

# **2013 10th IEEE International Conference and Workshops on Automatic Face and Gesture Recognition**

**(FG 2013)**

**Shanghai, China  
22 – 26 April 2013**



**IEEE Catalog Number: CFP13074-PRT  
ISBN: 978-1-4673-5545-2**

**Tuesday, April 23, 2013**

**08:20 – 08:30**

**Opening Session: Welcome to Face and Gesture  
2013**

**08:30 – 09:30**

**Keynote Speaker: Gregory Abowd, Georgia Institute  
of Technology**

**Talk Title: Computing and Autism: How a real  
problem drives multimodal activity recognition  
research**

**09:30 – 10:30**

**Session 1: Face Recognition**

**1. Discriminative Dictionary Learning with Low-Rank  
Regularization for Face Recognition**

Authors: Liangyue Li, Northeastern University; Sheng Li,  
Northeastern University; Yun Fu, Northeastern University

**2. Logarithm Gradient Histogram: A General Illumination  
Invariant Descriptor for Face Recognition**

Authors: Jun-Yong Zhu, Sun Yat-sen University; Wei-Shi  
Zheng, Sun Yat-sen University; Jianhuang Lai, Zhongshan  
University

### **3. Countermeasure for the Protection of Face Recognition Systems Against Mask Attacks**

Authors: Neslihan Kose, EURECOM; Jean-Luc Dugelay, EURECOM

**11:00 – 12:00**

#### **Session 2: Facial Biometrics**

##### **1. Assessment of Facial Wrinkles as a Soft Biometrics**

Authors: Nazre Batool, University of Maryland at College Park; Sima Taheri, University of Maryland at College Park; Rama Chellappa, University of Maryland at College Park

##### **2. Joint Estimation of Age, Gender and Ethnicity: CCA vs. PLS**

Authors: Guodong Guo, University of West Virginia; Guowang Mu, Hebei University of Technology

##### **3. A Talking Profile to Distinguish Identical Twins**

Authors: Li Zhang, National University of Singapore; Hossein Najati, National University of Singapore; Kengteck Ma, National University of Singapore; Terence Sim, National University of Singapore

**14:00 – 15:00**

#### **Session 3: Face Technology Applications I**

##### **1. Album-Oriented Face Recognition For Online Social Networks.**

Authors: Zhongkai Han, Syed Zain Masood, Jason Hochreiter, Spencer Fonte, Marshall Tappen, UCF

**2. Recognizing People by Face and Body in Photo Collections**

Authors: Markus Brenner, QMUL; Ebroul Izquierdo, QMUL

**3. Predicting Online Media Effectiveness Based on Smile Responses Gathered Over the Internet**

Authors: Daniel McDuff, MIT; Rana El Kaliouby, MIT Media Lab; David Demirdjian, MIT CSAIL; Rosalind Picard, MIT

**15:00 – 16:00**

**Session 4: Face Technology Applications II**

**1. Combining first-person and third-person gaze for attention recognition**

Authors: Francis Martinez, ISIR UPMC; Andrea Carbone, ISIR UPMC; Edwige Pissaloux, ISIR UPMC

**2. Isomorphic Manifold Inference for Hair Segmentation**

Authors: Dan Wang, ICT, Chinese Academy of Sciences; Shiguang Shan, Chinese Academy of Sciences; Hongming Zhang; Wei Zeng; Xilin Chen

**3. Measuring the Engagement Level of TV Viewers**

Authors: Javier Hernandez, MIT; Zichen Liu, Microsoft Research; Geoff Hulten, Microsoft; Dave DeBarr; Kyle Krum, Microsoft; Zhengyou Zhang, Microsoft Research

**17:00 – 19:00**

## **Poster Session I**

### **1. Person-Specific Face Tracking with Online Recognition** , \$

Authors: Zhaowei Cai, CBSR.CASIA; Longyin Wen, NLPR.CASIA; Dong Cao, HoHai University; Zhen Lei; Dong Yi, CASIA, China; Stan Z. Li, NLPR, CASIA, China

