and Asli Arslan Esme

11:40 - 12:35: Analysis of social signals

12:35 - 14:00: Lunch break

14:00 - 15:00: Keynote
   Recent advances in automatic emotion detection from facial expressions
   Hongying Meng

15:00 - 15:30: Coffee break

15:30 - 16:25: Face analytics
1. Visual Tracking based on Cooperative model
   Bobin Zhang, Weidong Fang, Wei Chen, Fangming Bi, Chaogang Tang and Xiaohua Huang
2. Changes in Facial Expression as Biometric: A Database and Benchmarks of Identification
   Rain Eric Haamer, Kaustubh Kulkarni, Nasrin Imanpour, Mohammad Ahsanul Haque, Egils Avots, Michelle Breisch, Kamal Nasrollahi, Sergio Escalera, Cagri Ozcinar, Xavier Baro, Ahmad R. Naghsh-Nilchi, Thomas B. Mousland and Gholamreza Anbarjafari
3. Investigating Deep Neural Forests for Facial Expression Recognition
   Arnaud Dapogny and Kevin Bailly

16:25 - 16:30: Closing Remarks

18:30 - 23:00: Workshop Dinner
Facial Micro-Expression Grand Challenge (MEGC 2018): Methods and Datasets
Organizers: Moi Hoon Yap
Sujing Wang
John See
Xiaopeng Hong
Stefanos Zafeiriou
Room: 3 (Hua Shan)
Time: 13:00 – 17:35 (Half day - Afternoon)
13:00 - 13:10: Welcome and Announcement
13:10 - 13:50: Keynote 1
Micro-Expressions: Recent Progress
Guoying Zhao
13:50 - 15:00: Challenge Papers
Walied Merghani, Adrian Davison, Moi Hoon Yap
2. From Macro to Micro Expression Recognition: Deep Learning on Small Datasets Using Transfer Learning, Min Peng, Zhan Wu, Zhihao Zhang, Tong Chen
Huai-Qian Khor, John See, Raphael Phan, Weiyao Lin
4. Facial Micro-Expressions Grand Challenge 2018 Summary by the chairs
15:00 - 15:20: Coffee break
15:20 - 16:00: Keynote 2
Reading between the lies: Do microexpressions reveal what we try to conceal?
Hillel Aviezer
16:00 - 17:00: Non-challenge papers
1. LTP-ML : Micro-Expression Detection by Recognition of Local temporal Pattern of Facial Movements
Jingting Li, Catherine Soladie, Renaud Seguier
2. Objective Micro-Facial Movement Detection Using FACS-Based Regions and Baseline Evaluation
Adrian Davison, Walied Merghani, Cliff Lansley, Choon-Ching Ng, Moi Hoon Yap
3. Micro-Expression Motion Magnification: Global Lagrangian vs. Local Eulerian Approaches
   Anh Cat Le Ngo, Alan Johnston, Raphael Phan, John See
   17:00 - 17:30: Brainstorm for future challenge
   Wenjing and keynote speakers
   17:30 - 17:35: Closing

The FG 2018 Doctoral Consortium
DC Chairs: Yan Tong
           ShangFei Wang
           Ronald Poppe
Room: 5 (Li Shan)
Time: 12:30 – 18:30 (Half day - Afternoon)

Accepted students: Jie Cai, Umur Ciftci, Jiankang Deng, Yueqi Duan, Md Kamrul Hasan, Han Jiang, Ajjen Joshi, Feng Liu, Yuval Nirkin, Xuesong Niu, Joseph P Robinson, Garima Sharma, Kang Wang, Le Yang, Ruijing Yang

12:30 - 13:30: DC Lunch and Introductions
13:30 - 15:00: Multimodal Emotion Recognition and Human Behavior Understanding
1. Personalized Face and Gesture Analysis using Hierarchical Bayesian Neural Networks
   Ajjen Joshi (Boston U.)
   Han Jiang (Worcester Polytechnic Institute)
3. Visual Recognition of Families in the Wild
   Joseph P Robinson (Northeastern U.)
4. Multi-Modal Depression Detection and Estimation
   Le Yang (Northwestern Polytechnical U.)
5. Multimodal Emotion Analysis with Application in Human Computer Interaction
   Umur Aybars Ciftci (Binghamton U.)
15:00 - 15:30 Coffee break

15:30 - 17:00 Social Signals from the Face
6. Robust and Accurate Eye Gaze Tracking and Its Applications
   Kang Wang (Rensselaer Polytechnic Institute)
7. Robust Remote Heart Rate Estimation using rPPG Signals: from Hand-craft to Learning-based Features
   Xuesong Niu (ICT, Chinese Academy of Sciences)
8. Learning discriminative features for facial expression recognition
   Jie Cai (U. of South Carolina)
9. Spontaneous Facial Expression Analysis in Videos
   Ruijing Yang (Northwest U.)
10. Using Facial Features to Contextualize Linguistic Analysis in Multimodal Communication
    Md Kamrul Hasan (U. of Rochester)
11. Spatio-temporal Features in Videos for Emotion Recognition in the Wild
    Garima Sharma (Indian Institute of Technology)
17:00 - 17:30 Coffee break
17:30 - 18:30 Face Recognition and Applications
12. On Face Segmentation, Face Swapping, and Face Perception
    Yuval Nirkin (The Open U. of Israel)
    Yueqi Duan (Tsinghua U.)
14. From 3D Face Alignment to Pose-invariant Face Recognition
    Jiankang Deng (Imperial College London)
15. 3D Face Modeling: Images, Shapes, and Biology
    Feng Liu (Sichuan U.)
Saturday, May 19 2018

