IEEE ICME 2013

IEEE International Conference on Multimedia & Expo

July 15 - 19, 2013

San Jose, California, U.S.A.

Table of Contents

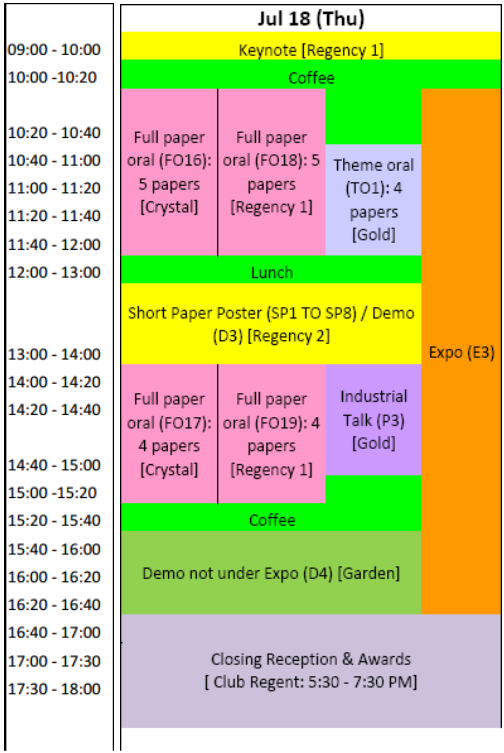
Conference Program

	Jul 15 (Mon)	
	7 full-day workshops	3 half-day tutorials
	Coffee: 9:50-10:00 (morning) and 14:50-15:00 (afternoon)	
Morning 9:00-12:30	(W1) MAP4VIP [Crystal] (W2) NIME'13 [Valley] (W3) EMSA 2013 [Regency1] (W4) AAM [Hillsborough] (W5) Hot3D [Empire] (W6) MIS [Sacramento] (W7) SMMR [Regency2]	(T1) High Efficiency Video Coding [Piedmont] (T2) Social Multimedia Signals [Gold] (T3) Active Learning for Multimedia Content Analysis [Garden]
Afternoon 13:30-17:00		3 half-day tutorials (T4) HTTP Adaptive Streaming [Piedmont] (T5) Development of Coding Tools from 2D to depth-enhanced 3D Video Compression[Gold] (T6) From Imaging Data to Useful Visual Information [Garden]
	Opening reception: 6-9 pm Location: The Circle of Palms	

Please refer to individual workshop webpage for final schedule

<table>
<tr><th></th><th colspan="4">Jul 16 (Tue)</th></tr>
<tr><td>09:00 - 10:00</td><td colspan="4">Welcome speech/Keynote [Regency 1]</td></tr>
<tr><td>10:00 -10:20</td><td colspan="4">Coffee</td></tr>
<tr><td>10:20 - 10:40</td><td colspan="4">Best paper candidates overview (OV1) 18 papers [Regency 1]</td></tr>
<tr><td>10:40 - 11:00</td><td>Full paper oral (FO1): 4 papers [Crystal]</td><td>Full paper oral (FO4): 4 papers [Gold]</td><td>Full paper oral (FO7): 4 papers [Regency 1]</td><td rowspan="12">Expo (E1)</td></tr>
<tr><td>11:00 - 11:20</td><td></td><td></td><td></td></tr>
<tr><td>11:20 - 11:40</td><td></td><td></td><td></td></tr>
<tr><td>11:40 - 12:00</td><td></td><td></td><td></td></tr>
<tr><td>12:00 - 13:00</td><td colspan="3">Lunch</td></tr>
<tr><td>13:00 - 14:00</td><td colspan="2">Main Poster (FP1 to FP7) / [Regency 2]</td><td>Demo (D1)</td></tr>
<tr><td>14:00 - 14:20</td><td rowspan="3">Full paper oral (FO2): 4 papers [Regency 1]</td><td rowspan="3">Full paper oral (FO5): 4 papers [Crystal]</td><td rowspan="2">Industrial Talk (P1) [Gold]</td></tr>
<tr><td>14:20 - 14:40</td></tr>
<tr><td>14:40 - 15:00</td><td></td></tr>
<tr><td>15:00 -15:20</td><td></td><td></td><td></td></tr>
<tr><td>15:20 - 15:40</td><td colspan="3">Coffee</td></tr>
<tr><td>15:40 - 16:00</td><td rowspan="3">Full paper oral (FO3): 4 papers [Regency 1]</td><td rowspan="3">Full paper oral (FO6): 4 papers [Crystal]</td><td rowspan="3">Full paper oral (FO8): 4 papers [Gold]</td></tr>
<tr><td>16:00 - 16:20</td></tr>
<tr><td>16:20 - 16:40</td></tr>
<tr><td>16:40 - 17:00</td><td colspan="3"></td></tr>
<tr><td>17:00 - 17:30</td><td colspan="4">No events scheduled</td></tr>
<tr><td>17:30 - 18:00</td><td colspan="4"></td></tr>
</table>

<table>
<tr><th></th><th>Jul 17 (Wed)</th></tr>
<tr><td>09:00 - 10:00</td><td>Keynote [Regency 1]</td></tr>
<tr><td>10:00 -10:20</td><td>Coffee</td></tr>
<tr><td>10:20 - 10:40</td><td>Best paper candidates overview (OV2): 18 papers [Regency 1]</td></tr>
<tr><td>10:40 - 11:00</td><td rowspan="2">Full paper oral (FO9): 4 papers [Crystal]</td><td rowspan="2">Full paper oral (FO12): 4 papers [Gold]</td><td rowspan="2">Full paper oral (FO15): 4 papers [Regency 1]</td><td rowspan="8">Expo (E2)</td></tr>
<tr><td>11:00 - 11:20</td></tr>
<tr><td>11:20 - 11:40</td><td colspan="3" rowspan="2">Lunch</td></tr>
<tr><td>11:40 - 12:00</td></tr>
<tr><td>12:00 - 13:00</td><td colspan="3" rowspan="2">Main (FP8 to FP11) / Theme Poster (TP12 to TP14) / Demo (D2) [Regency 2]</td></tr>
<tr><td>13:00 - 14:00</td></tr>
<tr><td>14:00 - 14:20</td><td rowspan="3">Full paper oral (FO10): 4 papers [Crystal]</td><td rowspan="3">Full paper oral (FO13): 4 papers [Regency 1]</td><td rowspan="2">Industrial Talk (P2) [Gold]</td></tr>
<tr><td>14:20 - 14:40</td></tr>
<tr><td>14:40 - 15:00</td><td rowspan="2">Short paper brief (SO1): 8 papers [Gold]</td></tr>
<tr><td>15:00 -15:20</td><td colspan="2">Coffee</td></tr>
<tr><td>15:20 - 15:40</td><td rowspan="3">Full paper oral (FO11): 4 papers [Crystal]</td><td rowspan="3">Full paper oral (FO14): 4 papers [Regency 1]</td><td rowspan="3"></td></tr>
<tr><td>15:40 - 16:00</td></tr>
<tr><td>16:00 - 16:20</td></tr>
<tr><td>16:20 - 16:40</td><td colspan="3" rowspan="2"></td></tr>
<tr><td>16:40 - 17:00</td></tr>
<tr><td>17:00 - 17:30</td><td colspan="3" rowspan="2"></td></tr>
<tr><td>17:30 - 18:00</td></tr>
<tr><td></td><td colspan="3">Banquet [Imperial: 6:30 - 10:30 PM]</td></tr>
</table>


Jul 18 (Thu)
09:00 - 10:00
Keynote [Regency 1]
10:00 -10:20
Coffee
10:20 - 10:40
10:40 - 11:00
11:00 - 11:20
11:20 - 11:40
11:40 - 12:00
Full paper oral (FO16): 5 papers [Crystal]
Full paper oral (FO18): 5 papers [Regency 1]
Theme oral (TO1): 4 papers [Gold]
12:00 - 13:00
Lunch
13:00 - 14:00
Short Paper Poster (SP1 TO SP8) / Demo (D3) [Regency 2]
Expo (E3)
14:00 - 14:20
14:20 - 14:40
14:40 - 15:00
15:00 -15:20
Full paper oral (FO17): 4 papers [Crystal]
Full paper oral (FO19): 4 papers [Regency 1]
Industrial Talk (P3) [Gold]
15:20 - 15:40
Coffee
15:40 - 16:00
16:00 - 16:20
16:20 - 16:40
Demo not under Expo (D4) [Garden]
16:40 - 17:00
17:00 - 17:30
17:30 - 18:00
Closing Reception & Awards
[Club Regent: 5:30 - 7:30 PM]

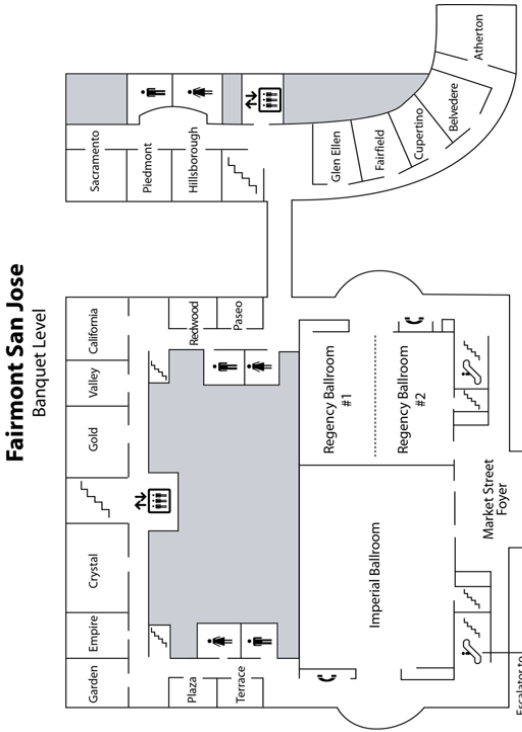
Morning
9:00-12:30

Jul 19 (Fri)

6 half-day workshops	3 half-day tutorials
Coffee: 9:50-10:00	
(W8) Green MM [Piedmont] (W9) IMV 2013 [Sacramento] (W10) Must-EH 2013 [Empire] (w11) BRUREC [Regency2] (W12) AAMS-PS [Regency1] (W13) MMIX'13 [Valley]	(T7) Signal Processing Methods for Stereoscopic and Multi-view 3D Displays [Gold] (T8) Online Learning for Real-Time Multimedia [Garden] (T9) Perceptual Coding of Digital Pictures [Crystal]
Lunch	
Sightseeing	

Please refer to individual workshop webpage for final schedule

Floor plan


Fairmont San Jose
Banquet Level
Garden
Empire
Crystal
Gold
Valley
California
Plaza
Terrace
Redwood
Paseo
Sacramento
Piedmont
Hillsborough
Glen Ellen
Fairfield
Cupertino
Belvedere
Atherton
Regency Ballroom #1
Regency Ballroom #2
Imperial Ballroom
Market Street Foyer
Escalator to Club Regent on Lobby Level

Conference information

ICME 2013 will be held at:
The Fairmont San Jose
170 South Market Street
San Jose, California 95113, United States
http://www.icme2013.org/

http://goo.gl/maps/daHwf

Registration:

Registration is located outside the Regency Ballrooms and the hours are:

Monday	08:00 - 18:00
Tuesday	08:00 - 17:00
Wednesday	08:00 - 17:00
Thursday	08:30 - 16:00
Friday	08:30 - 12:00

Internet Access: Please contact the registration desk for free Internet access password.

Friendly Reminder: Please make sure cell phones and other communication devices are set to a silent mode during active sessions. The speakers and audience thank you for your consideration.

Gratuities: For international attendees, suggested gratuities: restaurants: 15% of bill, hotel bellhops: $2- $3 per bag, taxi drivers: 10%-15% of the fare.

Social Events: Note that tickets are needed for Opening Reception and Banquet (if you have indicated in your registration). If you wish to buy a ticket, please see the ICME 2013 registration desk.

Opening Reception:
Place: Circle of Palms, Fairmont Hotel
Date: July 15, 2013
Time: 18:00 – 21:00

Banquet
Place: Imperial Ballroom, Fairmont Hotel
Date: July 17, 2013
Time: 18:30 – 22:30

Closing Reception and Awards Ceremony
Place: Club Regency, Fairmont Hotel
Date: July 18, 2013
Time: 17:30 – 19:30

Message from ICME 2013 General Chairs



On behalf of the Organizing Committee, it is our great pleasure to welcome you to the 2013 IEEE International Conference on Multimedia and Expo (ICME 2013). ICME is sponsored by four IEEE societies: Signal Processing, Circuits and Systems, Computer, and Communications. It is the premier forum for the presentation of the latest advances in multimedia technologies, systems, and applications from both the research and development perspectives. ICME 2013 is the fourteenth in the series that has been held annually since 2000, after New York, Tokyo, Lausanne, Baltimore, Taipei, Amsterdam, Toronto, Beijing, Hannover, New York City, Singapore, Barcelona and Melbourne. We are glad that from July 15th to 19th, 2013, San Jose will be the home of the latest research in multimedia technologies.

With many innovations, ICME 2013 is record-breaking in ICME history from many aspects:

- The largest number of (1208) paper submissions combining all categories;
- A tutorial program that is open to all conference attendees without additional charges;
- Industrial tours to Intel, HP, and Cisco; and,
- Exhibition and demos, which are open to the public.

We would like to acknowledge Drs. Irene Cheng (University of Alberta) and Xian-Sheng Hua (Microsoft Research), the TPC Chairs, and the TPC team under their leadership, for their outstanding efforts to make ICME'13 the largest program ever in ICME history, while maintaining superior quality. We want to thank Drs. Lingzhi Liu (Intel, keynote/panel chair), Yi Fang (Santa Clara University, local/event chair), Birsen Sirkeci (San Jose State University, local/event chair), Rui Shen (University of Alberta, Web chair), Tom Malzbender (HP, industrial program chair), Cha Zhang (Microsoft Research, industrial program chair), Xenophon Zabulis (FORTH, Greece, publications chair), Lisa Schwarzbek and Nicole Allen (IEEE). We also thank the following for all their hard work: the workshop chairs Drs. Li, Sapino, and Shih; the keynote/panel chair Dr. Bimbo; the theme chairs Drs. El-Saddik, Wang, and Su; the society chairs Drs. Tseng, Lin, Kankanhalli, and Hanjalic; the short papers chairs Drs. Zhai, Kwasinski, and Wu; the publicity chairs Drs. Atrey, Lavoué, Song, Sunwoo, and Zhang; the sponsorship chairs Drs. Zhou, Oguz, and Madhvanath; the finance chairs Drs. Zhao and Su; the publications support Karamaounas; the registration chair Mr. Gu; the tutorials chairs Drs. Smolic, Shirmohammadi, and Ogunfunmi; the demo chairs Drs. Dufaux and Tagliasacchi; the expo chairs Drs. Zhu, Xiong, and Li; and the operation chair Dr. Rossol.

ICME 2013 will be held at Fairmont, San Jose, the premier hotel in the area. There are numerous local attractions that attendees can enjoy, including:

- **The Tech Museum of Innovation,** or simply **The Tech,** is a museum located in the heart of Silicon Valley, in downtown San Jose**.**
- **Intel Museum**, Santa Clara: At the Intel Museum in Santa Clara, you can experience the power of computer chips first hand, and the evolution of their development.
- **Computer History Museum,** Mountain View: The Computer History Museum is the world's leading institution exploring the history of computing and its ongoing impact on society.
- The **Lick Observatory** is an astronomical observatory, owned and operated by the University of California. It is situated on the summit of Mount Hamilton, in the Diablo Range just east of San Jose.