### **2. Decoding Mixed Emotions from Expression Map of Face Images**

Authors: Swapna Agarwal, Indian Statistical Institute; Dipti Mukherjee, Indian Statistical Institute

### **3. Hierarchical Hyperlingual-Words for Multi-Modality Face Classification**

Authors: Ming Shao, Northeastern University; Yun Fu, Northeastern University, USA

### **4. Tone-Aware Sparse Representation for Face Recognition**

Authors: Lingfeng Wang, NLPR; Huaiyu Wu, NLPR; Chunhong Pan, NLPR

### **5. Explicit Occlusion Detection based Deformable Fitting for Facial Landmark Localization.**

Authors: Xiang Yu, Rutgers University; Fei Yang, Rutgers University; Junzhou Huang, University of Texas at Arlington; Dimitris Metaxas, Rutgers University

### **6. Multiview Discriminative Learning for Age-Invariant Face Recognition**

Authors: Diana Sungatullina, Lomonosov Moscow State University; Jiwen Lu, ADSC; Gang Wang, NTU and ADSC; Pierre Moulin, UIUC

## **7. Face Recognition based on Regularized Nearest Points between Image Sets** ....

Authors: Meng YANG, ETHz, Hong Kong Polytechnic University; Pengfei Zhu, Hong Kong Polytechnic University; Luc Van Gool, ETHZ; Lei Zhang, Hong Kong Polytechnic University

## **8. A Scalable Metric Learning-Based Voting Method for Expression Recognition** ....

Authors: Shaohua Wan, University of Texas at Austin; J.K. Aggarwal, University of Texas at Austin

## **9. Ensemble of Randomized Linear Discriminant Analysis for Face Recognition with Single Sample per Person** ...

Authors: Ying Li, Shanghai University; Wei Shen, Shanghai University; Zhijiang Zhang, Shanghai University, China

## **10. A Unified Probabilistic Framework For Measuring The Intensity of Spontaneous Facial Action Units** ....

Authors: Yongqiang Li, Rensselaer Polytechnic Institute; Seyed Mohammad Mavadati, University of Denver; Mahoor Mohammad, University of Denver; Qiang Ji, Rensselaer Polytechnic Institute

## **11. Non-linear Predictors for Facial feature Tracking across Pose and Expression** .....

Authors: Tim Sheerman-Chase, CVSSP, University of Surrey; Eng-Jon Ong, University of Surrey; Richard Bowden, University of Surrey.

## **12. Improving Recognition and Identification of Facial Areas Involved in Non-verbal Communication by Feature Selection** .....

Authors: Eng-Jon Ong, University of Surrey; Tim Sheerman-

Chase, CVSSP, University of Surrey; Richard Bowden, University of Surrey; Nicolas Pugeault, CVSSP, University of Surrey

**13. Privileged Information-based Conditional Regression Forest for Facial Feature Detection** .....

Authors: Heng Yang, Queen Mary University of London; Ioannis Patras, Queen Mary University of London

**14. Using Color Texture Sparsity for Facial Expression Recognition** .....

Authors: Seung Ho Lee, KAIST; Hyungil Kim, KAIST; Konstantinos Plataniotis, University of Toronto; Yong Man Ro, KAIST, South Korea

**15. Hierarchical Approach to Weight Equations in Face Tracking and Recognition Framework** .....

Authors: Hisayoshi Chugan, Okayama University; Takeshi Shakunaga, Okayama University, Japan

**16. Face and Landmark Detection by Using Cascade of Classifiers** .....

Authors: Hakan Cevikalp, Eskisehir Osmangazi University; Bill Triggs; Vojtech Franc

**17. Emotional tagging of videos by exploring multi-emotion coexistence** .....

Authors: Zhaoyu Wang, USTC; SHANGFEI WANG, USTC; Menghua He, USTC; Zhilei Liu, USTC; Qiang Ji, Rensselaer Polytechnic Institute

**18. Multi-Feature Ordinal Ranking for Facial Age Estimation** .....

Authors: Renliang Weng, NTU, Singapore; Jiwen Lu, ADSC; Yang Gao, NTU.edu; Yap-Peng Tan, Nanyang Technological