1st Workshop on Large-scale Emotion Recognition and Analysis (LERA 2018)

Organizers: Abhinav Dhall
             Yelin Kim
             Qiang Ji

Room: 1 (Board Room)

Time: 9:00 – 12:30 (Half day - Morning)

08:55 - 09:00: Opening remarks

09:00 - 10:00: Keynote talk

  Prof. Guoying Zhao, University of Oulu, Finland

10:00 - 10:30: Coffee break

10:30 - 10:45

1. Smile Detection in the Wild Based on Transfer Learning
   Xin Guo, Luisa F. Polania and Kenneth E. Barner

10:45 - 11:00

2. A Dyadic Conversation Dataset On Moral Emotions
   Louise Heron, Jaebok Kim, Minha Lee, Kevin El Haddad, Stéphane Dupont, Thierry Dutoit and Khiet Truong.

11:00 - 12:00: Keynote talk

Large-scale and Longitudinal Emotion Analysis
Dr. Daniel Mcduff, Microsoft Research

12:00-12:15

3. Leveraging large face recognition data for emotion classification
   Boris Knyazev, Roman Shvetsov, Natalia Efremova and Artem Kuharenko

12:15 - 12:30

   Laurence Devillers, Sophie Rosset, Guillaume Dubuisson Duplessis, Lucile Bechade, Yücel Yemez, Berker Bekir Turker, Engin Erzin, Metin Sezgin, Kevin El Haddad, Stéphane Dupont, Paul Deleglise, Yannick Esteve, Carole Lailler, Emer Gilmartin and Nick Campbell

Face and Gesture Analysis for Health Informatics (FGAHI 2018)

Organizers: Kévin Bailly
             Liming Chen
             Mohamed Daoudi
             Arnaud Dapogny
             Zakia Hammal
             Di Huang

Room: 2 (Qin Huang)

Time: 13:00 – 16:30 (Half Day - Afternoon)

13:00 – 14:00: Keynote 1

Automated Face Analysis and Synthesis for Health Informatics
Jeffrey Cohn

14:00 - 15:00: Session 1

1. Non-Contact Reflectance Photoplethysmography: Progress, Limitations, and Myths
   Radim Spetlik, Jan Cech, Jiri Matas

2. Deep Learned Cumulative Attribute Regression
   Joy Egede, Shashank Jaiswal, Michel Valstar

3. JEMImE: a Serious Game to Teach Children with ASD How to Adequately produce Facial Expressions
   Arnaud Dapogny, Charline Grossard, Stephanie Hun, Sylvie Serret, Jérémy Bourgeois, Heidy Jean-Marie, Pierre Foulon, Huaxiong Ding, Liming Chen, Severine Dubuisson, Mohamed Chetouani, Ouriel Grynszpan, David Cohen, Kevin Bailly

15:00 - 15:30: Coffee break

15:30 - 16:30: Session 2

4. Head movements in context of speech during stress induction
   Giorgos Giannakakis

5. Detecting Depression Severity by Interpretable Representations of Motion Dynamics
   Anis Kacem, Zakia Hammal, Mohamed Daoudi, Jeffrey Cohn

6. A quantitative comparison of methods for 3D face reconstruction from 2D images
   Araceli Morales, Gemma Piella, Oriol Martínez, Federico Sukno
1st International Workshop on Real-World Face and Object Recognition from Low-Quality Images (FOR-LQ 2018)

Organizers: Dong Liu  
Weisheng Dong  
Zhangyang Wang  
Ding Liu

Room: 3 (Hua Shan)

Time: 13:00 – 16:50 (Half Day - Afternoon)

13:00 – 13:05: Opening

13:05 – 14:00: Keynote speech  
Intelligent Visual Computing  
Prof. Jiaying Liu, Peking University

14:00 - 15:00: Session 1

1. Convolutional Neural Network-Based Video Super-Resolution for Action Recognition  
Haochen Zhang, Dong Liu, Zhiwei Xiong

2. GLADNet: Low-Light Enhancement Network with Global Awareness  
Wenjing Wang, Chen Wei, Wenhan Yang, Jiaying Liu

3. Contextual Weighting of Patches for Local Matching in Still-to-video Face Recognition  
Ibtihel Amara, Eric Granger, Abdenour Hadid

15:00 - 15:30: Coffee break

15:30 - 16:50: Session 2

1. SDM: Semantic Distortion Measurement for Video Encryption  
Yongquan Hu, Wei Zhou, Shuxin Zhao, Zhibo Chen, Weiping Li

2. Survey of Face Detection on Low-quality Images  
Yuqian Zhou, Ding Liu, Thomas Huang

3. Landmark-based 3D Face Reconstruction from an Arbitrary Number of Unconstrained Images  
Wan Tian, Feng Liu, Qijun Zhao

4. Evaluation of Dense 3D Reconstruction from 2D Face Images in the Wild  
Zhen-Hua Feng, Patrik Huber, Josef Kittler, Peter Hancock, Xiao-Jun Wu, Qijun Zhao, Paul Koppen, Matthias Rätsch