- **Paramount's Great America Amusement Park,** Santa Clara: The best amusement park in Northern California packs a wide variety of attractions into its 100-acre site.
- **Chinatown,** San Francisco: The largest Chinatown outside Asia with hundreds of historical and tourist attractions.
- **Fisherman's Wharf,** San Francisco: Pier 39 is an open-air festival marketplace located on San Francisco Bay with two levels of fun-filled attractions, unique shopping at 110 specialty shops and delightful dining at one of 14 full-service restaurants.
- **Monterey Bay Aquarium**: Take a drive down the Pacific Coast to enjoy the world famous Monterey Bay Aquarium. It brings visitors up close with the rich marine life found along California's coast.
- **Children's Discovery Museum of San Jose (CDM)** is located on Woz Way in downtown San Jose, California.
- **History Park at Kelley Park** (or just **History Park**) is designed as an indoor/outdoor museum, arranged to appear as a small US town might have in the early 1900s.
- The **Cathedral Basilica of St. Joseph** is a large Roman Catholic Church located in Downtown of San Jose.
- **Plaza de César Chávez** is a 2.2-acre (9,000 m^2) park in Downtown San Jose named after César Chávez (originally "The Plaza", then "Pueblo Plaza") in 1993.
- The **Dr. Martin Luther King, Jr. Library** is a 136 foot tall public library in Downtown San Jose that opened on August 1, 2003.
- The **Rosicrucian Egyptian Museum** (REM), founded by the Ancient Mystical Order Rosae Crucis, is a museum about Ancient Egypt located at AMORC's Rosicrucian Park in the Rose Garden neighborhood of San Jose.
- The **Mexican Heritage Plaza** is a museum and cultural center in San José that opened in 1999.
- The **Winchester Mystery House** is a well-known mansion which is located in San Jose, California. It was continuously under construction for 38 years and is reported to be haunted.
- **Raging Waters** is the name of a water theme park located in San Jose. It is the largest water park in the state of California.

- The **Circle of Palms Plaza** is located in downtown San Jose. It is the location of California Historical Marker 461, the site of California's first state capital from 1849-1851.

In addition to the above, there are many museums and art galleries nearby. Hundreds of reasonably priced restaurants, with food from almost all regions of the world, are within a short walking distance from the conference venue.

The organizing committee has put together a very attractive social program. The welcome reception will be held in the Circle of Palms, accompanied by high quality guitar and xylophone performance. The Banquet will take place in Fairmont with a Brazilian Jazz performance. We are also planning a closing reception and student awards ceremony. We would like to thank all the organizing committee members and administration staff for making these events successful.

The success of this conference would not be possible without the generous support from our sponsors. This year we have a large group of sponsors including Alberta Innovates Technology Futures, Intel, Cisco, Santa Clara University, Disney Research, Microsoft Research, IBM Research, Arizona State University, and Taylor & Francis.

Finally, we would like to express our deepest appreciation to the ICME Steering Committee, especially Dr. Chang-Wen Chen (University at Buffalo), the Chair, for their constant supports and invaluable guidance and advice all the time. Thanks to all the volunteers, reviewers, and many people that put extraordinary efforts in this event; we are sure that ICME 2013 will be a remarkable experience.

Anup Basu, University of Alberta, Canada

Nam Ling, Santa Clara University, USA

Sethuraman (Panch) Panchanathan, Arizona State University, USA

Message from ICME'13 Technical Program Chairs

On behalf of the ICME 2013 Technical Program Committee, we warmly welcome you to San Jose. ICME has been a flagship international conference for the presentation of novel and fundamental advances in the field of Multimedia Research since 2000. It is sponsored by four IEEE societies (IEEE Signal Processing Society, IEEE Communication Society, IEEE Circuit and System Society and IEEE Computer Society), and ICME 2013 is the 14th annual event.

Strong Program

The ICME 2013 main conference (July 16-18, Tuesday to Thursday, 2013) technical program will feature three keynote talks delivered by world class scientists. In order to promote high quality research work, introductions of 36 best paper candidates will be given after the keynotes on Tuesday and Wednesday. We arrange high quality technical talks in three parallel sessions, covering the ICME 2013 full papers, "Multimedia for Humanity" theme papers, short papers and panel/industrial talks. A poster/demo session will be held after lunch every day to showcase research and applications development, as well as to provide an opportunity for R&D discussions. On the third day, a single session will be provided in the afternoon to engage the audience in live system and application demos. As per tradition, Expo will be running throughout all main conference days.

We have designed the program taking into consideration of the diverse interests of ICME audience, so that attendants can always find high quality sessions to participate during the conference, be it a panel, a poster/demo, an expo, or an oral session talk.

An on-site judging committee will finalize the awards of ICME 2013: the best demo, best poster-presentation, best student paper and best paper, which will be announced on Thursday at the end of the main conference.

ICME 2013 will provide full-day and half-day workshops (13 in total) on Jul. 15 all day and Jul. 19 morning, 2013, together with 9 tutorials offered free to all registered attendees.

High Quality

We are proud to report a high quality ICME 2013 technical program, which received 622 full paper submissions. Carefully monitored by 6 Program Chairs, 56 Track Chairs and involving the efforts of over 500 dedicated reviewers, paper reviews were double-blind and the decisions were based on author feedbacks (rebuttal) and active discussions. All papers have received at least 3 independent reviews, with 82% of the paper receiving 4 or more reviews. The main tracks have a 30% overall acceptance rate, including 15% oral and 15% poster presentations. 15 live demos associated with selected papers are scheduled in the poster sessions to engage the audience. The "Multimedia for Humanity" Theme Track had 172 submissions and 34 were accepted.

For the 13 associated workshops, there were 218 submissions with 138 accepted papers. In conjunction with the main conference, there is a special demo program designed for researchers to demonstrate their work/invention in an expo setting, which has received 37 proposals, with 21 of them accepted. We have also put together an ICME 2013 Short Paper track to attract applied research from both industries and academia, which received 196 submissions and 87 papers were accepted.

International Collaboration

The ICME 2013 technical program would not have been possible without the dedicated and team effort of the entire ICME 2013 organization committee. Special thank is given to Demetri Terzopoulos, our Program Advisor. We are most grateful to the authors who have contributed their work, the technical

program committee members who have helped with the review process. In particular, the ICME 2013 Program Chairs are most grateful to:

- Hong Jiang, Markus Gross, and Benjamin W. Wah: for their gracious agreement to deliver a keynote talks at ICME 2013;
- Abdulmotaleb El-Saddik, Haohong Wang and Guan-Ming Su: for coordinating the great "multimedia for humanity" theme track;
- Alberto del Bimbo and Lingzhi Liu: for putting together an outstanding panel program;
- Aljoscha Smolic, Shervin Shirmohammadi, and Tokunbo Ogunfunmi: for identifying the strong tutorials topics;
- Zhengguo Li, Maria Luisa Sapino, and Timothy K. Shih: for their great effort in organizing and shepherding the ICME 2013 workshop program;
- Fan Zhai, Andres Kwasinski, and Jonathan Wu: for running the short paper program;
- Tom Malzbender and Cha Zhang: for organizing the industrial program;
- Frederic Dufaux and Marco Tagliasacchi: for organizing the demo program;
- Jiang Zhu, Zhu Li, and Zhihui Xiong: for overseeing the expo program;
- Xenophon Zabulis and Polykarpos Karamaounas: for their hard work in preparing the ICME 2013 proceedings;
- Yi Fang and Birsen Sirkeci: for making all the excellent local arrangement in San Jose; and
- Rui Shen: for keeping the community posted on ICME 2013 news and activities.

We are grateful to the ICME Steering Committee, chaired by Dr. Chang Wen Chen (Univ. Buffalo), for their support and advice. Last but not least, we would like to express our greatest appreciation for the initiatives and guidance from the ICME 2013 General Chairs, Anup Basu, Nam Ling, and Sethuraman (Panch) Panchanathan, in making ICME 2013 successful.

Hope to see you in San Jose!

Xian-Sheng Hua (Microsoft Research, USA, Program Co-Chair)
Irene Cheng (Univ. of Alberta, Canada, Program Co-Chair)
Alan Hanjalic (Delft Univ. of Technology, Netherlands - Signal Processing Society Representative)
Belle Tseng (Apple USA - Circuits and Systems Society Representative)
Mohan Kankanhalli (National Univ. of Singapore, Singapore - Computer Society Representative)
Weisi Lin (Nanyang Technological Univ., Singapore - Communications Society Representative)

Organizing Committee

General Chairs
Anup Basu, University of Alberta, Canada
Nam Ling, Santa Clara University, USA
Sethuraman Panchanathan, Arizona State University, USA

Program Chairs
Xian-Sheng Hua, Microsoft Research, USA
Irene Cheng, University of Alberta, Canada

Society Program Co-Chairs
Alan Hanjalic, Delft University of Technology, Netherlands - IEEE Signal Processing Society Representative
Belle Tseng, Apple, USA - IEEE Circuits and Systems Society Representative
Mohan Kankanhalli, National University of Singapore, Singapore - IEEE Computer Society Representative
Weisi Lin, Nanyang Technological University, Singapore - IEEE Communications Society Representative

Workshop Chairs
Zhengguo Li, Institute for Infocomm Research, Singapore
Maria Luisa Sapino, University of Torino, Italy
Timothy K. Shih, National Central University, Taiwan

Tutorial Chairs
Aljoscha Smolic, Disney Research, Zurich, Switzerland
Shervin Shirmohammadi, University of Ottawa, Canada
Tokunbo Ogunfunmi, Santa Clara University, USA

Theme Chairs
Abdulmotaleb El Saddik, University of Ottawa, Canada
Haohong Wang, TCL Research America, USA

Keynote/Panel Chairs
Lingzhi Liu, Intel, USA
Alberto Del Bimbo, University of Firenze, Italy

Local/Events Chairs
Yi Fang, Santa Clara University, USA
Birsen Sirkeci, San Jose State University, USA

Industrial Program Chairs
Tom Malzbender, HP Labs, USA
Cha Zhang, Microsoft Research, USA

Short Papers Chairs
Fan Zhai, Texas Instruments, USA
Andres Kwasinski, Rochester Institute of Technology, USA
Jonathan Wu, University of Windsor, Canada

Expo Chairs
Frederic Dufaux, Telecom ParisTech, France
Jiang Zhu, Cisco Systems, USA
Zhu Li, Samsung Telecomm America, USA
Zhihui Xiong, National University of Defense Technology, China

Finance Chairs
Vicky Zhao, University of Alberta, Canada
Xiao Su, San Jose State University, USA

Publicity Chairs
Pradeep K. Atrey, University of Winnipeg, Canada
Guillaume Lavoué, INSA Lyon, France
Li Song, Shanghai Jiao Tong University, China
Myung Hoon Sunwoo, Ajou University, Korea
Jian Zhang, University of Technology, Sydney, Australia

Sponsorship Chairs
Jun Zhou, Griffith University, Australia
Seyfullah Halit Oguz, Qualcomm, USA
Sriganesh Madhvanath, HP Labs, India

Publications Chair
Xenophon Zabulis, FORTH, Greece
The technical support from Polykarpos Karamaounas in producing the electronic proceedings is greatly appreciated.

Registration Chair
Zhouye Gu, Santa Clara University, USA

Web Chair
Rui Shen, University of Alberta, Canada

Operation Manager
Nathaniel Rossol

IEEE Administration
Helen Pollard, IEEE
Nicole Allen, IEEE
Becky Lynn, IEEE
Kartik Patel, IEEE
Lisa Schwarzbek, IEEE

Area Chairs

Area 1: Multimedia Content Analysis, Understanding and Recognition
Chong-Wah Ngo, City University of Hong Kong, Hong Kong
Yiannis Aloimonos, University of Maryland, USA
Larry S. Davis, University of Maryland, USA
Tony Han, University of Missouri, USA
George Tzanetakis, University of Victoria, Canada

Tao Mei, Microsoft Research Asia, China
Steven Hoi, Nanyang Technological University, Singapore
Svetha Venkatesh, Deakin University, Australia
Dinh Phung, Deakin University, Australia
Hyoung-Joong Kim, Korea University, Korea

Area 2: Multimedia Search, Retrieval and Database
Xavier Anguera, Telefónica Research, Spain
Cees Snoek, University of Amsterdam, The Netherlands
Winston Hsu, National Taiwan University, Taiwan
Meng Wang, Hefei University of Technology, China
Heng Tao Shen, University of Queensland, Australia

Area 3: Multimedia Applications and Services
Thomas Plagemann, University of Oslo, Norway
Noboru Babaguchi, Osaka University, Japan
B. Prabhakaran, University of Texas at Dallas, USA

Area 4: Multimedia Interface, Interaction and Human-Factors
Hatice Gunes, Queen Mary University of London, UK
Jialie Shen, Singapore Management University, Singapore
Zheng-Jun Zha, National University of Singapore, Singapore

Area 5: Multimedia Creation, Synthesis and Consumption
Dick Bulterman, Centrum Wiskunde & Informatica, The Netherlands
Frank Nack, University of Amsterdam, The Netherlands
Raphael Troncy, EURECOM Institute, France

Area 6: 3D Imaging, Visualization, Animation and Virtual Reality
A. Aydin Alatan, Middle East Technical University, Turkey
Stefano Mattoccia, University of Bologna, Italy
Maria Martini, Kingston University, UK

Area 7: Multimedia Coding, Transcoding and Standards

Jie Liang, Simon Fraser University, Canada
Gene Cheung, National Institute of Informatics, Japan
Jiangtao (Gene) Wen, Tsinghua University, China
Beatrice Pesquet-Popescu, Télécom ParisTech, France
Rongshan Yu, Institute for Infocomm Research, Singapore

Area 8: Multimedia Signal Processing
Francesco de Natale, University of Trento, Italy
Feng Wu, Microsoft Research Asia, China
Marco Tagliasacchi, Politecnico di Milano, Italy
Shao-Yi Chien, National Taiwan University, Taiwan
Fernando Pereira, Instituto de Telecomunicações, Portugal

Area 9: Multimedia Systems, Architect, Middleware and Hardware
Lap-Pui Chau, Nanyang Technological University, Singapore
Tian-Sheuan Chang, National Chiao Tung University, Taiwan
Chris Lee, National Cheng Kung University, Taiwan

Area 10: Multimedia Networking and Communications
Yonggang Wen, Nanyang Technological University, Singapore
Carl James Debono, University of Malta, Malta
Song Ci, University of Nebraska-Lincoln, USA
Luigi Atzori, University of Cagliari, Italy
Hsiao-Chun Wu, Louisiana State University, USA

Area 11: Multimedia Security, Privacy and Forensics
Samson Cheung, University of Kentucky, USA
Anthony Ho, University of Surrey, UK
Ton Kalker, Huawei, USA
Rita Cucchiara, University of Modena and Reggio Emilia, Italy

Area 12: Multimedia Quality Assessment and Quality Experience
Stefan Winkler, Advanced Digital Sciences Center, Singapore
Patrick Le Callet, University of Nantes, France
Zhou Wang, University of Waterloo, Canada

Area 13: Mobile, Location and Social Media
Wolfgang Hürst, Utrecht University, The Netherlands
Susanne Boll, University of Oldenburg, Germany