University, Singapore

**19. From Dials to Facial Coding: Automated Detection of Spontaneous Facial Expressions for Media Research** \*\*\*\*

Authors: Evan Kodra, Affectiva; Thibaud Senechal, Affectiva; Daniel McDuff, MIT; Rana El Kaliouby, Affectiva, USA

**20. Illumination Alignment using lighting ratio: Application to 3D-2D Face Recognition** \*\*\*\*\*

Authors: Xi Zhao, University of Houston; Shishir Shah, University of Houston; Ioannis Kakadiaris, University of Houston

**21. Dimensional Affect Recognition using Continuous Conditional Random Fields** \*\*\*\*\*

Authors: Tadas Baltrusaitis, University of Cambridge; Ntombikayise Banda, University of Cambridge; Peter Robinson, University of Cambridge

**22. Video-based Face Recognition via Joint Sparse Representation** \*\*\*\*\*

Authors: Yi-Chen Chen, ECE, University of Maryland; Vishal Patel, University of Maryland at College Park; Rama Chellappa, University of Maryland at College Park; Jonathon Phillips, National Institute of Standards & Technology

**23. Robust Part-based Face Matching with Multiple Templates** \*\*\*\*\*

Authors: Kye-Hyeon Kim, POSTECH; Cha Zhang, Microsoft Research; Zhengyou Zhang, Microsoft Research; Seungjin Choi, POSTECH



# Wednesday, April 24, 2013

**08:30 – 09:30**

**Keynote Speaker: Judee Burgoon, University of Arizona**

**What the Lips Conceal, the Face, Head and Hands Reveal: Detecting Deception from Automated Analysis of Kinesics**

**09:30 – 10:30**

**Session 5: Affect and Expression I**

**1. Feature and Model Level Compensation of Lexical Content for Facial Emotion Recognition** .....

Authors: Soroosh Mariooryad, The University of Texas Dallas; Carlos Busso, The University of Texas at Dallas

**2. Weakly Supervised Pain Localization using Multiple Instance Learning** .....

Authors: Karan Sikka, UCSD; Abhinav Dhall, Australian National University; Marian Bartlett, UCSD

**3. A High-Resolution Spontaneous 3D Dynamic Facial Expression Database** .....

Authors: Xing Zhang, State University of New York at Binghamton; Lijun Yin, State University of New York at Binghamton; Jeffrey Cohn, University of Pittsburgh; Shaun

Canavan, State University of New York at Binghamton;  
Michael Reale, State University of New York at  
Binghamton; Andy Horowitz, State University of New York  
at Binghamton; Peng Liu, State University of New York at  
Binghamton

**11:00 – 12:00**

## **Session 6: Affect and Expression II**

### **1. Sequential Emotion Recognition using Latent-Dynamic Conditional Neural Fields** .....

Authors: Julien-Charles Levesque, Universite Laval; Louis-  
Philippe Morency, University of Southern California;  
Christian Gagne, Universite Laval

### **2. Smile or Smirk? Automatic Detection of Spontaneous Asymmetric Smiles to Understand Viewer Experience** .....

Authors: Thibaud Senechal, Affectiva; Jay Turcot, Affectiva;  
Rana El Kaliouby, Affectiva

### **3. Perceptual Effects of Damped and Exaggerated Facial Motion in Animated Characters** .....

Authors: Jennifer Hyde, Carnegie Mellon University;  
Elizabeth Carter, Carnegie Mellon University; Sara Kiesler,  
Carnegie Mellon University; Jessica Hodgins, Carnegie  
Mellon University

**14:00 – 15:00**

## **Session 7: Face Detection, Tracking, and Alignment**

### **1. Structural Models for Face Detection .....&+\***

Authors: Junjie Yan, NLPR, CASIA; Xucong Zhang, NLP and CBSR; ZhenLei; Stan Z. Li; Dong Yi, CASIA, China

### **2. Iterative Online Subspace Learning for Robust Image ..... Alignment Spatio-temporal Shape Features**

Authors: Jun He, Nanjing Univ. of Info. Sci. Tech.; Dejiao Zhang, Nanjing Univ. of Sci. Inf. Tech.; Laura Balzano, University of Michigan; Tao Tao, Nanjing Univ. of Inf. Sci. Tech.