16:50 - 17:00: Closing
Challenges

Saturday, May 19 2018

Challenge-1: Holoscopic Micro-Gesture Recognition Challenge 2018 (HoMGR 2018)

Organizers: Hongying Meng  
Mohammad R. Swaish  
Huibin Li  
Nadia Bianchi-Berthouze

Room: 2 (Qin Huang)

Time: 9:00 – 12:30 (Half day - Morning)

Description: The rapid development of Augmented Reality (AR) and Virtual Reality (VR) technology has led to high demand on precise finger movement-based controllers for gaming and other applications. Immersive holoscopic 3D imaging technology has been explored a lot recently and some small size sensors are now available. It can produce a 2D image with 3D information in it from lens array inside. This challenge will provide the opportunity to the research community to design finger micro-gesture recognition system using their own 3D image processing, feature extraction and classification methods, on a new built holoscopic 3D micro-finger gesture dataset. The dataset contains image sequences of different conventional finger micro-gestures (i.e. Button, Dial and Slider) from 40 subjects. The two sub-challenges will be

(1) Holoscopic 3D image based micro-gesture recognition.
(2) Holoscopic 3D video based micro-gesture recognition.

Papers:
1) Attention Based Residual Network for Micro-Gesture Recognition  
Min Peng, Chongyang Wang and Tong Chen
2) Holoscopic 3D Micro-Gesture Recognition Based on Fast Preprocessing and Deep Learning Techniques  
Tao Lei, Xiaohong Jia, Yuxiao Zhang, Yanning Zhang, Xuhui Su and Shigang Liu
3) Holoscopic 3D Micro-Gesture Database for Wearable Device Interaction  
Yi Liu, Hongying Meng, Mohammad Rafiq Swash, Yona Falinie A. Gaus and Rui Qin
4) Hybrid Neural Networks based Approach for Holoscopic Micro-Gesture Recognition in Images and Videos  
Garima Sharma, Shreyank Jyoti and Abhinav Dhall
5) Classification of Holoscopic 3D Micro-Gesture Images and Videos  
Weiizhe Zhang, Weidong Zhang and Jie Shao

Challenge-2: Recognizing Families In the Wild (RFIW) 2.0

Organizers: Yun Fu  
Joseph Robinson  
Ming Shao  
Siyu Xia

Room: 5 (Li Shan)

Time: 13:00 – 17:30 (Half day - Afternoon)

Description: Automatic kinship recognition holds promises to an abundance of applications. This is the second large-scale kinship recognition data competition, in conjunction with FG 2018. This is made possible with the release of the largest and most comprehensive image database for automatic kinship recognition, Families in the Wild (FIW). 2018 RFIW will support 2 laboratory style evaluation protocols.

(1) Kinship Verification (one-to-one)
(2) Family Classification (one-to-many)
(3) (one-to-two)
Note: All oral and poster sessions are located in CAPITAL BALLROOM (Area A + B). Each oral presentation follows the following format [presentations + questions]:

- Long paper: 17 min. + 3 min.
- Short paper (*): 12 min. + 3 min.

Wednesday (May 16, 2018)

Opening (8:45 – 9:00) (Capital Ballroom)

Keynote (9:00 - 10:00) (Capital Ballroom)

Beyond Pleasure and Pain: The Case of Real-Life Extreme Emotional Expressions
Professor Hillel Aviezer, Hebrew University
Chair: Lijun Yin

Coffee Break (10:00 – 10:30)

Oral Session 1:
Face Recognition (10:30 – 11:30)
Session Chair: Linlin Shen

1. One-Shot Face Recognition via Generative Learning
Zhengming Ding (Northeastern U.), Yandong Guo (Microsoft), Lei Zhang (Microsoft), and Yun Fu (Northeastern U.)

2. RGB-D Face Recognition via Deep Complementary and Common Feature Learning
Hao Zhang (Inst. of Computing Tech., CAS), Hu Han (Inst. of Computing Tech., CAS), Shiguang Shan (Inst. of Computing Tech., CAS), and Xilin Chen (Inst. of Computing Tech., CAS)

3. Visualizing and Quantifying Discriminative Features for Face Recognition
Gregory Castanon (Systems & Technology Research) and Jeffrey Byrne (Systems & Technology Research)

Oral Session 2:
Facial Expression Recognition(11:30– 12:10)
Session Chair: Ioannis Patras

1. Automatic 4D Facial Expression Recognition using Dynamic Geometrical Image Network

Weijian Li (Beihang U.), Di Huang (Beihang U.), Huibin Li (Xi’an Jiaotong U.), and Yunhong Wang (Beihang U.)

2. Unsupervised Domain Adaption with Regularized Optimal Transport for Multimodal 2D+3D Facial Expression Recognition
Xiaofan Wei (Xi’an Jiaotong U.), Huibin Li (Xi’an Jiaotong U.), Jian Sun (Xi’an Jiaotong U.), and Liming Chen (U. of Lyon)

Lunch Break (12:10 – 14:00)

Oral Session 3:
Special Session on Perception, Cognition and Psychophysiology of Gesture Interaction (14:00 – 15:00)
Session Chair: Juan Wachs

1. Biomechanical-based Approach to Data Augmentation for One-Shot Gesture Recognition
Maria E Cabrera (Purdue U.) and Juan Wachs (Purdue U.)