Area 14: Multimedia Art, Education, Entertainment, Environment and Culture
Vidya Setlur, Nokia Research Center, USA
Artur Lugmayr, Tampere University of Technology, Finland

ICME Steering Committee

Chair
Chang Wen Chen, State University of New York at Buffalo, USA

Voting Members (Society Representatives)

Circuits and Systems Society
Alexander C. Loui, Eastman Kodak Company, USA
Yong Rui, Microsoft, China

Communications Society
Khaled El-Maleh, Qualcomm, USA
Jin Li, Microsoft Research, USA

Computer Society
Ashfaq Khokhar, University of Illinois at Chicago, USA
Mei-Ling Shyu, University of Miami, USA

Signal Processing Society
Dinei Florencio, Microsoft Research, USA
Yap-Peng Tan, Nanyang Technological University, Singapore

Non-voting Members

Yen-Kuang Chen, Intel, USA (C&S MSATC Chair)
Jianwei Huang, Chinese University of Hong Kong, Hong Kong (ComSoc MMTC Chair)
Shu-Ching Chen, Florida International University, USA (CS TCMC Chair)
Oscar C. Au, Hong Kong University of Science and Technology, Hong Kong (SPS MMSP TC Chair)
Mihaela van der Schaar, University of California at Los Angeles, USA (TMM EiC)
Jian Zhang, University of Technology, Sydney, Australia (ICME2012 General Chair)
Anup Basu, University of Alberta, Canada (ICME2013 General Chair)

Administration
Helen Pollard, IEEE
Nicole Allen, IEEE
Lisa Schwarzbek, IEEE

Side Meetings

- July 16th Lunch (noon): TC MSA (Chair: Yen-Kuang Chen) (Room: Garden).
- July 16th Lunch (noon): TCMC (Tech Committee on Multimedia Computing) (Chair: Shu-Ching Chen) (Room: Valley).
- July 16th Dinner (6:00pm): ICME Steering Committee (Chair: Chang-Wen Chen) (Room: Garden).
- July 17th Lunch (noon): TC MMSP (Chair: Oscar Au) (Room: Garden).
- July 17th Lunch (noon): MMTC (Chair: Yonggang Wen) (Room: Valley).
- July 17th After Lunch (1:00 pm): TMM Editorial Board (Chair: Milhaela van der Schaar) (Room: Valley).

Keynote Speeches

Title: Advances of Media Technology in Modern Computing

Date/Time: July 16th 9:00 - 10:00 am

Room: Regency1

Chair: Nam Ling, Santa Clara University, USA.

Abstract: The last a few years have been really exciting – media technology has experienced revolutionary changes that would normally take decades in the past. High definition media becomes ubiquitous thanks to the availability of broadband Internet, high–speed cellular data service, broad deployment of digital television, and the convergence of mobile and CE devices. In this presentation, using modern computer architecture as an example, I will take a deeper look at the fundamental computational building blocks and its rapid advances that support such transition.

About the speaker: Hong Jiang is an Intel Fellow and the chief media architect and director of the Visual and Parallel Computing Group's Media Architecture Team at Intel Corporation. He leads the media architecture of processor graphics and its derivatives, including the definition of media hardware and software assets and the group's technology roadmap. As chief media architect – a position he has held since 2002 – Jiang earned recognition for co-inventing the programmable Intel graphics architecture that has powered all Intel client PCs since 2006.

In a previous role as a platform architect at Intel, Jiang contributed to and co-edited key interconnect and video-coding standards. Earlier, as a video architect, he led video decoder and video capture hardware and software definition and implementation for chipset graphics products. Jiang joined Intel in 1996 in the then-newly formed graphics operation in Intel's PCI Component Division

Title: Advancing Video Technology for Media and Entertainment

Date/Time: July 17th 9:00 - 10:00 am

Room: Regency1

Chair: Xian-Sheng Hua, Microsoft Research, USA.

Abstract: Advanced digital video processing continues to be a technological cornerstone for content production and delivery in media and entertainment. Video technology becomes even more critical in the advent of transmedia storytelling when content is being created across multiple media types and genres, or for interactive end user experiences. The purpose of this talk is to give an overview of the major trends in the media and entertainment industry and to provide an insight into the complex technical challenges of capturing, processing and displaying rich and high quality content. I will review the content creation pipeline and illustrate some novel solutions we designed at Disney Research for video capture beyond stereoscopic3D, stereo conversion, disparity mapping, spatio-temporal video processing, light field reconstruction, framerate conversion, and view interpolation.

About the speaker: Markus Gross is a professor of Computer Science at ETH Zurich, head of the Computer Graphics Laboratory and the director of Disney Research Zurich. His research interests include computer graphics, image generation and display, geometric modeling, computer animation, and video processing. He has published more than 300 scientific papers and he holds many patents on core graphics and video technologies. Prof. Gross was chair of the papers committee of ACM SIGGRAPH 2005 and he serves on the scientific advisory boards of various research organizations. Dr. Gross is a fellow of the ACM, a fellow of the EUROGRAPHICS Association and a member of the German Academies of Science Leopoldina and Berlin-Brandenburg. He received the SWISS ICT Champions Award in the category People in

2011 and a Technical Achievement Award from the Academy of Motion Picture Arts and Sciences in 2013.

Title: Just Noticeable Differences — What Can We Notice in Multimedia Systems?

Date/Time: July 18th 9:00 - 10:00 am

Room: Regency1

Chair: Irene Cheng, University of Alberta, Canada.

Abstract: Just-noticeable difference (JND) refers to the smallest detectable difference between a starting and a secondary level of a particular sensory stimulus. It was first pioneered by Ernst Weber, a 19th century experimental psychologist. Weber's Law simply states that the size of JND is a constant proportion of the original stimulus value. Although the concept is known for over one and a half centuries, it has recently received more attention in the multimedia community. With the quality degradations incurred by losses and delays in transferring multimedia signals over the Internet, researchers have found that existing quantitative metrics cannot model perceptual degradations experienced by users. In this presentation, we examine the limitations of current results on JND and the reasons why they are inadequate for improving the perceptual quality of multimedia systems. Features that contribute to the complications include the presence of multiple and possibly dependent stimuli that may be related to perceptual quality in a linear or nonlinear fashion and whose effects may be additive or non-additive. We present new results and illustrate their effects on JND using various applications in online games, video conferencing, video coding, and remote control. The understanding of the properties of JND with multidimensional stimuli will help reduce the number of subjective tests needed in designing better QoE-based control and optimization in multimedia algorithms.

About the speaker: Benjamin W. Wah is currently the Provost and Wei

Lun Professor of Computer Science and Engineering of the Chinese University of Hong Kong. Before then, he served as the Director of the Advanced Digital Sciences Center in Singapore, as well as the Franklin W. Woeltge Endowed Professor of Electrical and Computer Engineering and Professor of the Coordinated Science Laboratory of the University of Illinois, Urbana-Champaign, Urbana, IL. He received his Ph.D. degree in computer science from the University of California, Berkeley, CA, in 1979. He had served on the faculty of Purdue University. He has received a number of awards for his research contributions, which include the IEEE CS Technical Achievement Award (1998), the IEEE Millennium Medal (2000), the Society for Design and Process Science Raymond T. Yeh Lifetime Achievement Award (2003), the IEEE-CS W. Wallace-McDowell Award (2006), the Pan Wen-Yuan Outstanding Research Award (2006), the IEEE-CS Richard E. Merwin Award (2007), the IEEE-CS Technical Committee on Distributed Processing Outstanding Achievement Award (2007), the IEEE-CS Tsutomu Kanai Award (2009), and the Distinguished Alumni Award in Computer Science of the University of California, Berkeley (2011). Wah's current research interests are in the areas of nonlinear search and optimization, multimedia signal processing, and computer networks.

Wah cofounded the IEEE Transactions on Knowledge and Data Engineering in 1988 and served as its Editor-in-Chief between 1993 and 1996, and is the Honorary Editor-in-Chief of Knowledge and Information Systems. He currently serves on the editorial boards of Information Sciences, International Journal on Artificial Intelligence Tools, Journal of VLSI Signal Processing, and World Wide Web. He has served the IEEE Computer Society in various capacities, including Vice President for Publications (1998 and 1999) and President (2001). He is a Fellow of the AAAS, ACM, and IEEE.

Industrial Talks

Title: Multimedia Meets Big Data

Date/Time: July 16th 14:00 - 15:00

Room: Gold

Chair: Mohan Kankanhalli, National University of Singapore, Singapore

Abstract: The explosion of multimedia data (image, video, 3D, etc.) from mobile image captures, social sharing, the web, TV shows and movies, and the availability of large amount of metadata have created unprecedented opportunities and fundamental challenges to multimedia signal processing. They are not just big in volume, but also unstructured and multi-modal.

The emergence of Big Data has brought about a paradigm shift to all fields of computing. Most Big Data systems currently in use are very restrictive in nature in that it is quite difficult to handle data types other than text or numbers. Moreover, text and numbers are handled using pre-defined fields only in the database. It is extremely difficult to store/retrieve multimedia data. This is attributed to the fact that although we have seen remarkable advances in computing power, storage capacity and network speed/reach, the underlying technology to retrieve multimedia data is not only hard, but often ill-defined.

The talk provides an overview of recent developments in multimedia Big Data. Insights we didn't have before with "small data" suddenly arise. Problems we didn't see before are becoming critical. Algorithms that are ill fitted before are now attractive. This keynote hopes to bring closer researchers in multimedia processing and Big Data to foster joint discussions between the two fields.

About the speaker: Dr. Trista P. Chen is the Director of Core Engineering of Cognitive Networks, a technology company specializing in automatic content recognition. She was previously the founder of a computer vision startup that helped monetizing image and video assets, researcher at Gracenote and Intel, and architect of Nvidia's first video processor. Her multidisciplinary research interests include multimedia big data, media content recognition, computer vision, augmented reality, processor architecture, and multimedia communications. She received her Ph.D. in Electrical and Computer Engineering from Carnegie Mellon University. She co-authored 25 publications and 10+ issued and pending patents, and chaired technical committees of international IEEE conferences.

Title: Efficient & Reliable Storage Solution

Date/Time: July 17th 14:00 - 15:00

Room: Gold

Chair: Chang Wen Chen, State University of New York at Buffalo, USA

Abstract: The amount of data generated and stored grows at a 60% compound annual growth rate over a span of 15 years (2001-2015), and outpaces the cost decline of the disk drive. In this talk, we will discuss two technologies that makes storage in the cloud and/or in a server cluster efficient and reliable: 1) Primary data deduplication, and 2) Local Reconstruction Coding.

Primary data deduplication brings dedup to primary data, which is created, accessed, and changed actively by end-users. Moreover, the solution shares system resource with other primary workload running on the systems. This enables deduplication on a broad category of platforms where a variety of

workloads and services compete for system resources and no assumptions of dedicated hardware is made. Since release in Windows Server 2012, the primary data deduplication feature has received rave review with significant infrastructure saving.

Erasure coding is a mathematical tool that codes the stored data into a small set of redundant parity to protect the data from loss due to hardware/software failures in the storage cluster. We have designed local reconstruction code (LRC), which is a new family of erasure codes. The major benefits of LRC are that it reduces the bandwidth and I/Os required for repair reads over prior codes, while still allowing a significant reduction in storage overhead. LRC has been adopted in Windows Azure Storage, which provides a low overhead durable storage with consistently low read latencies.

About the speaker: Dr. Jin Li is a Research Manager and Principal Researcher at Microsoft Research (Redmond, WA). He manages the Compression, Communication and Storage group. Blending theory and system, Dr. Li excels at interdisciplinary research, and is dedicated to advance communication and information theory and apply it to practical system building. He received his Ph.D. (with honor) from Tsinghua University in 1994. After brief stints at USC and Sharp Labs, he joined Microsoft Research in 1999, first as one of the founding members of Microsoft Research Asia, and then moved to Microsoft Research (Redmond, WA) in 2001. From 2000, Dr. Li has also served as an Affiliated Professor in Tsinghua University.

Dr. Li's invention has been integrated into many Microsoft products. Recently, he and his group members have made key contributions to multiple Microsoft product lines (e.g., RemoteFX for WAN in Windows 8, Primary Data Deduplication in Windows Server 2012, and Local Reconstruction Coding in Windows Azure Storage), that leads to commercial impact in the order of hundreds of millions of dollars. He was awarded the

prestigious Microsoft Gold Star Service Award 4 times, in 1999, 2001, 2006 and 2010.

Dr. Li was the recipient of Young Investigator Award from Visual Communication and Image Processing'98 (VCIP) in 1998, ICME 2009 Best Paper Award and USENIX ATC 2012 Best Paper Award. He is/was the Associate Editor/Guest Editor of IEEE Trans. On Multimedia, Journal of Selected Area of Communication, Journal of Visual Communication and Image Representation, P2P networking and applications, Journal of Communications. He was the General Chair of PV2009, the Workshop Chair of ACM MM 2011, the Lead Program Chair of ICME 2011, and the Technical Program Chair of CCNC 2013. He is an IEEE Fellow.

Title: Manipulating the UHD Video Traffic

Date/Time: July 18th 14:00 - 15:00

Room: Gold

Chair: Philip A. Chou, Microsoft Research, USA

Abstract: As the ITU standardized Ultra High Definition (UHD) video format, we enter a new video era when more video source will be captured not only in higher definition and higher frame rate, but also higher bit depth and richer color. What does that mean to the video traffic that already consumes a large percentage of today's data traffic on the networks? Is the newly standardized High Efficiency Video Coding (HEVC) standard sufficient to handle the additional bandwidth demand as consumption of UHD video increases? In this talk, we will investigate the potential issues related to transmission and consumption of UHD video, and discuss how the HEVC standard and its scalable extensions can be used to alleviate the problems

caused by increased UHD video traffic. Finally, we conclude this talk with a short discussion video coding technologies beyond the HEVC standard.

About the speaker: Dr. Yan Ye is a Senior Manager at the Innovations Labs, InterDigital Communications Inc, where she manages the video coding research team. Her work at InterDigital focuses on video coding research and standardization, as well as innovation and prototyping of video coding technologies on mobile platforms. Prior to joining InterDigital, she was with the Image Technology Research Department at Dolby Labs, and the Video R&D and Standards team at Qualcomm. Dr. Ye has been involved in the development of various video coding standards, including HEVC and its scalable extensions, the KTA (Key Technology Areas) work of ITU-T/VCEG (Video Coding Expert Groups), and the scalable extensions of H.264/AVC. Dr. Ye holds 10 US and international patents, and is a co-inventor of more than 50 patent applications in the field of video coding and processing. Dr. Ye received her Ph.D. from the Electrical and Computer Engineering Department at UC San Diego in 2002. She received her M.S. and B.S. degrees, both in Electrical Engineering, from the University of Science and Technology of China.