### **3. Online Learning and Fusion of Orientation Appearance ..... Models for Robust Rigid Object Tracking**

Authors: Ioannis Marras, Imperial College London; Joan Alabort Medina, Imperial College London; Georgios Tzimiropoulos, University of Lincoln; Stefanos Zafeiriou, Imperial College London; Maja Pantic, Imperial College London

**15:00 – 16:00**

## **Session 8: Special Session on Micro-Expression**

### **1. Encoding Local Binary Patterns Using the Re- ..... Parametrization of the Second Order Gaussian Jet**

Authors: John Ruiz Hernandez, Matti Pietikinen, University of Oulu

### **2. Felt emotion and social context determine the ..... intensity of smiles in a competitive video game**

Authors: Jonathan Gratch, University of Southern

California; Lin Cheng, University of Southern California; Jill Boberg, University of Southern California; Stacy Marsella, University of Southern California

### **3. Implicit Video Multi-Emotion Tagging by Exploiting Multi-Expression Relations**

Authors: Zhilei Liu, USTC; Shangfei Wang, USTC; Zhaoyu Wang, USTC; Qiang Ji, Rensselaer Polytechnic Institute

**17:00 – 19:00**

## **Poster Session II**

### **1. Low-Rank Embedding for Semi-supervised Face Classification**

Authors: Gaurav Srivastava, Samsung Telecom America; Ming Shao, Northeastern University; Yun Fu, Northeastern University

### **2. A Spontaneous Micro-Expression Database: Inducement, Collection and Baseline**

Authors: Xiaobai Li, University of Oulu; Tomas Pfister, Department of Engineering Science, University of Oxford, Oxford UK; Xiaohua Huang, University of Oulu; Guoying Zhao, Department of Computer Science and Engineering, University of Oulu, Oulu Finland; Matti Pietikainen, Department of Computer Science and Engineering, University of Oulu, Oulu Finland

### **3. CASME Database: A Dataset of Spontaneous Micro-Expressions Collected From Neutralized Faces**

Authors: Wenjing Yan; Qi Wu; Yongjin Liu, Tsinghua

University; Sujing Wang, Chinese Academy of Science;  
Xiaolan Fu, Chinese Academy of Science

#### **4. Improving Action Units Recognition Using Dense Flow-based Face Registration in Video**

Authors: Songfan Yang, UC Riverside; Le An, UC Riverside;  
Bir Bhanu, UC Riverside

#### **5. Fast and Scalable Enrollment for Face Identification based on Partial Least Squares**

Authors: Gerson Carlos, University of Campinas; Helio Pedrini, University of Campinas; William Schwartz, Federal University of Minas Gerais

#### **6. Multiple Feature Fusion for Face Recognition**

Authors: Shu Kong, Zhejiang University; Xikui Wang, Zhejiang University; Donghui Wang, Zhejiang University; Fei Wu, Zhejiang University

#### **7. Learning from a Single Labeled Face and a Stream of Unlabeled Data**

Authors: Branislav Kveton, Technicolor Labs; Michal Valko, INRIA

#### **8. Illumination Invariant Human Face Recognition: Frequency or Resonance?**

Authors: Aryaz Baradarani, University of Windsor; Q.M. Jonathan Wu, University of Windsor

#### **9. Face Alignment Using Local Hough Voting**

Authors: Xin Jin, Nanjing University of Aeronautics and Astronautics, China; Xiaoyang Tan, Nanjing University of Aeronautics and Astronautics, China; Liang Zhou, Nanjing University of Aeronautics and Astronautics, China

#### **10. AU-aware Deep Networks for Expression Recognition**

Authors: Mengyi Liu, Chinese Academy of Sciences; Shaoxin Li, GUCAS, ICT, VIPL; Shiguang Shan, Chinese Academy of Sciences; Xilin Chen, Chinese Academy of Sciences