2. Kinematic Constrained Cascaded Autoencoder for Real-time Hand Pose Estimation
Yushun Lin (Inst. of Computing Tech., CAS), Xiajuan Chai (Inst. of Computing Tech., CAS), and Xilin Chen (Inst. of Computing Tech., CAS)

3. Large-scale Isolated Gesture Recognition Using Masked Res-3D Network and Skeleton LSTM
Chi Lin (Macau U. of Science and Technology), Jun Wan (Institute of Automation Chinese Academy of Sciences), Yanyan Liang (Macau U. of Science and Technology), and Stan Z. Li (Institute of Automation Chinese Academy of Sciences)

Coffee Break (15:00 – 15:30)

Oral Session 4:
Databases and Tools (15:30 – 16:30)
Session Chair: Shangfei Wang

1. OpenFace 2.0: Facial Behavior Analysis Toolkit
Tadas Baltrusaitis (Carnegie Mellon University), Amir Zadeh (Carnegie Mellon University), Yao Chong Lim (Carnegie Mellon University), and Louis-Philippe Morency (Carnegie Mellon University)
Main Conference Program

2. VGGFace2: A Dataset for Recognizing Faces across Pose and Age
Qiong Cao (U. of Oxford), Li Shen (U. of Oxford), Weidi Xie (U. of Oxford), Omkar M. Parkhi (U. of Oxford), and Andrew Zisserman (U. of Oxford)

3. Morphable Face Models - An Open Framework
Thomas Gerig (U. of Basel), Andreas Morel-Forster (U. of Basel), Clemens Blumer (U. of Basel), Bernhard Egger (U. of Basel), Marcel Lüthi (U. of Basel), Sandro Schönborn (U. of Basel), and Thomas Vetter (U. of Basel)

Poster Highlights I (16:30 – 17:30)

Session Chair: Ruiping Wang
- Format: 2 min. per regular poster paper, 1 min. per doctoral consortium poster
- Posters from Poster Session I (DC posters and regular poster papers)

Poster Session I (17:30 – 19:00)
- Posters of oral papers from Oral Sessions 1 ~ 4 (11)
- Doctor Consortium Posters (15)

1. Personalized Face and Gesture Analysis using Hierarchical Bayesian Neural Networks
Ajjen Joshi (Boston U.)

Han Jiang (Worcester Polytechnic Institute) and Jacob Whitehill (Worcester Polytechnic Institute).

3. Visual Recognition of Families in the Wild
Joseph P Robinson (Northeastern U.) and Yun Fun (Northeastern U.)

4. Multi-Modal Depression Detection and Estimation
Le Yang (Northwestern Polytechnical U.) and Dongmei Jiang (Northwestern Polytechnical U.)

5. Multimodal Emotion Analysis with Application in Human Computer Interaction
Umur Aybars Ciftci (Binghamton U.)

6. Robust and Accurate Eye Gaze Tracking and Its Applications
Kang Wang (Rensselaer Polytechnic Institute) and Qiang Ji (Rensselaer Polytechnic Institute)

7. Robust Remote Heart Rate Estimation using rPPG Signals: from Hand-craft to Learning-based Features
Xuesong Niu (Inst. of Computing Tech., CAS), Hu Han (Inst. of Computing Tech., CAS), Shiguang Shan (Inst. of Computing Tech., CAS), Xilin Chen (Inst. of Computing Tech., CAS)

8. Learning discriminative features for facial expression recognition
Jie Cai (U. of South Carolina), Zibo Meng (U. of South Carolina), and Yan Tong (U. of South Carolina)

9. Spontaneous Facial Expression Analysis in Videos
Ruijing Yang (Northwest U.), Xiaopeng Hong (U. of Oulu), Jinye Peng (Northwest U.), and Guoying Zhao (U. of Oulu)

10. Using Facial Features to Contextualize Linguistic Analysis in Multimodal Communication
Md Kamrul Hasan (U. of Rochester) and Ehsan Hoque (U. of Rochester)

11. Spatio-temporal Features in Videos for Emotion Recognition in the Wild
Garima Sharma (Indian Institute of Technology) and Abhinav Dhall (Indian Institute of Technology)

12. On Face Segmentation, Face Swapping, and Face Perception
Yuval Nirkin (The Open U. of Israel), Iacopo Masi (U. of Southern California), Anh Tuan Tran (U. of Southern California), Tal Hassner (U. of Southern California), Gerard Medioni (U. of Southern California)

Yueqi Duan (Tsinghua U.), Jiwen Lu (Tsinghua U.), and Jie Zhou (Tsinghua U.)

14. From 3D Face Alignment to Pose-invariant Face Recognition
Jiankang Deng (Imperial College London), Jia Guo (Imperial College London), Yuxiang Zhou (Imperial College London), Shiyang Cheng (Imperial College London), and Stefanos Zafeiriou (Imperial College London)

15. 3D Face Modeling: Images, Shapes, and Biology
Feng Liu (Sichuan U.), Qijun Zhao (Sichuan U.) and Zhisheng You (Sichuan U.)
Main Conference Program

- Regular poster papers of Face Gesture, Body, Affect, Technology and Applications (22)

1. (* ) Face Verification: Strategies for Employing Deep Models
   Ricardo Kloss (Universidade Federal de Minas Gerais), Artur Jardão (DCC UFMG), and William Robson Schwartz (Federal U. of Minas Gerais)

2. Emotion-Preserving Representation Learning via Generative Adversarial Network for Multi-View Facial Expression Recognition
   Ying-Hsiu Lai (National Tsing Hua U.) and Shang-Hong Lai (National Tsing Hua U.)