Main Conference Sessions

FO1: IMAGE AND VIDEO COMPRESSION
Empire; July, 16, 2013; 10:40-12:00; Session Chair(s): Shao-Yi Chien

- CODING OF DEPTH SIGNALS FOR 3D VIDEO USING WEDGELET BLOCK SEGMENTATION WITH RESIDUAL ADAPTATION **(Best Paper Candidate)**
  Philipp Merkle, Karsten Mueller, Thomas Wiegand
- GEOMETRY BASED AIRBORNE LIDAR DATA COMPRESSION
  Xiaoling Li, Wenjun Zeng, Ye Duan
- LAYERED SCREEN VIDEO CODING LEVERAGING HARDWARE VIDEO CODEC
  Dan Miao, Jingjing Fu, Yan Lu, Shipeng Li, Chang Wen Chen
- ORTHOGONAL MUXING FRAME COMPATIBLE FULL RESOLUTION TECHNOLOGY FOR MULTI-RESOLUTION FRAME-COMPATIBLE STEREO CODING **(Best Paper Candidate)**
  Taoran Lu, Hariharan Ganapathy, Gopi Lakshminarayanan, Tao Chen, Walt Husak, Peng Yin

FO2: VIDEO STREAMING AND TELE-IMMERSION
Regency 1; July, 16, 2013; 14:00-15:20; Session Chair(s): Weisi Lin

- VIDEO SALIENCY INCORPORATING SPATIOTEMPORAL CUES AND UNCERTAINTY WEIGHTING
  Yuming Fang, Zhou Wang, Weisi Lin
- NO-REFERENCE IMAGE QUALITY ASSESSMENT METRIC BY COMBINING FREE ENERGY THEORY AND STRUCTURAL DEGRADATION MODEL **(Best Paper Candidate)**
  Ke Gu, Guangtao Zhai, Xiaokang Yang, Wenjun Zhang
- AGE AND GENDER INFLUENCE ON PERCEIVED OLFACTORY & VISUAL MEDIA SYNCHRONIZATION
  Niall Murray, Yuansong Qiao, Brian Lee, Gabriel Miro Muntean, Karunakar Kotegar

- A NOVEL APPROACH FOR PARTIAL BLUR DETECTION AND SEGMENTATION
  Khosro Bahrami, Alex Kot, Jiayuan Fan

FO3: VIDEO EVENT DETECTION

Regency 1; July, 16, 2013; 15:40-17:00; Session Chair(s): Jian Zhang

- DSPM: DYNAMIC STRUCTURE PRESERVING MAP FOR ACTION RECOGNITION **(Best Paper Candidate)**
  Qiao Cai, Yafeng Yin, Hong Man
- EVENT RECOGNITION BASED-ON SOCIAL ROLES IN CONTINUOUS VIDEO **(Best Paper Candidate)**
  Mingtao Pei, Zhen Dong, Meng Zhao
- IMAGE-TO-CLASS DYNAMIC TIME WARPING FOR 3D HAND GESTURE RECOGNITION
  Hong Cheng, Zhongjun Dai, Zicheng Liu
- VIDEO EVENT DETECTION USING A SUBCLASS RECODING ERROR-CORRECTING OUTPUT CODES FRAMEWORK
  Nikolaos Gkalelis, Vasileios Mezaris, Michail Dimopoulos, Ioannis Kompatsiaris, Tania Stathaki

FO4: MUSIC AND SPEECH ANALYSIS

Valley; July, 16, 2013; 10:40-12:00; Session Chair(s): Xavier Auguera

- AUTOMATIC ACCOMPANIMENT GENERATION TO EVOKE SPECIFIC EMOTION **(Best Paper Candidate)**
  Pei-Chun Chen, Keng-Sheng Lin, Homer Chen
- NOTE ONSET DETECTION BASED ON HARMONIC CEPSTRUM REGULARITY **(Best Paper Candidate)**
  Hoon Heo, Dooyong Sung, Kyogu Lee
- TOWARDS REAL-TIME MUSIC AUTO-TAGGING USING SPARSE FEATURES **(Best Paper Candidate)**
  Yi-Hsuan Yang

- PDOA BASED UNDERDETERMINED BLIND SOURCE SEPARATION USING TWO MICROPHONES
  Avram Levi

FO5: IMAGE AND VIDEO PROCESSING
Empire; July, 16, 2013; 14:00-15:20; Session Chair(s): Shipeng Li

- SOCIAL GROUPING FOR TARGET HANDOVER IN MULTI-VIEW VIDEO **(Best Paper Candidate)**
  Zhen Qin, Christian Shelton, Lunshao Chai
- FOREGROUND DETECTION: COMBINING BACKGROUND SUBSPACE LEARNING WITH OBJECT SMOOTHING MODEL
  Gengjian Xue, Li Song, Jun Sun, Jun Zhou
- FRAME RATE UP-CONVERSION USING GLOBAL AND LOCAL HIGHER-ORDER MOTION **(Best Paper Candidate)**
  Chun Qian, Ivan Bajic
- ACTIVITY-BASED SYNTHESIZED FRAME GENERATION IN 3DTI VIDEO **(Best Paper Candidate)**
  Shannon Chen, Klara Nahrstedt

FO6: MULTIMEDIA ART & ENTERTAINMENT
Empire; July, 16, 2013; 15:40-17:00; Session Chair(s): Mohan Kankanhalli

- COLOR CLUSTERING MATTING **(Best Paper Candidate)**
  Yongfang Shi, Oscar Au, Jiahao Pang, Ketan Tang, Wenxiu Sun, Hong Zhang, Wenjing Zhu, Luheng Jia
- HUMAN MOVEMENT SUMMARIZATION AND DEPICTION FROM VIDEOS **(Best Paper Candidate)**
  Yijuan Lu, Hao Jiang
- SOM BASED ARTISTIC STYLES VISUALIZATION
  Ying Wang, Masahiro Takatsuka
- CONCEALING NETWORK DELAYS IN DELAY-SENSITIVE ONLINE INTERACTIVE GAMES BASED ON JUST-NOTICEABLE DIFFERENCES **(Best**

Paper Candidate)
Jingxi Xu, Benjamin Wah

FO7: VIDEO AND IMAGE RETRIEVAL
Regency 1; July, 16, 2013; 10:40-12:00; Session Chair(s): Rita Cucchiara

- OPPORTUNISTIC SENSING FOR OBJECT RECOGNITION --- A UNIFIED FORMULATION FOR DYNAMIC SENSOR SELECTION AND FEATURE EXTRACTION
  Zhaowen Wang, Jianchao Yang, Nasser Nasrabadi, Jiangping Wang, Thomas Huang
- SEARCH BEHAVIOUR ON PHOTO SHARING PLATFORMS **(Best Paper Candidate)**
  Silviu Maniu, Neil Ohare, Luca Maria Aiello, Luca Chiarandini, Alejandro Jaimes
- BIDIRECTIONAL RANKING FOR PERSON RE-IDENTIFICATION
  Qingming Leng, Ruimin Hu, Chao Liang, Yimin Wang, Jun Chen
- GRAPH-BASED SPARSE CODING AND EMBEDDING FOR ACTIVITY-BASED HUMAN IDENTIFICATION **(Best Paper Candidate)**
  Tzu-Yi Hung, Jiwen Lu, Yap Peng Tan

FO8: MULTIMEDIA AND RECOMMENDER SYSTEMS
Valley; July, 16, 2013; 15:40-17:00; Session Chair(s): Tao Mei

- AN EVALUATION OF HAPTIC DESCRIPTIONS FOR AUDIO DESCRIBED FILMS FOR INDIVIDUALS WHO ARE BLIND
  Troy Mcdaniel, Lakshmie Narayan Viswanathan, Sethuraman Panchanatha
- CROSS-MEDIA TOPIC DETECTION: A MULTI-MODALITY FUSION FRAMEWORK **(Best Paper Candidate)**
  Yanyan Zhang, Guorong Li, Lingyang Chu, Shuhui Wang, Weigang Zhang, Qingming Huang
- USING EMOTIONAL NOISE TO UNCLOUD AUDIO-VISUAL EMOTION PERCEPTION
  Emily Mower Provost, Irene Zhu, Shri Narayanan

- ORTHOGONAL GRAPH-REGULARIZED MATRIX FACTORIZATION AND ITS APPLICATION FOR RECOMMENDATION **(Best Paper Candidate)**
  Zhenfeng Zhu, Peilu Xin, Shikui Wei, Yao Zhao

FO9: IMAGE ANALYSIS
Empire; July, 17, 2013; 10:40-12:00; Session Chair(s): Vidya Setlur

- EFFICIENT IMAGE CONTOUR DETECTION USING EDGE PRIOR
  Jiangping Wang, Changhu Wang, Thomas Huang
- MINING VISUALNESS **(Best Paper Candidate)**
  Zheng Xu, Xin-Jing Wang, Chang Wen Chen
- FOOD IMAGE ANALYSIS: SEGMENTATION, IDENTIFICATION AND WEIGHT ESTIMATION
  Ye He, Chang Xu, Nitin Khanna, Carol Boushey, Edward Delp
- MAKING STEREO PHOTO CROPPING EASY
  Fan Zhang, Yuzhen Niu, Feng Liu

FO10: IMAGE PROCESSING
Empire; July, 17, 2013; 14:00-15:20; Session Chair(s): Alex Loui

- ROBUST BLURRED IMAGE RECOVERY USING MINIMAX AND SEMI-DEFINITE PROGRAMMING APPROACHES
  Aditya Jagannatham, Rammanohar Kudupudi
- ACTIVE NOISE CANCELLATION WITH A NEW VARIABLE TAP LENGTH AND STEP SIZE FXLMS ALGORITHM **(Best Paper Candidate)**
  Dah-Chung Chang, Fei-Tao Chu
- QUATERNION-BASED SPARSE REPRESENTATION OF COLOR IMAGE
  Licheng Yu, Yi Xu, Xu Hongteng, Hao Zhang
- GENERALIZED TENSOR COMPRESSIVE SENSING
  Qun Li, Dan Schonfeld, Shmuel Friedland

FO11: PERCEPTUAL MULTIMEDIA SIGNAL EVALUATION AND PROCESSING
Empire; July, 17, 2013; 15:40-17:00; Session Chair(s): Lugmayr Artur

- TOWARD MONETARY COST EFFECTIVE CONTENT PLACEMENT IN CLOUD CENTRIC MEDIA NETWORK
  Yichao Jin, Yonggang Wen, Kyle Guan, Dan Kilper, Haiyong Xie
- TIME-UTILITY FUNCTION BASED PACKET SCHEDULING ALGORITHM FOR STREAMING SCALABLE MEDIA
  Rongshan Yu, Haiyan Shu, Susanto Rahardja
- DESIGN AND ANALYSIS OF SCALABLE AND INTERACTIVE NEAR VIDEO-ON-DEMAND SYSTEMS **(Best Paper Candidate)**
  Kamal Nayfeh, Nabil Sarhan
- LOW-COMPLEXITY REINFORCEMENT LEARNING FOR DELAY-SENSITIVE COMPRESSION IN NETWORKED VIDEO STREAM MINING
  Xiaoqing Zhu, Cuiling Lan, Mihaela Van Der Schaar

FO12: MEDIA NETWORKS, STREAMING AND INTERACTION
Valley; July, 17, 2013; 10:40-12:00; Session Chair(s): Jin Li

- A PLAYBACK LENGTH CHANGEABLE 3D DATA SEGMENTATION ALGORITHM FOR SCALABLE 3D VIDEO P2P STREAMING SYSTEM
  Junping Song, Yanwei Liu, Jinxia Liu, Song Ci, Xu Zhou, Yan Zhang
- COOPERATIVE MULTI-CELL BEAMFORMING FOR MIMO UNICAST/ MULTICAST BROADBAND H.264 SCALABLE VIDEO NETWORKS
  Naveen K. D. Venkategowda, Nitin Tandon, Aditya Jagannatham
- OBJECT-LEVEL BANDWIDTH ADAPTATION FRAMEWORK FOR 3D TELE-IMMERSIVE SYSTEM
  Pengye Xia, Klara Nahrstedt
- DYNAMIC ADAPTIVE STREAMING OVER HTTP/2.0 **(Best Paper Candidate)**
  Christopher Mueller, Stefan Lederer, Christian Timmerer, Hermann Hellwagner

FO13: FACE AND PEOPLE RECOGNITION
Regency 1; July, 17, 2013; 14:00-15:20; Session Chair(s): Jacob Scharcanski

- LEARNING AUXILIARY DICTIONARIES FOR UNDERSAMPLED FACE RECOGNITION
  Chia-Po Wei, Yu-Chiang Frank Wang
- PEOPLE RECOGNITION IN AMBIGUOUSLY LABELED PHOTO COLLECTIONS
  Markus Brenner, Ebroul Izquierdo
- ANALYSIS OF FACIAL FEATURES OF DRIVERS UNDER COGNITIVE AND VISUAL DISTRACTIONS **(Best Paper Candidate)**
  Nanxiang Li, Carlos Busso
- GRADUAL TRAINING OF CASCADED SHAPE REGRESSION FOR FACIAL LANDMARK LOCALIZATION AND POSE ESTIMATION
  Moh Wibowo, Dian Tjondronegoro

FO14: SIGNAL PROCESSING
Regency 1; July, 17, 2013; 15:40-17:00; Session Chair(s): Oscar Au

- SUPER PIXEL EXTRACTION VIA CONVEXITY INDUCED BOUNDARY ADAPTATION
  H. Emrah Tasli, Cevahir Cigla, Theo Gevers, A. Alatan
- VP-TRANSFORM: A NOVEL VANISHING POINT-BASED IMAGE TRANSFORM FOR ENHANCEMENT OF PEOPLE LOCALIZATION
  Yen-Shuo Lin, Kuo-Hua Lo, Hua-Tsung Chen, Jen-Hui Chuang
- A PROBABILISTIC SALIENCY MODEL WITH MEMORY-GUIDED TOP-DOWN CUES FOR FREE-VIEWING **(Best Paper Candidate)**
  Yan Hua, Zhicheng Zhao, Hu Tian, Xin Guo, Anni Cai
- CALIBRATION-FREE GAZE TRACKING USING PARTICLE FILTER (with demo)
  Phibang Nguyen, Fleureau Julien, Christel Chamaret, Philippe Guillotel

FO15: SOCIAL MEDIA ANALYSIS & APPLICATIONS
Regency 1; July, 17, 2013; 10:40-12:00; Session Chair(s): Jialie Shen

- LATENT TOPIC MODEL FOR IMAGE ANNOTATION BY MODELING TOPIC CORRELATION
  Xing Xu, Atsushi Shimada, Rin-Ichiro Taniguchi
- PROACTIVE CACHING OF ONLINE VIDEO BY MINING MAINSTREAM MEDIA **(Best Paper Candidate)**
  Alex Lobzhanidze, Wenjun Zeng
- OPTIMIZING VIDEO-ON-DEMAND WITH SOURCE CODING
  S.-H. Gary Chan, Zhuolin Xu, Ning Liu
- FRIENDTRANSFER: COLD-START FRIEND RECOMMENDATION WITH CROSS-PLATFORM TRANSFER LEARNING OF SOCIAL KNOWLEDGE
  Ming Yan, Jitao Sang, Changsheng Xu, Tao Mei