### **11. The temporal connection between smiles and blinks**

Authors: Laura Trutoiu, Carnegie Mellon University; Jessica Hodgins, Carnegie Mellon University; Jeffrey Cohn, University of Pittsburgh

### **12. Deformable Face Ensemble Alignment with Robust Grouped-L1 Anchors**

Authors: Xin Cheng, Queensland University of Technology; Clinton Fookes, Queensland University of Technology; Jason Saraghi, The Commonwealth Scientific and Industrial Research Organisation; Sridha Sridharan, Queensland University of Technology; Simon Lucey, The Commonwealth Scientific and Industrial Research Organization, Australia

### **13. Early Facial Expression Recognition with Early RankBoost**

Authors: Su Lu Mei, The university of Tokyo; Yoichi Sato, University of Tokyo

### **14. 3D Face Recognition for Partial Data using Semi-Coupled Dictionary Learning**

Authors: Dat Chu, University of Houston; Shishir Shah, University of Houston; Ioannis Kakadiaris, University of Houston

### **15. Multi-Attribute Sparse Representation with Group Constraints for Face Recognition under Different Variations**

Authors: Chen-Kuo Chiang, National Tsing Hua University; Te-Feng Su; Chih Yen; Shang-Hong Lai, National Tsing-Hua University, Taiwan

**16. Nebula Feature: A Space-Time Feature for Posed and Spontaneous 4D Facial Behavior Analysis** ....

Authors: Michael Reale, Binghamton University; Xing Zhang, Binghamton University; Lijun Yin, State University of New York at Binghamton

**17. Face Recognition with Occlusion Using Dynamic Image-to-Class Warping (DICW)** ....

Authors: Xingjie Wei, University of Warwick; Chang-Tsun Li, University of Warwick; Yongjian Hu, University of Warwick, United Kingdom

**18. Improved Local Binary Pattern Based Action Unit Detection Using Morphological and Bilateral Filters** ...

Authors: Anil Yuce, EPFL - Signal Processing Laboratory (LTS5); Matteo Sorci, nViso SA; Jean-Philippe Thiran, EPFL - Signal Processing Laboratory (LTS5)

**19. Improving Facial Expression Analysis using Histograms of Log-Transformed Nonnegative Sparse Representation with a Spatial Pyramid Structure** ....

Authors: Ping Liu, University of South Carolina; Shizhong Han, University of South Carolina; Yan Tong, University of South Carolina

**20. Making the most of the Self-Quotient Image in Face Recognition** ....

Authors: Ognjen Arandjelovic, Deakin University

**21. A comparison of alternative classifiers for detecting occurrence and intensity in spontaneous facial expression** .....

## **of infants with their mothers**

Authors: Nazanin Zaker, University of Denver; Mahoor Mohammad, University of Denver; Whitney Mattson; Daniel Messinger, University of Miami; Jeffrey Cohn, University of Pittsburgh

## **22. Maximum margin GMM learning for facial expression recognition**

Authors: Usman Tariq, University of Illinois at Urbana Champaign; Jianchao Yang, University of Illinois at Urbana Champaign; Thomas Huang, University of Illinois at Urbana Champaign

# **Thursday, April 25, 2013**

**08:30 – 09:30**

**Keynote Speaker: Jessica Hodgins, Carnegie Mellon University and Disney Research**

**Talk Title: Comparing Advances in Facial and Whole Body Animation**

**09:30 – 10:30**

**Session 9: Body Motion Analysis and Action Recognition I**

**1. Body communicative cue extraction for conversational analysis**

Authors: Alvaro Marcos-Ramiro, University of Alcalá;



Daniel Pizarro-Perez, University of Alcalá; Marta Marrón-Romera, University of Alcalá; Laurent Nguyen, EPFL and Idiap Research Institute; Daniel Gatica-Perez, EPFL and Idiap Research Institute

**2. Relative Dense Tracklets for Human Action Recognition** (++)

Authors: Piotr Bilinski, INRIA; Etienne Corvee, INRIA; Francois Bremond, INRIA; Slawomir Bak, INRIA