3. Task Specific Networks for Identity and Face Variation
   Yichen Qian (Beijing U. of Posts and Telecommunications), Weihong Deng (Beijing U. of Posts and Telecommunications), and Jiany Hu (Beijing U. of Posts and Telecommunications)

4. Context-sensitive Prediction of Facial Expressivity using Multimodal Hierarchical Bayesian Neural Networks
   Ajjen Joshi (Boston U.), Margrit Betke (Boston U.), Stan Sclaroff (Boston U.), Sarah Gunnery (Tufts U.), Soumya Ghosh (IBM), and Linda Tickle-Degnen (Tufts U.)

5. Spotting the Details: The Various Facets of Facial Expressions
   Carl Martin Grewe (Zuse Institute Berlin), Gabriel Le Roux (Zuse Institute Berlin), Sven-Kristofer Pilz (Zuse Institute Berlin), and Stefan Zachow (Zuse Institute Berlin)

   Huiyuan Yang (Binghamton U.), Zheng Zhang (Binghamton U.), and Lijun Yin (Binghamton U.)

7. Island Loss for Learning Discriminative Features in Facial Expression Recognition
   Jie Cai (U. of South Carolina), Zibo Meng (U. of South Carolina), Ahmed Shehab Khan (U. of South Carolina), Zhiyuan Li (U. of South Carolina), James O’Reilly (U. of South Carolina), and Yan Tong (U. of South Carolina)

8. An Empirical Study of Face Recognition under Variations
   Baoyun Peng (National U. of Defense Technology), Heng Yang (ULSee Inc.), Dongsheng Li (National U. of Defense Technology) and Zhaoning Zhang (National U. of Defense Technology)

9. Attributes in Multiple Facial Images
   Xudong Liu (West Virginia U.) and Guodong Guo (West Virginia U.)

10. Versatile Model for Activity Recognition: Sequencelet Corpus Model
    Hyun-Joo Jung (POSTECH) and Ki-Sang Hong (POSTECH)

    Arman Savran (Istituto Italiano di Tecnologia), Raffaele Tavarone (Istituto Italiano di Tecnologia), Bertrand Higy (Istituto Italiano di Tecnologia), Leonardo Badino (Istituto Italiano di Tecnologia), and Chiara Bartolozzi (Istituto Italiano di Tecnologia)

    Boyu Wang (Stony Brook U.) and Minh Hoai (Stony Brook U.)

13. A Study on the Suppression of Amusement
    Ifeoma Nwogu (Rochester Institute of Technology), Bryan Passino (Rochester Institute of Technology), and Reynold Bailey (Rochester Institute of Technology)

14. Say CHEESE: Common Human Emotional Expression Set Encoder Analysis of Smiles in Honest and Deceptive Communication
    Taylan Sen (U. of Rochester), Md Kamrul Hasan (U. of Rochester), Minh Tran (U. of Rochester), Matt Levin (U. of Rochester), Yiming Yang (U. of Rochester), and M. Ehsan Hoque (U. of Rochester)

15. Facial Expression Grounded Conversational Dialogue Generation
    Bernd Huber (Harvard U.) and Daniel McDuff (Microsoft)
16. A Multi-task Cascaded Network for Prediction of Affect, Personality, Mood and Social Context Using EEG Signals
Juan Abdon Miranda-Correa (Queen Mary U. of London) and Ioannis Patras (Queen Mary U. of London)

17. Letter-level Writer Identification
Zelin Chen (Sun Yat-Sen U.), Hongxing Yu (Sun Yat-Sen U.), Ancong Wu (Sun Yat-Sen U.), and Wei-Shi Zheng (Sun Yat-Sen U.)

18. (*) Online Attention for Interpretable Conflict Estimation in Political Debates
Ruben Vereecken (ibug, Imperial College London), Yannis Panagakis (ibug, Imperial College London), Stavros Petridis (ibug, Imperial College London), and Maja Pantic (ibug, Imperial College London)

19. (*) Rich Convolutional Features Fusion For Crowd Counting
Chaochao Fan (Anhui U.), Jun Tang (Anhui U.), Nian Wang (Anhui U.), and Dong Liang (Anhui U.)

20. (*) Cascade Multi-view Hourglass Model for Robust 3D Face Alignment
Jiankang Deng (Imperial College London), Yuxiang Zhou (Imperial College London), Shiyang Cheng (Imperial College London), and Stefanos Zafeiriou (Imperial College London)

21. (*) A Data-augmented 3D Morphable Model of the Ear
Hang Dai (U. of York), Nick Pears (U. of York), William Smith (U. of York), and Christian Duncan (Alder Hey Children’s Hospital)

22. Expressive Speech-Driven Lip Movements with Multitask Learning
Najmeh Sadoughi (The U. of Texas at Dallas) and Carlos Basso (The U. of Texas at Dallas)

Demos (17:30 – 19:00) (Board Room)

1. Real-time Emotion Recognition on Mobile Devices
Denis Sokolov, Mikhail Patkin; (WeSee, London, UK)

2. Fast Face and Saliency Aware Collage Creation for Mobile Phones
Love Mehta, Abhinav Dhall; (Indian Institute of Technology at Ropar)

3. Human Computer Interaction with Head Pose, Eye Gaze and Body Gestures
Kang Wang, Rui Zhao, Qiang Ji; (Rensselaer Polytechnic Institute)

4. End-to-end, Automatic Face Swapping Pipeline
Yuval Nirkin (The Open U. of Israel), Iacopo Masi (U. of Southern California), Anh Tuan Tran (U. of Southern California), Tal Hassner (U. of Southern California), Gerard Medioni (U. of Southern California)

5. Letter-level Writer Identification
Zelin Chen, Hong-Xing Yu, Ancong Wu, Wei-Shi Zheng; (Sun-Yet Sen U.)

6. OpenFace 2.0: Facial Behavior Analysis Toolkit
Tadas Baltrusaitis, Amir Zadeh, Yao Chong Lim, Louis-Philippe Morency; (Carnegie Mellon U.)