FO16: 3D MULTIMEDIA

Empire; July, 18, 2013; 10:20-12:00; Session Chair(s): Aydin Alatan

- RATE-DISTORTION OPTIMIZED 3D RECONSTRUCTION FROM NOISE-CORRUPTED MULTIVIEW DEPTH VIDEOS
  Wenxiu Sun, Gene Cheung, Philip Chou, Dinei Florencio, Cha Zhang, Oscar Au
- SCENE-ADAPTIVE CONFIGURATION OF TWO CAMERAS USING THE CORRESPONDENCE FIELD FUNCTION **(Best Paper Candidate)**
  Farzad Safaei, Payam Mokhtarian Dehkordi, Hooman Shidanshidi, Wanqing Li, Mohammad-Reza Namazi-Rad, Amir Mousavinia
- A METHOD FOR CALCULATING THE MINIMUM NUMBER OF CAMERAS IN A LIGHT FIELD BASED FREE VIEWPOINT VIDEO SYSTEM
  Hooman Shidanshidi, Farzad Safaei, Wanqing Li
- MOTION SYNTHESIS FOR AFFECTIVE AGENTS USING PIECEWISE PRINCIPAL COMPONENT REGRESSION
  Jianfeng Xu, Emi Myodo, Shigeyuki Sakazawa
- CONTINUOUS DEPTH MAP RECONSTRUCTION FROM LIGHT FIELDS
  Jianqiao Li, Ze-Nian Li

FO17: IMAGE CLASSIFICATION
Empire; July, 18, 2013; 14:00-15:20; Session Chair(s): Jiebo Luo

- SEMANTIC-SPATIAL MATCHING FOR IMAGE CLASSIFICATION
  Yupeng Yan, Xinmei Tian, Linjun Yang, Yijuan Lu, Houqiang Li
- LABEL LOCALIZATION WITH WEAKLY SPATIAL CONSTRAINED GRAPH PROPAGATION
  Lei Yu, Jing Liu, Changsheng Xu, Xi Zhou
- AUGMENTING DESCRIPTORS FOR FINE-GRAINED VISUAL CATEGORIZATION USING POLYNOMIAL EMBEDDING
  Hideki Nakayama
- DIRECT MINING CO-OCCURRENCE FEATURES FOR VISUAL RECOGNITION: A BRANCH AND BOUND METHOD **(Best Paper Candidate)**
  Chaoqun Weng, Yuning Jiang, Junsong Yuan

FO18: MULTIMEDIA SECURITY, PRIVACY AND FORENSICS
Regency 1; July, 18, 2013; 10:20-12:00; Session Chair(s): Ton Kalker

- CROSS-CAMERA VEHICLE TRACKING VIA AFFINE INVARIANT OBJECT MATCHING FOR VIDEO FORENSICS APPLICATIONS
  Chao-Yung Hsu, Li-Wei Kang, Mark Liao
- LOCALITY-CONSTRAINT ITERATIVE NEIGHBOR EMBEDDING FOR FACE HALLUCINATION
  Junjun Jiang, Ruimin Hu, Zhen Han, Zhongyuan Wang, Tao Lu, Jun Chen
- CAMERA COMPENSATION USING FEATURE PROJECTION MATRIX FOR PERSON RE-IDENTIFICATION
  Yimin Wang, Ruimin Hu, Chao Liang, Chunjie Zhang, Qingming Leng
- COLLABORATIVE PATROL PLANNING OF MOBILE SURVEILLANCE CAMERAS FOR PERFECT SURVEILLANCE OF MOVING OBJECTS
  Yoichi Tomioka, Hitoshi Kitazawa

- JOINT FEC CODES AND HASH CHAINS FOR OPTIMIZING AUTHENTICATION OF JPEG2000 IMAGE STREAMING
  Xiaowei Yi, Yong Fu, Hengtai Ma, Changwen Zheng

FO19: IMAGE RETRIEVAL

Regency 1; July, 18, 2013; 14:00-15:20; Session Chair(s): Winston Hsu

- LEARNING SPARSE LATENT REPRESENTATION AND DISTANCE METRIC FOR IMAGE RETRIEVAL
  Tu Dinh Nguyen, Truyen Tran, Dinh Phung, Svetha Venkatesh
- AN EVALUATION OF CONTENT-BASED DUPLICATE IMAGE DETECTION METHODS FOR WEB SEARCH
  Bart Thomee, Mark Huiskes, Erwin Bakker, Michael Lew
- TREE PARTITION VOTING MIN-HASH FOR PARTIAL DUPLICATE IMAGE DISCOVERY
  Qian Zhang, Hao Fu, Guoping Qiu
- NEIGHBORHOOD REVERSIBILITY VERIFYING FOR IMAGE SEARCH
  Zhong Zheng, Yao Zhao, Shikui Wei, Zhenfeng Zhu

FP1: FULL PAPER POSTER 1

Regency 2; July, 16, 2013; 13:00-14:00; Session Chair(s): Jianfei Cai, Song Ci

- STEREO RANDOM FIELD FOR BI-LAYER IMAGE SEGMENTATION
  Kuochin Lien, Jerry Gibson
- COMPARISONS REDUCING FOR LOCAL STEREO MATCHING USING HIERARCHICAL STRUCTURE
  Weidong Hu, Kang Zhang, Lifeng Sun, Shiqiang Yang
- EFFECTIVE LOCAL STEREO MATCHING BY EXTENDED TRIANGULAR INTERPOLATION
  Xia Chunrong, Yang Yang, Ran Ju, Gang-Shan Wu
- DESIGN MONOCULAR SIMULTANEOUS LOCALIZATION AND MAPPING SYSTEM WITH ORB FEATURE
  Jun Li, Kuo-Kun Tseng

- BI-LAYER DISPARITY REMAPPING FOR HANDHELD 3D VIDEO COMMUNICATIONS
  Stephen Mangiat, Kuochin Lien, Jerry Gibson
- HIGH-QUALITY KINECT DEPTH FILTERING FOR REAL-TIME 3D TELEPRESENCE
  Mengyao Zhao, Fuwen Tan, Chi-Wing Fu, Chi-Keung Tang, Jianfei Cai, Tat Jen Cham
- PERSONALIZED VIDEO RECOMMENDATION BASED ON CROSS-PLATFORM USER MODELING
  Zhengyu Deng, Jitao Sang, Changsheng Xu
- AN IMPROVED NON-LOCAL COST AGGREGATION METHOD FOR STEREO MATCHING BASED ON COLOR AND BOUNDARY CUE
  Dongming Chen, Mohsen Ardabilian, Xiaofang Wang, Liming Chen
- SPUMIC: SIMULTANEOUS PHASE UNWRAPPING AND MULTIPATH INTERFERENCE CANCELLATION IN TIME-OF-FLIGHT CAMERAS USING SPECTRAL METHODS
  Ahmed Kirmani, Philip Chou
- OPTIMAL BACKLIGHT SCANNING FOR 3D CROSSTALK REDUCTION IN LCD TV
  Nino Burini, Xiao Shu, Liangbao Jiao, Sψren Forchhammer, Xiaolin Wu

FP2: FULL PAPER POSTER 1

Regency 2; July, 16, 2013; 13:00-14:00; Session Chair(s): Jianfei Cai, Song Ci

- DETECTING AND CLASSIFYING BLURRED IMAGE REGIONS
  Wei Xu, Jane Mulligan, Di Xu, Xiaoping Chen
- LARGE MULTI-CLASS IMAGE CATEGORIZATION WITH ENSEMBLES WITH LABEL TREES
  Yang Wang, David Forsyth
- FITTING AND TRACKING 3D/4D FACIAL DATA USING A TEMPORAL DEFORMABLE SHAPE MODEL
  Shaun Canavan, Lijun Yin, Xing Zhang

- LOST IN SEGMENTATION: THREE APPROACHES FOR SPEECH/NON-SPEECH DETECTION IN CONSUMER-PRODUCED VIDEOS
  Benjamin Elizalde, Gerald Friedland
- DISCOVERING SPATIAL CONTEXT PROTOTYPES FOR OBJECT DETECTION
  Yukun Zhu, Jun Zhu, Rui Zhang
- SALIENCY MAP FUSION BASED ON RANK-ONE CONSTRAINT
  Xiaochun Cao, Zhiqiang Tao, Bao Zhang, Huazhu Fu, Xuwei Li
- MULTI-SENSOR FUSION FOR SPORT GENRE CLASSIFICATION OF USER GENERATED MOBILE VIDEOS
  Francesco Cricri, Mikko Roininen, Sujeet Mate, Jussi Leppδnen, Igor Curcio, Moncef Gabbouj
- FAST OBJECT RECOGNITION AND 6D POSE ESTIMATION USING VIEWPOINT ORIENTED COLOR-SHAPE HISTOGRAM
  Wei Wang, Lili Chen, Dongming Chen, Shile Li, Kolja Kuehnlenz
- IMPROVED LBP TEXTURE CLASSIFICATION USING ENSEMBLE LEARNING
  Gerald Schaefer, Bartosz Krawczyk, Niraj Doshi
- COLLABORATIVE RECONSTRUCTION-BASED MANIFOLD-MANIFOLD DISTANCE FOR FACE RECOGNITION WITH IMAGE SETS
  Likun Huang, Jiwen Lu, Yap Peng Tan, Xin Feng

FP3: FULL PAPER POSTER 1

Regency 2; July, 16, 2013; 13:00-14:00; Session Chair(s): Jianfei Cai, Song Ci

- BIRD SPECIES IDENTIFICATION BASED ON TIMBRE AND PITCH FEATURES
  Wei-Ho Tsai, Yeong-Yuh Xu, Wei-Cheng Lin
- SPATIALLY CONSISTENT EXEMPLAR-BASED CLUSTERING
  Yun Zheng, Pei Chen, Yuan He, Jun Sun, Haifeng Hu
- AN ITERATIVE PARSING APPROACH FOR CONTOUR FRAGMENTS
  Xiao Huang, Yuehu Liu, Yuanqi Su
- TAG-AWARE IMAGE CLASSIFICATION VIA NESTED DEEP BELIEF NETS
  Zhaoquan Yuan, Jitao Sang, Changsheng Xu

- HORIZON MATTERS: IMAGE RE-TARGETING USING HORIZON CUES
  Xiaochun Cao, Feng Jiang, Siyuan Li, Xiaojie Guo
- AN EVALUATION OF NEAREST-NEIGHBOR METHODS FOR TAG REFINEMENT
  Tiberio Uricchio, Lamberto Ballan, Marco Bertini, Alberto Del Bimbo
- COVARIANCE BASED LOCAL SALIENT DESCRIPTORS FOR VISUAL TRACKING
  Hongwei Hu, Bo Ma, Qiaofeng Ma, Wei Liang
- NOISE ROBUST KEYWORD SPOTTING FOR USER GENERATED VIDEO BLOGS
  Mohamed Barakat, Christian Ritz, David Stirling
- HIERARCHICAL SPARSE CODING BASED ON SPATIAL POOLING AND MULTI-FEATURE FUSION
  Chaoqun Weng, Hongxing Wang, Junsong Yuan
- MPLBOOST-BASED MIXTURE MODEL FOR EFFECTIVE HUMAN DETECTION WITH DEFORMABLE PART MODEL
  Chaoran Gu, Luntian Mou, Yonghong Tian, Tiejun Huang

FP4: FULL PAPER POSTER 1

Regency 2; July, 16, 2013; 13:00-14:00; Session Chair(s): Jianfei Cai, Song Ci

- OBJECT DETECTION AND LOCALIZATION USING A KNOWLEDGE GRAPH ON SPATIAL RELATIONSHIPS
  Nguyen Vu Hoang, Valérie Gouet-Brunet, Marta Rukoz
- EFFICIENT SEMI-SUPERVISED ANNOTATION WITH PROXY-BASED LOCAL CONSISTENCY PROPAGATION
  Lei Huang, Yang Wang, Xianglong Liu, Bo Lang
- PERSONALIZED AUTOMATIC IMAGE ANNOTATION BASED ON REINFORCEMENT LEARNING
  Yabo Ni, Miao Zheng, Jiajun Bu, Chun Chen, Dazhou Wang
- LEARNING COLLABORATIVE DECISION-MAKING PARAMETERS FOR MULTIMODAL EMOTION RECOGNITION

Kuan-Chieh Huang, Hsueh-Yi Sean Lin, Jyh-Chian Chang, Yau-Hwang Kuo

- ABNORMAL EVENT DETECTION IN CROWDED SCENES BASED ON STRUCTURAL MULTI-SCALE MOTION INTERRELATED PATTERNS
  Dawei Du, Honggang Qi, Qingming Huang, Wei Zeng, Changhua Zhang
- A BENCHMARK FOR SEMANTIC IMAGE SEGMENTATION
  Hui Li, Jianfei Cai, Thi Nhat Anh Nguyen, Jianmin Zheng
- WIND-INDUCED MICROPHONE NOISE DETECTION – AUTOMATICALLY MONITORING THE AUDIO QUALITY OF FIELD RECORDINGS (with demo)
  Paul Kendrick, Trevor Cox, Francis Li, Bruno Fazenda, Iain Jackson
- MODELING FASHION
  Qi Chen, Gang Wang, Chew Lim Tan
- AFFECT ANALYSIS IN NATURAL HUMAN INTERACTION USING JOINT HIDDEN CONDITIONAL RANDOM FIELDS
  Behjat Siddiquie, Saad Khan, Ajay Divakaran, Harpreet Sawhney

FP5: FULL PAPER POSTER 1

Regency 2; July, 16, 2013; 13:00-14:00; Session Chair(s): Jianfei Cai, Song Ci

- EXPLOITING SIDE INFORMATION IN DISTANCE DEPENDENT CHINESE RESTAURANT PROCESSES FOR DATA CLUSTERING
  Cheng Li, Dinh Phung, Santu Rana, Svetha Venkatesh
- ON MUSIC GENRE CLASSIFICATION VIA COMPRESSIVE SAMPLING
  Bob Sturm
- TWO-STEP DETECTION OF WATER SOUND EVENTS FOR THE DIAGNOSTIC AND MONITORING OF DEMENTIA
  Patrice Guyot, Xavier Valero, Julien Pinquier, Francesc Alías
- WAVELET METHOD FOR BREATH DETECTION IN AUDIO SIGNALS
  Magdalena Igras, Bartosz Ziółko

- SPARSE OPTICAL FLOW REGULARISATION FOR REAL-TIME VISUAL TRACKING
  Vincent Spruyt, Alessandro Ledda, Wilfried Philips
- SENTENCE MODELING FOR EXTRACTIVE SPEECH SUMMARIZATION
  Berlin Chen, Hao-Chin Chang, Kuan-Yu Chen
- EFFECTIVE HEAD POSE ESTIMATION USING LIE ALGEBRIZED GAUSSIANS
  Chunlong Hu, Liyu Gong, Tianjiang Wang, Qi Feng
- REAL-TIME CAMERA TAMPERING DETECTION USING TWO-STAGE SCENE MATCHING
  Chao-Ching Shish, Shen-Chi Chen, Sheng-Feng Hung, K.-W. Chen, Shih-Yao Lin, Chih-Wei Lin, Yi-Ping Hung
- AUTOMATIC SINGER IDENTIFICATION USING MISSING FEATURE METHODS
  Ying Hu, Guizhong Liu
- PAIR-WISE EVENT DETECTION USING CUBIC FEATURES AND SEQUENCE DISCRIMINANT LEARNING
  Xiaoyu Fang, Yonghong Tian, Yaowei Wang, Chi Su, Teng Xu, Ziwei Xia, Wen Gao
- UNSUPERVISED SEGMENTATION OF FOCUSED REGIONS IN IMAGES WITH LOW DEPTH OF FIELD
  Gholamreza Rafiee, Satnam Dlay, Wai Woo