**3. Supervised Dictionary Learning for Action Localization** (, (

Authors: Vijay Kumar, Queen Mary, University of London; Ioannis Patras, Queen Mary University of London

**11:00 – 12:00**

**Session 10: Body Motion Analysis & Action Recognition II**

**1. Spatio-Temporal Steerable Pyramid for Human Action Recognition** (

Authors: Xiantong Zhen, University of Sheffield; Ling Shao, University of Sheffield

**2. Extremal Human Curves: a New Human Body Shape and Pose Descriptor** (

Authors: Slama Rim, LIFL; Hazem Wannous, LIFL-University of Lille; Mohamed Daoudi, Telecom-lille1

**3. Person Appearance Modeling and Orientation Estimation using Spherical Harmonics** (

Authors: Martijn Liem, University of Amsterdam; DariuGavrila, University of Amsterdam

**14:00 – 15:00**

**Session 11: Special Session on Sign Language**

**1. Histogram of 3D Facet: A Characteristic Descriptor for Hand Gesture Recognition**

Authors: Chenyang Zhang, CUNY City College; Xiaodong Yang; Yingli Tian, City University of New York

**2. Recognizing Eyebrow Movements Using CRFs for Non-manual Grammatical Marker Detection in ASL**

Authors: Jingjing Liu, Rutgers University; Bo Liu, Rutgers University; Peng Yang, Rutgers University; Shaoting Zhang, Rutgers University; Dimitris Metaxas, Rutgers University; Carol Neidle, Boston University

**3. May the Force be with you: Force-Aligned SignWriting for Automatic Subunit Annotation of Corpora**

Authors: Oscar Koller, RWTH Aachen University; Hermann Ney, RWTH Aachen University; Richard Bowden, University of Surrey

**15:00 – 16:00**

**Session 12: Special Session on FG in Medicine**

**1. Social Risk and Depression: Evidence from Manual and Automatic Facial Expression Analysis**

Authors: Jeffrey Girard, University of Pittsburgh; Jeffrey Cohn, University of Pittsburgh; Mohammad Mahoor, University of Denver; Seyed Mohammad Mavadati, University of Denver; Dean Rosenwald, University of

Pittsburgh

**2. Can body expressions contribute to automatic depression analysis?**

Authors: Jyoti Joshi, University of Canberra; Roland Goecke, University of Canberra; Michael Breakspear, Queensland Institute of Medical Research; Gordon Parker, University of New South Wales

**3. Automatic Behavior Descriptors for Psychological Disorder Analysis**

Authors: Stefan Scherer, USC Institute for Creative Tec; Giota Stratou, Jonathan Gratch, University of Southern California; Jill Boberg, University of Southern California; MarwaMahmoud, Cambridge University; Albert (Skip) Rizzo; Louis-Philippe Morency, University of Southern California

**17:00 – 19:00**

**Poster Session III**

**1. Inferring Hand Pose: A Comparative Study of Visual Shape Features**

Authors: Akshaya Thippur, KTH; Carl Henrik Ek, KTH; Hedvig Kjellstrom, KTH

**2. Activity Recognition by Learning Structural and Pairwise Mid-level Features Using Random Forest**

Authors: Jie Hu, University at Buffalo, SUNY; Yu Kong, Northeastern University; Yun Fu, Northeastern University

**3. Head Yaw Estimation via Symmetry of Regions**

Authors: Bingpeng Ma, HUST; Annan Li, National University of Singapore; Xiujuan CHAI; Shiguang Shan, Chinese Academy of Sciences

#### **4. Fast propagation-based skin regions segmentation in color images**

Authors: Michal Kawulok, Silesian Univ. of Technology

#### **5. Integrating Multi-Stage Depth-Induced Contextual Information For Human Action Recognition and Localization**

Authors: Bingbing Ni, ADSC; Yong Pei, ADSC; Pierre Moulin, UIUC

#### **6. Synthesis of Spatio-Temporal Descriptors for Dynamic Hand Gesture Recognition Using Genetic Programming**

Authors: Li Liu, The University of Sheffield; Ling Shao, University of Sheffield

#### **7. Accurate Static Pose Estimation Combining Direct Regression and Geodesic Extrema**

Authors: Brian Holt, University of Surrey; Richard Bowden, University of Surrey; Eng-Jon Ong, University of Surrey