Exhibits (9:00 – 19:00)

Reception (19:30 – 21:30) (Capital Ballroom)
Main Conference Program

Thursday (May 17, 2018)

Keynote (9:00 - 10:00) (Capital Ballroom)
The Affective Body in A Technology-Mediated World
    Professor Nadia Berthouze, Univ. College London
    Chair: Qiang Ji

Coffee Break (10:00 – 10:30)

Oral Session 5:
    Facial Synthesis (10:30 – 11:30)
    Session Chair: M. Ehsan Hoque
      1. High-Quality Facial Photo-Sketch Synthesis Using Multi-Adversarial Networks
        Lidan Wang (Rutgers U.), Vishwanath Sindagi (Rutgers U.), and Vishal Patel (Rutgers U.)
      2. Symmetric Shape Morphing for 3D Face and Head Modelling
        Hang Dai (U. of York), Nick Pears (U. of York), William Smith (U. of York), and Christian Duncan (Alder Hey Children's Hospital)
      3. On Face Segmentation, Face Swapping, and Face Perception
        Yuval Nirkin (The Open U. of Israel), Iacopo Masi (U. of Southern California), Anh Tuan Tran (U. of Southern California), Tal Hassner (The Open U. of Israel), Iacopo Masi (U. of Southern California), Ram Nevatia (U. of Southern California), and Gerard Medioni (U. of Southern California)

Oral Session 6:
    Gesture Analysis (11:30 – 12:10)
    Session Chair: Xiujuan Chai
      1. Deep Learning for Hand Gesture Recognition on Skeletal Data
        Guillaume Devineau (MINES ParisTech, PSL Research U.), Wang Xi (Shanghai Jiao Tong U.), Fabien Moutarde (MINES ParisTech, PSL Research U.), and Jie Yang (Shanghai Jiao Tong U.)
      2. Learning to Recognize Touch Gestures: Recurrent vs. Convolutional Features and Dynamic Sampling
        Quentin Debard (LIRIS / Itekube), Christian Wolf (INRIA / CITI / LIRIS / INSA-Lyon), Stéphane Canu (LITIS / INSA-Rouen), and Julien Arné (Itekube)

Lunch Break (12:10 – 14:00)

Oral Session 7:
    Special Session on Deep Learning for Face Analysis (14:00 – 15:00)
    Session Chair: Guosheng Hu
      1. ExpNet: Landmark-Free, Deep, 3D Facial Expressions
        Fengju Chan (U. of Southern California), Anh Tuan Tran (U. of Southern California), Tal Hassner (The Open U. of Israel), Iacopo Masi (U. of Southern California), Ram Nevatia (U. of Southern California), and Gerard Medioni (U. of Southern California)
      2. (*) Cross-generating GAN for Facial Identity Preserving
        Weilong Chai (Beijing U. of Posts and Telecommunications), Weihong Deng (Beijing U. of Posts and Telecommunications), and Haifeng Shen (AI Lab)
      3. Unsupervised Learning of Face Representations
        Samyak Datta (IIIT at Hyderabad), Gaurav Sharma (IIIT at Hyderabad), and C. V. Jawahar (IIIT at Hyderabad)

Coffee Break (15:00 – 15:30)

Oral Session 8:
    Facial Biometrics and Face Technology Application (15:30 – 16:50)
    Session Chair: Shiguang Shan
      1. Kinship Classification through Latent Adaptive Subspace
        Yue Wu (Northeastern U.), Zhengming Ding (Northeastern U.), Hongju Liu (Northeastern U.), Joseph Robinson (Northeastern U.), and Yun Fu (Northeastern U.)
      2. Automatic Detection of Amyotrophic Lateral Sclerosis (ALS) from Video-Based Analysis of Facial Movements: Speech and Non-Speech tasks
        Andrea Bandini (Toronto Rehabilitation Institute - University Health Network), Jordan R. Green (MGH Institute of Health Professions), Babak Taati (Toronto Rehabilitation Institute - University Health Network), Silvia Orlandi (Bloorview Research Institute, Holland
3. **Human Behaviors-based Automatic Depression Analysis using Hand-crafted Statistics and Deep Learned Spectral Features**
   Siyang Song (U. of Nottingham), Linlin Shen (Shenzhen U.), and Michel Valstar (U. of Nottingham)

4. **(*) Harnessing Label Uncertainty to Improve Modeling: An Application to Student Engagement Recognition**
   Arkar Min Aung (Worcester Polytechnic Institute) and Jacob Whitehill (Worcester Polytechnic Institute)

**Exhibits (9:00 – 16:50)**
- Same as Wednesday Exhibits

**Banquet (17:30 – 20:10) (TangLeGong)**

   Bus from conference venue to TangLeGong will depart at 17:00.
Main Conference Program

Friday (May 18, 2018)

Keynote (9:00 - 10:00) (Capital Ballroom)
Towards “Human-Level” Visual Human Understanding
Dr. Jian Sun, Face++
Chair: Xilin Chen

Coffee Break (10:00 – 10:30)

Oral Session 9:
Affect and Expression (10:30 – 11:30)
Session Chair: Kevin Bailly
1. Edge Convolutional Network for Facial Action Intensity Estimation
Liandong Li (Beijing Normal U.), Tadas Baltrusaitis (Carnegie Mellon U.), Bo Sun (Beijing Normal U.), and Louis-Philippe Morency (Carnegie Mellon U.)