FP6: FULL PAPER POSTER 1

Regency 2; July, 16, 2013; 13:00-14:00; Session Chair(s): Jianfei Cai, Song Ci

- MCRD: MOTION COHERENT REGION DETECTION IN H.264 COMPRESSED VIDEO
  Tanima Dutta, Arijit Sur, Sukumar Nandi
- EDGE-PRESERVING INTRA DEPTH CODING BASED ON CONTEXT-CODING AND H.264/AVC
  Marco Zamarin, Matteo Salmistraro, Sψren Forchhammer, Antonio Ortega

- A BACKGROUND PROPORTION ADAPTIVE LAGRANGE MULTIPLIER SELECTION METHOD FOR SURVEILLANCE VIDEO ON HIGH HEVC
  Long Zhao, Xianguo Zhang, Yonghong Tian, Ronggang Wang, Tiejun Huang
- A NOVEL TEMPORAL ERROR CONCEALMENT FRAMEWORK IN H.264/AVC
  Yi Wang, Xiaoqiang Guo, Feng Ye, Aidong Men, Bo Yang
- EFFICIENT DC TERM ENCODING SCHEME BASED ON DOUBLE PREDICTION ALGORITHMS AND PARETO PROBABILITY MODELS
  Ting Yu Ko, Chi-Jung Tseng, Hsin-Hui Chen, Jian-Jiun Ding, Noboru Babaguchi
- INTENSITY DEPENDENT SPATIAL QUANTIZATION WITH APPLICATION IN HEVC
  Matteo Naccari, Marta Mrak
- INTER-LAYER ERROR CONCEALMENT FOR SCALABLE VIDEO CODING BASED ON MOTION VECTOR AVERAGING AND SLICE INTERLEAVING
  Bin Zhao, Edward Delp
- QUALITY ASSESSMENT OF SUBSAMPLING PATTERNS FOR PEL DECIMATION TARGETING HIGH DEFINITION VIDEO
  Ismael Seidel, Bruno Moraes, Emilio Wuerges, Jose Guntzel
- FEATURE-BASED IMAGE SET COMPRESSION
  Zhongbo Shi, Xiaoyan Sun, Feng Wu
- SCALABLE AUDIO CODING USING WATERMARKING
  Mahmood Movassagh, Peter Kabal

FP7: FULL PAPER POSTER 1

Regency 2; July, 16, 2013; 13:00-14:00; Session Chair(s): Jianfei Cai, Song Ci

- COMPUTATIONAL SPORTS BROADCASTING: AUTOMATED DIRECTOR ASSISTANCE FOR LIVE SPORTS
  Christine Chen, Oliver Wang, Simon Heinzle, Peter Carr, Aljoscha Smolic, Markus Gross

- RESEARCH OF VIRTUAL CHINESE CALLIGRAPHIC LEARNING (with demo)
  Wu Yingfei, Zhenming Yuan, Dibin Zhou, Yizhou Cai
- MULTIMODAL INFORMATION FUSION OF AUDIOVISUAL EMOTION RECOGNITION USING NOVEL INFORMATION THEORETIC TOOLS
  Zhibing Xie, Ling Guan
- AN INTERACTIVE CONDUCTING SYSTEM USING KINECT
  Leng Wee Toh, Wilber Chao, Yi-Shin Chen
- A COMPUTATIONAL FRESCO SKETCH GENERATION FRAMEWORK
  Jianing He, Shan Wang, Yi Zhang, Jiawan Zhang
- SUPPORTING NAVIGATION OF OUTDOOR SHOPPING COMPLEXES FOR VISUALLY-IMPAIRED USERS THROUGH MULTI-MODAL DATA FUSION
  Devi Paladugu, Parag Chandakkar, Peng Zhang, Baoxin Li
- VISUALLY SIGNIFICANT QR CODES: IMAGE BLENDING AND STATISTICAL ANALYSIS
  Zachi Baharav, Ramakrishna Kakarala
- EFFECTIVE HAND SEGMENTATION AND GESTURE RECOGNITION FOR BROWSING WEB PAGES ON A LARGE SCREEN
  Zhanghui Chen, Huifeng Shen, Yan Lu, Shipeng Li
- ROUTE PANORAMA ACQUISITION AND RENDERING FOR HIGH-SPEED RAILWAY MONITORING
  Shengchun Wang, Jiang Yu Zheng, Siwei Luo, Xiaoyue Luo, Yaping Huang, Dalong Gao
- A NOVEL VIDEO SUMMARIZATION METHOD FOR MULTI-INTENSITY ILLUMINATED INFRARED VIDEOS (with demo)
  Jen-Hui Chuang, Wen-Jing Tsai, Chia-Hsin Chan, Wen-Chih Teng, I-Chun Lu

FP8: FULL/THEME PAPER POSTER 2

Regency 2; July, 17, 2013; 13:00-14:00; Session Chair(s): Haohong Wang, Ivan Bajic

- A MULTI-CAMERA MOTION CAPTURE SYSTEM FOR REMOTE HEALTHCARE MONITORING
  Yun Ye, Song Ci, Aggelos Katsaggelos, Yanwei Liu
- AN END-TO-END TESTBED FOR SCALABLE VIDEO STREAMING TO MOBILE DEVICES OVER HTTP
  Yu-Sian Li, Chien-Chang Chen, Ting-An Lin, Cheng-Hsin Hsu, Yichuan Wang, Xin Liu
- OBJECTIVE ASSESSMENT OF VIDEO SEGMENTATION QUALITY FOR AUGMENTED REALITY
  Silvio Sanches, Valdinei Silva, Ricardo Nakamura, Romero Tori
- DISTRIBUTED RATE AND POWER ALLOCATION FOR WIRELESS VIDEO CHATS VIA PRICING SCHEMES
  Seong-Ping Chuah, Zhenzhong Chen, Yap Peng Tan
- AN EXPERIMENTAL ANALYSIS OF DYNAMIC ADAPTIVE STREAMING OVER HTTP IN CONTENT CENTRIC NETWORKS
  Stefan Lederer, Christopher Mueller, Benjamin Rainer, Christian Timmerer, Hermann Hellwagner
- MULTISOURCE FEC INTERLEAVING FOR MOBILE P2P STREAMING (with demo)
  Sheau Ru Tong, Cheng-Lin Wu, Pilaiwan Phupattanasin, Szu-Hung Lin
- OBJECTIVE EVALUATION OF CHROMATIC QUALITY ASSESSMENT
  Marco Bernardo, Antonio Pinheiro, Manuela Pereira, Paulo Fiadeiro
- ENHANCING MULTIMEDIA QOS WITH DEVICE-TO-DEVICE COMMUNICATION AS AN UNDERLAY IN LTE NETWORKS
  Qian Liu, Heather Yu, Chang Wen Chen
- A LEARNING BASED CONGESTION CONTROL FOR MULTIMEDIA TRANSMISSION IN WIRELESS NETWORKS
  Oussama Habachi, Nicholas Mastronarde, Hsien-Po Shiang, Mihaela Van Der Schaar, Yezekael Hayel

FP9: FULL/THEME PAPER POSTER 2

Regency 2; July, 17, 2013; 13:00-14:00; Session Chair(s): Haohong Wang, Ivan Bajic

- ATTRIBUTE-BASED LEARNING FOR LARGE SCALE OBJECT CLASSIFICATION
  Worapan Kusakunniran, Shin'ichi Satoh, Jian Zhang, Qiang Wu
- RECOGNITION OF 3D OBJECTS FROM UNCONSTRAINED 2D IMAGES BY USING LOCAL APPEARANCE AND AFFINE GEOMETRY
  Medeni Soysal, A. Alatan
- SKYLINE LOCALIZATION FOR MOUNTAIN IMAGES
  Yao-Ling Hung, Chih-Wen Su, Yuan-Hsiang Chang, Jyh-Chian Chang, Hsiao-Rong Tyan
- BACKGROUND MUSIC RECOMMENDATION FOR VIDEO BASED ON MULTIMODAL LATENT SEMANTIC ANALYSIS
  Fang-Fei Kuo, Man-Kwan Shan, Suh-Yin Lee
- FACIAL SIGNATURES FOR FAST INDIVIDUAL RETRIEVAL FROM VIDEO DATASET
  Pengyi Hao, Sei-Ichiro Kamata
- A HIERARCHICAL MANIFOLD SUBGRAPH RANKING SYSTEM FOR CONTENT-BASED IMAGE RETRIEVAL
  Ran Chang, Xiaojun Qi
- BLOCK-BASED LONG-TERM CONTENT-BASED IMAGE RETRIEVAL USING MULTIPLE FEATURES
  Zhongmiao Xiao, Xiaojun Qi
- ADAPTIVE BIT ALLOCATION HASHING FOR APPROXIMATE NEAREST NEIGHBOR SEARCH
  Qin-Zhen Guo, Zhi Zeng, Shuwu Zhang, Yuan Zhang, Fangyuan Wang
- IMAGE-BASED INDOOR PLACE-FINDER USING IMAGE TO PLANE MATCHING
  Ju Shen, Wai-Tian Tan

- NONLINEAR DIMENSIONALITY REDUCTION APPROACHES APPLIED TO MUSIC AND TEXTURAL SOUNDS (with demo)
  Stéphane Dupont, Thierry Ravet, Cécile Picard-Limpens, Christian Frisson

FP10: FULL/THEME PAPER POSTER 2

Regency 2; July, 17, 2013; 13:00-14:00; Session Chair(s): Haohong Wang, Ivan Bajic

- MEMORY EFFICIENT SUBSEQUENCE DTW FOR QUERY-BY-EXAMPLE SPOKEN TERM DETECTION
  Xavier Anguera, Miquel Ferrarons
- ADAPTIVE STEGANOGRAPHY BY ORACLE (ASO)
  Sarra Kouider, Marc Chaumont, William Puech
- A LOSSLESS APPROACH FOR EXTERNAL MEMORY BANDWIDTH REDUCTION IN VIDEO CODING SYSTEMS AND ITS VLSI ARCHITECTURE
  Dieison Silveira, Marcelo Porto, Luciano Agostini
- IMAGE FORGERY DETECTION FOR REGION DUPLICATION TAMPERING
  Tien-Ying Kuo, Yi-Chung Lo, Ssu-Neng Huang
- ACCURATE FEATURE MATCHING AND SCORING FOR RE-RANKING IMAGE RETRIEVAL RESULTS
  Yusuke Uchida, Shigeyuki Sakazawa
- IMPROVING VIDEO CONCEPT DETECTION USING UPLOADER MODEL
  Usman Niaz, Bernard Merialdo
- A NOVEL FRAMEWORK FOR DESIGN AND IMPLEMENTATION OF ADAPTIVE STREAM MINING SYSTEMS
  Kishan Sudusinghe, Stephen Won, Mihaela Van Der Schaar, Shuvra Bhattacharyya
- SCALE ME, CROP ME, KNOW ME NOT: SUPPORTING SCALING AND CROPPING IN SECRET IMAGE SHARING
  Manoranjan Mohanty, Wei Tsang Ooi, Pradeep Atrey

- FRAME-PATCH MATCHING BASED ROBUST VIDEO WATERMARKING USING KAZE FEATURE
  Ta Minh Thanh, Pham Thanh Hiep, Ta Minh Tam, Kohno Ryuji

FP11: FULL/THEME PAPER POSTER 2

Regency 2; July, 17, 2013; 13:00-14:00; Session Chair(s): Haohong Wang, Ivan Bajic

- USER-AIDED SINGLE IMAGE SHADOW REMOVAL
  Han Gong, Darren Cosker, Chuan Li, Matthew Brown
- FACE HALLUCINATION BASED ON STEPWISE SPARSE RECONSTRUCTION
  Zhongyuan Wang, Shizheng Wang, Yang Xia, Ruimin Hu, Zhengfeng Shao
- SOUND INTENSITY AND PARTICLE VELOCITY BASED THREE-DIMENSIONAL PANNING METHODS BY FIVE LOUDSPEAKERS
  Song Wang, Ruimin Hu, Bo Peng, Yuhong Yang, Heng Wang
- HEAD MOTION SYNCHRONY AND ITS CORRELATION TO AFFECTIVITY IN DYADIC INTERACTIONS
  Bo Xiao, Panayiotis Georgiou, Chi-Chun Lee, Brian Baucom, Shri Narayanan
- TWO DIMENSIONAL SYNTHESIS SPARSE MODEL
  Na Qi, Yunhui Shi, Xiaoyan Sun, Jingdong Wang, Baocai Yin
- VISUAL PRESERVING VIDEO RETARGETING WITH DEFORMABLE SHAPE CONSISTENCY
  Zhiquan Ren, Botao Wang, Yuchen Zhang, Hongkai Xiong
- AUDIO FINGERPRINTING ROBUST AGAINST REVERBERATION AND NOISE BASED ON QUANTIFICATION OF SINUSOIDALITY (with demo)
  Takashi Shibuya, Mototsugu Abe, Masayuki Nishiguchi
- EFFICIENT VIEW SYNTHESIS SCHEME WITH RAY CASTING AND PULL-PUSH TECHNIQUES
  Ku-Chu Wei, Yung-Lin Huang, Shao-Yi Chien

- DETECTION OF WIDE LINEAR STRUCTURES BY FUSION OF WIDTH AND GRAY
  Anna Zhu, Guoyou Wang, Ran Wang
- AN OPTIMIZED PLACEMENT ALGORITHM FOR COLLABORATIVE INFORMATION PROCESSING AT A WIRELESS CAMERA NETWORK
  Hongguang Zhang, Lingnan Xia, Fei Tian, Peng Wang, Jianzhu Cui, Chao Tang, Nana Deng, Na Ma

Short Papers

SO1: SHORT PAPER ORAL SESSION
Valley; July, 17, 2013; 15:40-17:00; Session Chair(s): Xiaozhong Xu

- ATTRIBUTE EXPANSION WITH SEQUENTIAL LEARNING FOR OBJECT CLASSIFICATION **(Best Paper Candidate)**
  Biao Niu, Bin Li, Peng Li, Xi Zhang, Jian Cheng, Hanqing Lu
- MULTI-MODAL GM-PLSA AND ITS APPLICATION TO VIDEO CLASSIFICATION **(Best Paper Candidate)**
  Cencen Zhong, Zhenjiang Miao
- DE-RINGING FILTER FOR SCALABLE VIDEO CODING **(Best Paper Candidate)**
  Qirong Ma, Zhan Ma, Polin Lai, Felix Fernandes
- PSEUDO-2D-MATCHING BASED DUAL-CODER ARCHITECTURE FOR SCREEN CONTENTS CODING
  Tao Lin, Xianyi Chen, Shuhui Wang
- SMART SAMPLING AND TRANSDUCING 3D SCENES FOR THE VISUALLY IMPAIRED **(Best Paper Candidate)**
  Hao Tang, Tony Ro, Zhigang Zhu
- 3D SOUND FIELD REPRODUCTION USING DIVERSE LOUDSPEAKER PATTERNS
  Hanieh Khalilian, Ivan Bajic, Rodney Vaughan

- ROBUST OBJECT TRACKING VIA ONLINE MULTIPLE INSTANCE METRIC LEARNING **(Best Paper Candidate)**
  Min Yang, Caixia Zhang, Yuwei Wu, Mingtao Pei, Yunde Jia
- EFFICIENT COMPRESSION OF RHYTHMIC MOTION USING SPATIAL SEGMENTATION AND TEMPORAL BLENDING **(Best Paper Candidate)**
  Amirhossein Firouzmanesh, Irene Cheng, Mitch Lindgren, Teri Drummond, Anup Basu