#### **8. Multitouchless: Real-Time Fingertip Detection and Tracking Using Geodesic Maxima**

Authors: Philip Krejov, University of Surrey; Richard Bowden, University of Surrey

#### **9. Multi-Layer Joint Gait-Pose Manifold for Human Motion Modeling**

Authors: Meng Ding, Oklahoma State University; Guoliang Fan, Oklahoma State U

#### **10. On Combining Gait Features**

Authors: Yasushi Makihara, Osaka University; Daigo

Muramatsu, Osaka university; Haruyuki Iwama, Osaka university; Yasushi Yagi, Osaka university

**11. Video based Activity Recognition in Trauma Resuscitation** .....

Authors: Ishani Chakraborty, Rutgers University; Ahmed Elgammal, Rutgers University; Randall Burd, Children's National Medical Center

**12. Approximate Structured Output Learning for Constrained Local Models with Application to Real-time Facial Feature Detection and Tracking on Low-power Devices** .....

Authors: Shuai Zheng, Oxford Brookes University; Paul Sturgess, Oxford Brookes University; Philip Torr, Oxford Brookes Vision Group

**13. Prototype Based Feature Learning for Face Image Set Classification** .....

Authors: Mingbo Ma, Northeastern University; Ming Shao, Northeastern University; Xu Zhao, Shanghai Jiao Tong University; Yun Fu, Northeastern University

**14. Automatic Fetal Face Detection By Locating Fetal Facial Features From 3D Ultrasound Images For Navigating Fetoscopic Tracheal Occlusion Surgeries** .....

Authors: Rong Xu, Waseda University; Jun Ohya, Waseda University; Bo Zhang; Yoshinobu Sato; Masakatsu G. Fujie

**15. Learning Class-Specific Dictionaries with Fused Multiple Features for Face Recognition** .....

Authors: Shu Kong, Zhejiang University; Donghui Wang, Zhejiang University

**16. Skin Detection Using a Modified Self-Organizing** .....

## **Mixture Network**

Authors: Chang Lin, BUPT; Jun-min Leng, BUPT; Chong-xiuYu, BUPT

### **17. An Automatic 3D Expression Recognition Framework based on Sparse Representation of Conformal Images**

Authors: Wei Zeng, Florida International Univ.; Huibin Li, Ecole Centrale De Lyon; Liming CHEN, Ecole Centrale De Lyon; Jean-Marie Morvan, Ecole Centrale De Lyon; Xianfeng Gu, State University of New York at Stony Brook

### **18. Joint Optimization of Manifold Learning and Sparse Representations**

Authors: Raymond Ptucha, Rochester Institute of Tech; Andreas Savakis, RIT

### **19. Gender and 3D Facial Symmetry: What's the Relationship?**

Authors: Xia Baiqiang, Telecom-lille1; Boulbaba Ben Amor, Telecom-lille1; Drira Hassen, Telecom-lille1; Mohamed Daoudi, Telecom-lille1; Ballihi Lahoucine, Telecom-lille1

### **20. Real Time 3D Face Alignment with Random Forests-based Active Appearance Models**

Authors: Gabriele Fanelli, ETHZ; Matthias Dantone; Luc Van Gool, ETHZ

### **21. Transfer Learning to Account for Idiosyncrasy in Face and Body Expressions**

Authors: Bernardino Romera-Paredes, University College London; Min Aung, University College London; Paul Watson, University of Leicester; Massimiliano Pontil, University College London; Nadia Banchi-Berthouze, UCL

### **22. Distribution-Sensitive Learning for Imbalanced**

## Datasets

Authors: Yale Song, MIT; Louis-Philippe Morency, University of Southern California; Randy Davis, MIT Champaign