2. Perceptual Facial Expression Representation
Olga Mikheeva (KTH Royal Institute of Technology), Carl Henrik Ek (U. of Bristol), and Hedvig Kjellström (KTH Royal Institute of Technology)

3. Facial Action Unit Recognition Augmented by Their Dependencies
Longfei Hao (U. of Science and Technology of China), Shangfei Wang (U. of Science and Technology of China), Guozhu Peng (U. of Science and Technology of China), and Qiang Ji (Rensselaer Polytechnic Institute)

Oral Session 10:
Psychological and Behavioral Analysis (11:30 – 12:10)
Session Chair: Jacob Whitehill
1. Generative Models of Nonverbal Synchrony in Close Relationships

Mohammad Rafayet Ali (U. of Rochester), Taylan Sen (U. of Rochester), Dev Crasta (U. of Rochester), Viet-Duy Nguyen (U. of Rochester), Ronald Rogge (U. of Rochester), and M Ehsan Hoque (U. of Rochester)

Lunch Break (12:10 – 14:00)

Oral Session 11:
Face Detection and Alignment (14:00 – 15:20)
Session Chair: Yan Tong
1. Face Alignment across Large Pose via MT-CNN-based 3D Shape Reconstruction
Gang Zhang (Inst. of Computing Tech., CAS), Hu Han (Inst. of Computing Tech., CAS), Shiguang Shan (Inst. of Computing Tech., CAS), and Xilin Chen (Inst. of Computing Tech., CAS)

2. Deep & Deformable: Convolutional Mixtures of Deformable Part-based Models
Kritaphat Songsri-In (Imperial College London), George Trigeorgis (Imperial College London), and Stefanos Zafeiriou (Imperial College London)

3. Enhancing Interior and Exterior Deep Facial Features for Face Detection in the Wild

4. PersonRank: Detecting Important People in Images
Wei-Hong Li (Sun Yat-sen U.), Benchao Li (Sun Yat-sen U.), and Wei-Shi Zheng (Sun Yat-sen U.)

Coffee Break (15:20 – 15:50)

Oral Session 12:
Multimodal Data for Personal Wellness and Health (15:50 – 16:30)
Session Chair: Michel Valstar
1. The OBF Database: A Large Face Video Database for Remote Physiological Signal Measurement and Atrial Fibrillation Detection
Xiaobai Li (U. of Oulu), Iman Alikhani (U. of Oulu), Jingang Shi (U. of Oulu), Tapio Seppanen (U. of Oulu), Juhani Junttila (Oulu U. Hospital and U. of Oulu), Kirsi Majamaa-Voltti (Oulu U. Hospital and U. of
Main Conference Program

Oulu), Mikko Tulppo (Oulu U. Hospital and U. of Oulu), and Guoying Zhao (U. of Oulu)

2. Deep Multimodal Pain Recognition: A Database and Comparison of Spatio-Temporal Visual Modalities

Poster Highlights II (16:30 – 17:15)

Session Chair: Alberto Cruz

- Format: 2 min. per regular poster paper
- Posters from Poster Session II (regular poster papers)

Poster Session II (17:15 – 18:45)

- Posters of oral papers from Oral Sessions 5 ~ 12 (23)
- Regular poster papers of Face Gesture, Body, Affect, Technology and Applications (23)

1. Deep Transfer Network with 3D Morphable Models for Face Recognition
Zhanfu An (Beijing U. of Posts and Telecommunications) and Weihong Deng (Beijing U. of Posts and Telecommunications, Tongtong Yuan (Beijing U. of Posts and Telecommunications), and Jiani Hu (Beijing U. of Posts and Telecommunications)

2. Hand-crafted Feature Guided Deep Learning for Facial Expression Recognition
Guohang Zeng (Shenzhen U.), Jiancan Zhou (Shenzhen U.), Xi Jia (Shenzhen U.), Weicheng Xie (Shenzhen U.), and Limin Shen (Shenzhen U.)

3. (*) A Parametric Freckle Model for Faces
Andreas Schneider (U. of Basel), Thomas Vetter (U. of Basel), and Bernhard Egger (U. of Basel)

4. What is the Challenge for Deep Learning in Unconstrained Face Recognition?
Guodong Guo (West Virginia U.) and Na Zhang (West Virginia U.)