SP1: SHORT PAPER POSTER 3
Regency 2; July, 18, 2013; 13:00-14:00; Session Chair(s): Jonathan Wu, Michael Gormish

- ONLINE TRAVEL DESTINATION RECOMMENDATION WITH EFFICIENT VARIABLE MEMORY MARKOV MODEL
  Kai Jiang, Neng-Hai Yu, Weihai Li
- A NOVEL 3D DENSE RECONSTRUCTION WITH HIGH ACCURACY AND COMPLETENESS
  Zen Chen, Wen-Chao Chen, Ping-Yi Sung
- HEIGHT ESTIMATION OF URBAN BUILDINGS USING ANGLE CONSISTENCY OF BORDERLINES OF ROOFS
  Wei Xu, Jianguo Zhang, Hu Xu, Maojun Zhang
- EXPERIENCES USING AUGMENTED REALITY ENVIRONMENT FOR TRAINING AND EVALUATING MEDICAL STUDENTS
  Fabricio Pretto, Isabel Manssour, Maria Helena Itaqui Lopes, Marcio Pinho
- REAL-TIME 3D FACE MODELING WITH A COMMODITY DEPTH CAMERA
  Greg Meyer, Minh Do
- SNS TREND-BASED TV PROGRAM RECOMMENDATION SCHEME
  Daeyong Kim, Daehoon Kim, Seungmin Rho, Eenjun Hwang
- MOBILE IMAGE RETRIEVAL USING MULTI-PHOTOS AS QUERY
  Yao Xue, Xueming Qian, Baiqi Zhang

- JOINT DE-NOISING AND FUSION OF 2D VIDEO AND DEPTH MAP SEQUENCES SENSED BY LOW-POWERED TOF RANGE SENSOR
  Mihail Georgiev, Atanas Gotchev, Miska Hannuksela
- HEVC DECISION OPTIMIZATION FOR LOW BANDWIDTH IN VIDEO CONFERENCING APPLICATIONS IN MOBILE ENVIRONMENTS
  Ray Garcia, Damian Ruiz Coll, Hari Kalva, Gerardo Fernαndez-Escribano
- A DISPARITY RANGE ESTIMATION TECHNIQUE FOR STEREO-VIDEO STREAMING APPLICATIONS
  Sergey Smirnov, Atanas Gotchev, Miska Hannuksela

SP2: SHORT PAPER POSTER 3

Regency 2; July, 18, 2013; 13:00-14:00; Session Chair(s): Jonathan Wu, Michael Gormish

- THREE-DIMENSIONAL PERCEPTION IMPROVEMENT USING SHARPNESS ADJUSTMENT AND HARDWARE IMPLEMENTATION
  Byung Cheol Song
- VIDEO PRE-ANALYZING AND CODING IN THE CONTEXT OF VIDEO SURVEILLANCE APPLICATIONS
  Amal Ben Hamida, Mohamed Koubaa, Henri Nicolas, Chokri Ben Amar
- AN EFFICIENT REPRESENTATION FOR PERMUTATIONS
  Amalya, Mihnea
- INFRARED AND VISIBLE IMAGES FUSION USING COMPRESSED SENSING BASED ON AVERAGE GRADIENT
  Rui Wang, Linfeng Du, Zongxin Yu, Wang Wan
- MULTI-SCALE STOCHASTIC COLOR TEXTURE MODELS FOR SKIN REGION SEGMENTATION AND GESTURE DETECTION
  Rafael Medeiros, Jacob Scharcanski, Alex Wong
- SEPARABLE REVERSIBLE DATA HIDING IN ENCRYPTED IMAGES WITH HISTOGRAM PERMUTATION
  Masaaki Fujiyoshi

- A ROBUST SPARSE REPRESENTATION FRAMEWORK FOR DEPTH MAP RESTORATION
  Xien Liu, Yanfeng Sun, Yongli Hu, Baocai Yin
- A VIEW INTERPOLATION METHOD WITHOUT EXPLICIT DISPARITY ESTIMATION
  Roozbeh Dehghannasiri, Shahram Shirani
- SPATIAL ERROR CONCEALMENT VIA MODEL BASED COUPLED SPARSE REPRESENTATION
  Deming Zhai, Xianming Liu, Jiantao Zhou, Debin Zhao, Wen Gao

SP3: SHORT PAPER POSTER 3

Regency 2; July, 18, 2013; 13:00-14:00; Session Chair(s): Jonathan Wu, Michael Gormish

- HIGH PRECISION ROTATION ANGLE ESTIMATION FOR ROTATED IMAGES
  Ruohan Qian, Weihai Li, Neng-Hai Yu
- A COMPARISON OF BIOLOGICALLY-INSPIRED METHODS FOR UNSUPERVISED SALIENT OBJECT DETECTION
  Liam Mayron
- SEMANTIC SKETCH-BASED 3D MODEL RETRIEVAL
  Bo Li, Yijuan Lu, Ribel Fares
- STEREOTYPE-BASED SEMANTIC EXPANSION FOR IMAGE RETRIEVAL
  Jungin Lee, Osung Kwon, Youngwoon Lee, Sung-Eui Yoon
- FOREGROUND AND SCENE STRUCTURE PRESERVED VISUAL PRIVACY PROTECTION USING DEPTH INFORMATION
  Semir Elezovikj, Haibin Ling, Xiufang Chen
- TECHNIQUE FOR AUTHENTICATING H.264/SVC STREAMS IN SURVEILLANCE APPLICATIONS
  Zhuo Wei, Robert Huijie Deng, Jialie Shen, Yongdong Wu, Xuhua Ding, Swee Won Lo

- A LOCALIZED GEOMETRIC-DISTORTION RESILIENT DIGITAL WATERMARKING SCHEME USING TWO KINDS OF COMPLEMENTARY FEATURE POINTS
  Xiaojun Qi, Jiyuan Wang
- SUBSPACE LEARNING BASED ACTIVE LEARNING FOR IMAGE RETRIEVAL
  Biao Niu, Yifan Zhang, Wang Jinqiao, Jian Cheng, Hanqing Lu
- OFFLINE PROTECTED VIDEO PLAYBACK ON HETEROGENEOUS PLATFORMS (with demo)
  Viswanathan Swaminathan, Sheng Wei
- SPECTRAL APPROXIMATION TO POINT SET SIMILARITY METRIC
  Xin Xin, Zhu Li, Zhan Ma, Aggelos Katsaggelos

SP4: SHORT PAPER POSTER 3

Regency 2; July, 18, 2013; 13:00-14:00; Session Chair(s): Jonathan Wu, Michael Gormish

- A DISTORTION CORRECTION ALGORITHM FOR FISH-EYE PANORAMIC IMAGE OF MASTER-SLAVE CAMERA
  Zuo Chenglin, Yu, Liu, Li Yongle, Bin Wang, Wei Xu, Maojun Zhang
- HEALTH MONITORING OF OBESE PEOPLE THROUGH A CLOUD-BASED SERIOUS GAME FRAMEWORK
  Mohammad Mehedi Hassan, Mohammad Hossain, Yousuf Yaldukhayyil, Atif Alamri, Muhammad Al-Qurishi, Mohammod Shamim Hossain, Dewan Tanvir Ahmed, Abdulmotaleb Saddik
- PERCEPTUALLY FINE DETAIL EXTRACTION FROM A VECTOR FIELD
  Jinghong Zheng, Zhengguo Li, Shiqian Wu, Zijian Zhu, Wei Yao, Susanto Rahardja
- A LARGE IN-SITU DATASET FOR CONTEXT-AWARE MUSIC RECOMMENDATION ON SMARTPHONES
  Yuan-Ching Teng, Ying-Shu Kuo, Yi-Hsuan Yang
- HEMI-CYLINDER UNWRAPPING ALGORITHM OF FISH-EYE IMAGE BASED ON EQUIDISTANT PROJECTION MODEL
  Jingtao Lou, Li Yongle, Yu, Liu, Wei Xu, Maojun Zhang

- ROBUST “ON-THE-FLY” PERSON IDENTIFICATION USING SPARSE REPRESENTATION
  R Raghavendra, Bian Yang, Christoph Busch
- A DYNAMIC GAUSSIAN PROCESS FOR VOICE CONVERSION ("MAIN CONFERENCE PAPER ID: 412")
  Dong-Yan Huang, Minghui Dong, Haizhou Li
- DESCRIBING A VIEW ALIGNMENT FRAMEWORK IN 3D TELE-IMMERSION SYSTEMS
  Karthik Venkatraman, Suraj Raghuraman, Balakrishnan Prabhakaran
- DOPPLER BASED SPEED ESTIMATION OF VEHICLES USING PASSIVE SENSOR
  Shubhranshu Barnwal, Rohit Barnwal, Rajesh Hegde, Rita Singh, Bhiksha Raj
- VIRTUAL TOURING: A CONTENT BASED IMAGE RETRIEVAL APPLICATION
  Michael Iliadis, Seunghwan Yoo, Xin Xin, Aggelos Katsaggelos

SP5: SHORT PAPER POSTER 3
Regency 2; July, 18, 2013; 13:00-14:00; Session Chair(s): Jonathan Wu, Michael Gormish

- OPTIMIZING THE ANDROID VIRTUAL KEYBOARD: A STUDY OF USER EXPERIENCE
  Derek Gelormini, Benjamin Bishop
- ACTIVE LEARNING BASED CLOTHING IMAGE RECOMMENDATION WITH IMPLICIT USER PREFERENCES
  Chiao-Meng Huang, Chia-Po Wei, Yu-Chiang Frank Wang
- WHAC-A-MOLE: A HEAD DETECTION SCHEME BY ESTIMATING THE 3D ENVELOPE FROM DEPTH IMAGE (with demo)
  Shih-Wei Sun, Wen-Huang Cheng, Yan-Ching Lin, Wei-Chi Lin, Ya-Ting Chang, Cheng-Wei Peng
- FINGER-WRITING-IN-THE-AIR SYSTEM USING KINECT SENSOR
  Zhichao Ye, Xin Zhang, Lianwen Jin, Ziyong Feng, Shaojie Xu

- HUMAN HAND DETECTION USING ROBUST LOCAL DESCRIPTORS
  Jianwei Niu, Xiaoke Zhao, Muhammad Ali Abdul Aziz, Jiangwei Li, Kongqiao Wang, Aimin Hao
- LEARNING IMAGE SALIENCY FROM HUMAN TOUCH BEHAVIORS
  Shaomin Fang, Yijuan Lu, Xinmei Tian
- DEVELOPING A REAL-TIME LOW-COST SYSTEM FOR SURGICAL SKILL TRAINING AND ASSESSMENT (MAIN CONFERENCE PAPER ID: 572)
  Gazi Islam, Kanav Kahol, Baoxin Li
- AN EVALUATION OF INTERACTIVE SEARCH WITH MODERN VIDEO PLAYERS
  Klaus Schoeffmann, Claudiu Cobarzan
- HAPTIBASIC: LEARNING BASIC CONCEPTS OF A HAPTIC TECHNOLOGY THROUGH EDUTAINMENT GAMES
  Abdulmotaleb Saddik, Hawazin Badawi, Amani Albraikan, Abdelwahab Hamam
- A PROBABILISTIC INFERENCE OF PARTICIPANTS INTEREST LEVEL IN A MULTI-PARTY CONVERSATION BASED ON MULTI-MODAL SENSING
  Yusuke Kishita, Hiroshi Noguchi, Hiromi Sanada, Taketoshi Mori

SP6: SHORT PAPER POSTER 3

Regency 2; July, 18, 2013; 13:00-14:00; Session Chair(s): Jonathan Wu, Michael Gormish

- GRAPH REGULARIZED GM-PLSA WITH APPLICATION TO VIDEO CLASSIFICATION
  Cencen Zhong, Zhenjiang Miao
- DISCRIMINANT PAIRWISE LOCAL EMBEDDINGS
  Konstantinos Bozas, Ebroul Izquierdo
- ROBUST DETECTION OF INFANT CRYING IN ADVERSE ENVIRONMENTS USING WEIGHTED SEGMENTAL TWO-DIMENSIONAL LINEAR FREQUENCY CEPSTRAL COEFFICIENTS
  Myung Jong Kim, Younggwan Kim, Seungki Hong, Hoirin Kim

- BINARIZATION OF NATURAL SCENE TEXT BASED ON L1-NORM PCA (with demo)
  Jinfeng Bai, Bailan Feng, Bo Xu
- VISUAL OBJECT TRACKING BASED ON APPEARANCE MODEL SELECTION
  Yuan Yuan, Sabu Emmanuel, Weisi Lin, Yuming Fang
- AN AUDIO-VISUAL APPROACH TO LEARNING SALIENT BEHAVIORS IN COUPLES' PROBLEM SOLVING DISCUSSIONS
  James Gibson, Bo Xiao, Panayiotis Georgiou, Shri Narayanan
- CLASSIFICATION OF MUSIC INSTRUMENTS USING WAVELET-BASED TIME-SCALE FEATURES
  Farbod Hosseyndoust Foomany, Karthikeyan Umapathy
- AN EFFECTIVE NEUTROSOPHIC SET-BASED PREPROCESSING METHOD FOR FACE RECOGNITION
  Mohammad Reza Faraji, Xiaojun Qi
- MULTIRESOLUTION MATCH KERNELS FOR GESTURE VIDEO CLASSIFICATION
  Hemanth Venkateswara, Vineeth Balasubramanian, Prasanth Lade, Sethuraman Panchanatha
- JOINT RECOGNITION / SEGMENTATION WITH CASCADED MULTI-LEVEL FEATURE CLASSIFICATION AND CONFIDENCE PROPAGATION
  Wenbo Liu, Zhiding Yu, Deyu Meng

SP7: SHORT PAPER POSTER 3
Regency 2; July, 18, 2013; 13:00-14:00; Session Chair(s): Jonathan Wu, Michael Gormish

- POLYNOMIAL SELF-SIMILARITY FOR OBJECT CLASSIFICATION
  Frederick Tung, Alexander Wong
- SIMULTANEOUSLY DETECT AND SEGMENT PEDESTRIAN
  Shu Wang, Zhenjiang Miao, Jian Zhang

- A TEMPORAL MULTI-VIEW APPROACH FOR AUDIO KEY FINDING USING ADABOOST
  Ching-Hua Chuan
- BODY-BASED HUMAN AGE ESTIMATION AT A DISTANCE
  Yongxin Ge, Jiwen Lu, Xin Feng, Dan Yang
- COMPUTER-ASSISTED SELF-TRAINING SYSTEM FOR SPORTS EXERCISE USING KINECTS
  Hua-Tsung Chen, Yu-Zhen He, Chien-Li Chou, Suh-Yin Lee, Bao-Shuh P. Lin, Jen-Yu Yu
- MULTIMEDIA INORGANIC WASTE SEPARATOR (with demo)
  Omar Longoria-Gandara, Oscar Rodea Aragon, Andres Torres Garcia, Francisco Sanchez
- REAL-TIME HAND POSTURE RECOGNITION BASED ON HAND DOMINANT LINE USING KINECT
  Yue Wang, Ruoyu Yang
- SCALE INDEPENDENT RAGA IDENTIFICATION USING CHROMAGRAM PATTERNS AND SWARA BASED FEATURES
  Pranay Dighe, Parul Agarwal, Harish Karnick, Siddhartha R Thota, Bhiksha Raj
- MFSC: A NEW SHAPE DESCRIPTOR WITH ROBUSTNESS TO DEFORMATIONS
  Lunshao Chai, Zhen Qin, Honggagn Zhang, Jun Guo, Bir Bhanu
- HAZY IMAGE ENHANCEMENT BASED ON THE FULL-SATURATION ASSUMPTION
  Yangyang Xiang, Rajiv Sahay, Mohan Kankanhalli