### **23. Temporal Coordination of Head Motion in Couples with History of Interpersonal Violence**

Authors: Zakia Hammal, Carnegie Mellon University; Jeffrey Cohn, University of Pittsburgh; Tess Bailie, CMU; Jason Saraghi, The Commonwealth Scientific and Industrial Research Organisation; Jesus Nuevo Chiquero, Csiro; Simon Lucey, Csiro

## **Additional Papers:**

### **Telling the Difference between Deceiving and Truth Tell: An Experiment in a Public Space 716**

K. Zhang, D. Eubanks, A. Frumkin, R. Saikayasit, A.  
Stedmon, G. Lawson

### **Imposing Cognitive Load to Unmask Prepared Lies: A Temporal Pattern Detection Approach 724**

V. Zurloni, B. Diana, M. Elia

### **Automated Analysis of Interactional Synchrony using Robust Facial Tracking and Expression Recognition 730**

X. Yu, S. Zhang, Y. Yu, N. Dunbar, M. Jensen, J. Burgoon, D.  
Metaxas

### **A Database for Facial Behavioural Analysis 736**

M. Yap, H. Ugail, R. Zwiggelaar

### **Decoding Affect in Videos Employing the MEG Brain Signal 742**

M. Abadi, M. Kia, R. Subramanian, P. Avesani, N. Sebe

### **Margin-Constrained Multiple Kernel Learning Based Multi-Modal Fusion for Affect Recognition 748**

S. Chen, Y. Tian



**A Facial Expression Based Continuous Emotional State Monitoring System with GPU Acceleration 755**

J. Cheng, Y. Deng, H. Meng, Z. Wang

**Analyzing Perceived Empathy/Antipathy based on Reaction Time in Behavioral Coordination 761**

S. Kumano, K. Otsuka, M. Matsuda, J. Yamato

**Proposal on an Image Haptization System Based on Emotional Effects of Color 769**

X. Liu, Y. Ji, K. Akahane, M. Sato

**Cross-pose Facial Expression Recognition 775**

F. Guney, N. Arar, M. Fischer, H. Ekenel

**Annotation and Processing of Continuous Emotional Attributes: Challenges and Opportunities 781**

A. Metallinou, S. Narayanan

**Introducing the RECOLA Multimodal Corpus of Remote Collaborative and Affective Interactions 789**

F. Ringeval, A. Sonderegger, J. Sauer, D. Lalanne

**Laughter Induction Techniques Suitable for Generating Motion Capture Data of Laughter Associated Body Movements 797**

G. McKeown, W. Curran, C. McLoughlin, H. Griffin, N. Bianchi-Berthouze

**Facial Expression Recognition using HessianMKL based Multiclass-SVM 802**

X. Zhang, M. Mahoor, R. Voyles

**Continuous AU Intensity Estimation using Localized, Sparse Facial Feature Space 808**

L. Jeni, J. Girard, J. Cohn, F. Torre

**Combining 3D Face Representations using Region Covariance Descriptors and Statistical Models 815**

J. Krizaj, V. Struc, S. Dobrisek

**A robust and isotropic curved surface representation for 3D faces description 822**

M. Jribi, F. Ghorbel

**Compensating inaccurate annotations to train 3D facial landmark localization models 828**

F. Sukno, J. Waddington, P. Whelan

**Benchmarking Asymmetric 3D-2D Face Recognition Systems 836**

X. Zhao, W. Zhang, G. Evangelopoulos, D. Huang, S. Shah, Y. Wang, I. Kakadiaris, L. Chen

**A stable and accurate multi-reference representation for surfaces of  $R^3$ : Application to 3D faces description 844**

W. Gadacha, F. Ghorbel

**Facial Ethnicity Classification based on Boosted Local  
Texture and Shape Descriptions 849**

H. Ding, D. Huang, Y. Wang, L. Chen

**Fully Automatic 3D Facial Expression Recognition using  
Differential Mean Curvature Maps and Histograms of  
Oriented Gradients 855**

P. Lemaire, M. Ardabilian, L. Chen, M. Daoudi