5. (*) Barycentric Representation and Metric Learning for Facial Expression Recognition
Anis Kacem (IMT Lille Douai), Mohamed Daoudi (IMT Lille Douai) and Juan-Carlos Alvarez-Paiva (U. of Lille)

6. (*) Reverse Engineering Psychologically Valid Facial Expressions of Emotion into Social Robots
Chaona Chen (U. of Glasgow), Oliver G.B. Garrod (U. of Glasgow), Jiayu Zhan (U. of Glasgow), Jonas Beskow (Furhat Robotics), Philippe G. Schyns (U. of Glasgow), and Rachael E. Jack (U. of Glasgow)

7. (*) Deep Unsupervised Domain Adaptation for Face Recognition
Zhimeng Luo (Beijing U. of Posts and Telecommunications), Jiani Hu (Beijing U. of Posts and Telecommunications), Weihong Deng (Beijing U. of Posts and Telecommunications), and Haifeng Shen (AI Lab)

8. Multi-channel Pose-aware Convolution Neural Networks for Multi-view Facial Expression Recognition
Yuanjuan Liu (China U. of Geosciences), Jiabei Zeng (Institute of Computing Technology, CAS), Shiguang Shan (Institute of Computing Technology, CAS), and Zhuo Zheng (China U. of Geosciences)

9. Accurate Facial Parts Localization and Deep Learning for 3D Facial Expression Recognition
Asim Jan (Brunel U.), Huaxiong Ding (Ecole Centrale de Lyon), Hongying Meng (Brunel U.), Liming Chen (Ecole Centrale de Lyon), and Huibin Li (Xi’an Jiaotong U.)

10. Eigen-Evolution Dense Trajectory Descriptors
Yang Wang (Stony Brook U.), Vinh Tran (Stony Brook U.), and Minh Hoai (Stony Brook U.)

11. (*) Improve Accurate Pose Alignment and Action Localization by Dense Pose Estimation
Yuxiang Zhou (Imperial College London), Jiankang Deng (Imperial College London), and Stefanos Zafeiriou (Imperial College London)

12. Toward Marker-less 3D Pose Estimation in Lifting: A Deep Multi-view Perceptron Solution
Rahil Mehrizi (Rutgers U.), Xi Peng (Rutgers U.), Shaoing Zhang (UNC Charlotte), Xu Xu (North
Carolina State U.), Dimitri Metaxas (Rutgers U.), and Kang Li (Rutgers U.)

13. Linear and Non-Linear Multimodal Fusion for Continuous Affect Estimation in-the-Wild
Yona Falinie Binti Abd Gaus (Brunel U.) and Hongying Meng (Brunel U.)

14. (*) Detecting Decision Ambiguity from Facial Images
Pavel Jahoda (Czech Technical U. in Prague), Antonin Vobecky (Czech Technical U. in Prague), Jan Cech (Czech Technical U. in Prague), and Jiri Matas (Czech Technical U. in Prague)

15. Predicting Folds in Poker Using Action Unit Detectors and Decision Trees
Doratha Vinkemeier (U. of Nottingham), Jonathan Gratch (U. of Southern California), and Michel Valstar (U. of Nottingham)

16. (*) A New Computational Approach to Identify Human Social Intention in Action
Mohamed Daoudi (IMT Lille Douai), Yann Coello (U. of Lille), Paul-Audain Desrosier (U. of Lille), and Laurent Ott (U. of Lille)

17. An Immersive System with Multi-Modal Human-Computer Interaction
Rui Zhao (Rensselaer Polytechnic Institute), Kang Wang (Rensselaer Polytechnic Institute), Rahul Divekar (Rensselaer Polytechnic Institute), Robert Rouhani (Rensselaer Polytechnic Institute), Hui Su (IBM), and Qiang Ji (Rensselaer Polytechnic Institute)

18. (*) Clinical Valid Pain Database with Biomarker and Visual Information for Pain Level Analysis
Peng Liu (Binghamton U.), Idris Yazgan (Binghamton U.), Sarah Olsen (Binghamton U.), Alecia Moser (Binghamton U.), Umur Ciftci (Binghamton U.), Saeed Bajwa (SUNY Upstate Medical U. at Syracuse), Christian Tvetenstrand (United Health Services Hospital at Binghamton), Peter Gerhardtstein (Binghamton U.), Omowunmi Sadik (Binghamton U.), and Lijun Yin (Binghamton U.)

19. (*) Toward Visual Behavior Markers of Suicidal Ideation
Naomi Eigbe (Rice U.), Tadas Baltrusaitis (Microsoft), Louis Philippe Morency (Carnegie Mellon U.), and John Pestian (Cincinnati Children’s Hospital Medical Center)

20. (*) Semi-Supervised Learning for Monocular Gaze Redirection
Daniil Kononenko (Skolkovo Institute of Science and Technology) and Victor Lempitsky (Skolkovo Institute of Science and Technology)

21. Head Pose Estimation on Low-Quality Images
Qiang Ji (Rensselaer Polytechnic Institute), Kang Wang (Rensselaer Polytechnic Institute), and Yue Wu (Tesla)

22. LCANet: End-to-End Lipreading with Cascaded Attention-CTC
Kai Xu (Arizona State U.), Xiaolong Wang (Samsung Electronics), and Dawei Li (Samsung Electronics)

Gang Chen (Inst. of Computing Tech., CAS), Xufen Cai (Communication U. of China), Hu Han (Inst. of Computing Tech., CAS), Shiguang Shan (Inst. of Computing Tech., CAS), and Xilin Chen (Inst. of Computing Tech., CAS)

Demos (17:15 – 18:45)
- Same as Wednesday Demos

Exhibits (9:00 – 18:45)
- Same as Wednesday Exhibits
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