SP8: SHORT PAPER POSTER 3
Regency 2; July, 18, 2013; 13:00-14:00; Session Chair(s): Jonathan Wu, Michael Gormish

- FAST FIELD PAIRING IN HEVC
  Zhijie Yang

- IMPROVING ENCODING EFFICIENCY OF ENDOSCOPIC VIDEOS BY USING CIRCLE DETECTION BASED BORDER OVERLAYS
  Bernd Muenzer, Klaus Schoeffmann, Laszlo Böszörmenyi
- AN FPGA-BASED 4K UHDTV H.264/AVC VIDEO DECODER
  Yue Pan, Dajiang Zhou, Satoshi Goto
- ADDITIONAL SIGN BIT HIDING OF TRANSFORM COEFFICIENTS IN HEVC
  Xingyu Zhang, Oscar Au, Chao Pang, Wei Dai, Yuanfang Guo, Lu Fang
- TOWARDS A NEW APPROACH OF MEASURE OF SKILLS APPLIED TO AN ADAPTIVE ASSESSMENTS SYSTEM USED IN E-LEARNING AND E-RECRUITMENT
  Ali Aajli, Karim Afdel
- A DIAMOND SEARCH WINDOW BASED ADAPTIVE SEARCH RANGE ALGORITHM (with demo)
  Luheng Jia, Oscar Au, Chi-Ying Tsui, Yongfang Shi, Rui Ma, Hong Zhang
- FAST DEPTH MODELING MODE SELECTION FOR 3D HEVC DEPTH INTRA CODING
  Zhouye Gu, Jianhua Zheng, Nam Ling, Philipp Zhang
- A LOW-COMPLEXITY PARALLEL-FRIENDLY RATE CONTROL ALGORITHM FOR ULTRA-LOW DELAY HIGH DEFINITION VIDEO CODING
  Sergio Sanz-Rodrvguez, Tobias Mayer, Mauricio Alvarez-Mesa, Thomas Schierl
- CONTENT FEATURE BASED BIT RATE MODELLING FOR SCALABLE VIDEO CODING USING MACHINE LEARNING ALGORITHMS
  Robin Bailleul, Jan De Cock, Benjamin Schrauwen, Peter Lambert, Rik Van De Walle
- A PERCEPTUAL RATE-DISTORTION OPTIMIZATION APPROACH BASED ON PIECEWISE LINEAR APPROXIMATION FOR VIDEO CODING
  Zheng Yuan, Dongqing Zhang, Dapeng Wu, Heather Yu

Theme Track

TO1: MULTIMEDIA FOR HUMANITY
Valley; July, 18, 2013; 10:40-12:00; Session Chair(s): Guan-Ming Su

- ACITVE PROJECTION AR BY USING HIGH-SPEED OPTICAL AXIS CONTROL AND APPEARANCE ESTIMATION ALGORITHM
  Kohei Okumura, Hiromasa Oku, Masatoshi Ishikawa
- SEEING THROUGH THE EXPRESSION: BRIDGING THE GAP BETWEEN EXPRESSION AND EMOTION RECOGNITION **(Best Paper Candidate)**
  Lun-Kai Hsu, Wen-Sheng Tseng, Li-Wei Kang, Yu-Chiang Frank Wang
- CORRELATION-BASED FEATURE ANALYSIS AND MULTI-MODALITY FUSION FRAMEWORK FOR MULTIMEDIA SEMANTIC RETRIEVAL **(Best Paper Candidate)**
  Hsin-Yu Ha, Yimin Yang, Fausto Fleites, Shu-Ching Chen
- QUANTIFYING ATYPICALITY IN AFFECTIVE FACIAL EXPRESSIONS OF CHILDREN WITH AUTISM SPECTRUM DISORDERS **(Best Paper Candidate)**
  Angeliki Metallinou, Ruth Grossman, Shri Narayanan

Poster Sessions

TP12: FULL/THEME PAPER POSTER 2
Regency 2; July, 17, 2013; 13:00-14:00; Session Chair(s): Haohong Wang, Ivan Bajic

- A UIM/ICM BASED APPROACH TO CONTENT-BASED IMAGE RETRIEVAL
  Bo Li, Zhenjiang Miao, Zhen Qin, Wenju Liu
- MUSIC GENRE RECOGNITION WITH RISK AND REJECTION
  Bob Sturm
- WIKI-CMR: A WEB CROSS MODALITY DATABASE FOR STUDING AND EVALUATION OF CROSS MODALITY RETRIVAL METHODS
  Wei Xiong, Shuhui Wang, Chunjie Zhang, Qingming Huang

- EXTENDED TOUCH USER INTERFACES (with demo)
  Tusi Chowdhury, Parham Aarabi, Weijian Zhou, Zhong Yuan, Kai Zou
- INVESTIGATION AND EVALUATION OF POINTING MODALITIES FOR INTERACTIVE STEREOSCOPIC 3D TV
  Haiyue Yuan, Janko Calic, Anil Fernando, Ahmet Kondoz
- MULTIMEDIA IMPLICIT TAGGING USING EEG SIGNALS
  Mohammad Soleymani, Maja Pantic
- GUIDING VISUAL ATTENTION BY MANIPULATING ORIENTATION IN IMAGES
  Victor Mateescu, Ivan Bajic
- RECOGNITION OF CALLIGRAPHY STYLE BASED ON GLOBAL FEATURE DESCRIPTOR
  Yi Zhang, Yanbin Liu, Jianing He, Jiawan Zhang
- IS A PICTURE WORTH 1000 VOTES? ANALYZING THE SENTIMENT OF ELECTION RELATED SOCIAL PHOTOS
  Ge Ma, Jiebo Luo
- A PRACTICAL METHOD FOR COUNTING ARBITRARY TARGET OBJECTS IN AN ARBITRARY SCENE
  Yao Zhou, Jiebo Luo

TP13: FULL/THEME PAPER POSTER 2

Regency 2; July, 17, 2013; 13:00-14:00; Session Chair(s): Haohong Wang, Ivan Bajic

- PAIN DETECTION THROUGH SHAPE AND APPEARANCE FEATURES
  Rizwan Khan, Alexandre Meyer, Hubert Konik, Saida Bouakaz
- LEARNING BY FOCUSING: A NEW FRAMEWORK FOR CONCEPT RECOGNITION AND FEATURE SELECTION
  Liangliang Cao, Leiguang Gong, John Kender, Noel Codella, John Smith
- ANALYSIS OF PSYCHOLINGUISTIC PROCESSES AND TOPICS IN ONLINE AUTISM COMMUNITIES
  Thin Nguyen, Dinh Phung, Svetha Venkatesh

- INTERACTIVE 3D ANIMATION SYSTEM BASED ON TOUCH INTERFACE AND EFFICIENT CREATION TOOLS (with demo)
  Yasuhiro Akagi, Masayuki Furukawa, Shinya Fukumoto, Yukiko Kawai, Hiroshi Kawasaki
- MR IMAGES RECONSTRUCTION BASED ON TV-GROUP SPARSE MODEL
  Zhen Zhang, Yunhui Shi, Baocai Yin
- DETECTION OF CHANGES IN HUMAN AFFECT DIMENSIONS USING AN ADAPTIVE TEMPORAL TOPIC MODEL
  Prasanth Lade, Vineeth Balasubramanian, Hemanth Venkateswara, Sethuraman Panchanatha
- MAXIMIZING STRUCTURAL SIMILARITY IN MULTIMODAL BIOMEDICAL MICROSCOPIC IMAGES FOR EFFECTIVE REGISTRATION
  Guohua Lv, Shyh Wei Teng, Guojun Lu, Martin Lackmann
- READING LABELS OF CYLINDER OBJECTS FOR BLIND PERSONS
  Ze Ye, Chucai Yi, Yingli Tian
- FALL DETECTION AND ACTIVITY CLASSIFICATION USING A WEARABLE SMART CAMERA
  Koray Ozcan, Anvith Mahabalagiri, Senem Velipasalar
- INTERACTIVE SKIN CONDITION RECOGNITION
  Orod Razeghi, Qian Zhang, Guoping Qiu

TP14: FULL/THEME PAPER POSTER 2

Regency 2; July, 17, 2013; 13:00-14:00; Session Chair(s): Haohong Wang, Ivan Bajic

- TIPS: A LIGHTWEIGHT TELE-IMMERSIVE PHOTOGRAPH SYSTEM
  Meiyu Huang, Yiqiang Chen, Wen Ji
- REDUCED REFERENCE VIDEO QUALITY ASSESSMENT BASED ON SPATIAL HVS MUTUAL MASKING AND TEMPORAL MOTION ESTIMATION
  Lin Ma, King Ngi Ngan, Long Xu

- INTEGRATION OF LIDAR DATA AND ORTHOIMAGE FOR AUTOMATIC 3D BUILDING ROOF PLANE EXTRACTION
  Mohammad Awrangjeb, Clive Fraser, Guojun Lu
- NEAR-DUPLICATE VIDEO RETRIEVAL AND LOCALIZATION USING PATTERN SET BASED DYNAMIC PROGRAMMING
  Chien-Li Chou, Hua-Tsung Chen, Yi-Cheng Chen, Chien-Peng Ho, Suh-Yin Lee
- BDCT COMPRESSED IMAGE DEBLOCKING USING WEIGHTED ADAPTIVE TOTAL VARIATION
  Wei Dai, Oscar Au, Wenjing Zhu, Xingyu Zhang, Zou Feng, Chao Pang
- REMOVING DEPTH MAP CODING DISTORTION BY USING POST FILTER SET
  Norishige Fukushima, Tomohiko Inoue, Yutaka Ishibashi
- REAL-TIME PRIVACY PROTECTION SYSTEM FOR SOCIAL VIDEOS USING INTENTIONALLY-CAPTURED PERSONS DETECTION
  Tatsuya Koyama, Yuta Nakashima, Noboru Babaguchi
- ACTION RECOGNITION USING FEATURE POSITION CONSTRAINED LINEAR CODING
  Wenhua Xiao, Bin Wang, Yu Liu, Wei Xu, Wei Wang, Weidong Bao, Maojun Zhang
- HUMAN ACTION RECOGNITION WITH OPTIMIZED VIDEO DENSELY SAMPLING
  Bin Wang, Yu Liu, Wenhua Xiao, Zhihui Xiong, Wei Wang, Maojun Zhang
- AUTOMATED SEMANTIC LEAF IMAGE CATEGORIZATION BY GEOMETRIC ANALYSIS (with demo)
  Olfa Mzoughi, Itheri Yahiaoui, Nozha Boujemaa, Ezzeddine Zagrouba

Demo Sessions

D4: DEMO SESSION

Garden; July, 18, 2013; 15:40-16:40; Session Chair(s): Antonio Servetti, Aydin Alatan

- A CONTENT CREATION SYSTEM FOR INTERACTIVE 3D ANIMATIONS
  Yasuhiro Akagi, Masayuki Furukawa, Shinya Fukumoto, Yukiko Kawai, Hiroshi Kawasaki
- SMARTPHONE-BASED 3D REAL-TIME VISION SYSTEM FOR TELEOPERATION
  Antonio Servetti, Enrico Masala
- FACE DETECTION USING MULTIBAND CAMERA SYSTEM (Expo Area Jul 16-18)
  Yousun Kang, Duk Shin
- A FAST-ADJUSTING HIGH-QUALITY RATE CONTROL ALGORITHM FOR HD VIDEO STREAMING
  Abbas Javadtalab, Shervin Shirmohammadi, Mojtaba Hosseini
- LIBDASH - AN OPEN SOURCE SOFTWARE LIBRARY FOR THE MPEG-DASH STANDARD
  Christopher Mueller, Stefan Lederer, Joerg Poecher, Christian Timmerer
- AUDIO OBJECT EXTRACTION FOR LIVE SPORTS BROADCAST (Expo Area Jul 16-18)
  Rob Oldfield, Ben Shirley, Neil Cullen
- MIRURECIPE: A MOBILE COOKING RECIPE RECOMMENDATION SYSTEM WITH FOOD INGREDIENT RECOGNITION (Expo Area Jul 16-18)
  Yoshiyuki Kawano, Takanori Sato, Takuma Maruyama, Keiji Yanai
- SAVANT – A SEMANTIC VIDEO PARSING AND TAGGING SYSTEM
  Hieu T. Nguyen, Hai Wei, Sameer Sheorey, Hoang Trinh
- TWITTER VISUAL EVENT MINING SYSTEM
  Takamu Kaneko, Hiroyoshi Harada, Keiji Yanai

- INTERACTIVE VISUALIZATION OF 3D POINT CLOUD USING RBF BASED REPRESENTATION (Expo Area Jul 16-18)
  Feng Chen, Irene Cheng, Anup Basu
- VIDEO RETRIEVAL SYNOPSIS FOR MOVING OBJECTS
  Shizheng Wang, Jianwei Yang, Dong Yi, Zhongyuan Wang
- STAMAT: A FRAMEWORK FOR SOCIAL TOPICS AND MEDIA ANALYSIS
  Giuseppe Serra, Thomas Alisi, Marco Bertini, Lamberto Ballan, Alberto Del Bimbo, Laurent Walter Goix, Carlo Alberto Licciardi
- SMARTPHONE-BASED AUTOMATIC STOLEN VEHICLE DETECTION SYSTEM
  Yi-Chen Shih, Yu-Ming Liang, Sei-Wang Chen
- PARTICLE-BASED AUGMENTED REALITY INTERACTIVE SYSTEM
  Pei-Hsuan Chiu, Kai-Ten Feng, Po-Hsuan Tseng
- CONTENT-BASED NON-LINEAR SKIMMING OF ARCHIVED TV PROGRAMS FOR ONLINE AND MOBILE ACCESS
  Arto Heikkinen, Mika Rautiainen, Jouni Sarvanko, Mika Ylianttila
- REAL TIME 3D VIDEO STREAMING: A MOBILE APPROACH
  Emin Zerman, Gozde Bozdagi Akar
- DEMONSTRATION OF A 3D TELE-IMMERSION FRAMEWORK (Expo Area Jul 16-18)
  Karthik Venkatraman, Suraj Raghuraman, Balakrishnan Prabhakaran
- A DEPTH-BASED CROWDED HEADS DETECTION SYSTEM THROUGH A FREELY-LOCATED CAMERA
  Wei-Chih Lin, Shih-Wei Sun, Wen-Huang Cheng
- SUMMARIZATION SYSTEM FOR MOVEMENTS OF MULTIPLE OBJECTS
  Nam Trung Pham, Jie Zhang, Issac Pek, Feng Gao
- THE BBC DESKTOP JUKEBOX MUSIC RECOMMENDATION SYSTEM: A LARGE SCALE TRIAL WITH PROFESSIONAL USERS (Expo Area Jul 16-18)
  Gyorgy Fazekas, Mathieu Barthet, Mark B. Sandler

Workshops

International Workshop on Social Multimedia Research (SMMR)
Regency2; 7/15/2013; 09:00 – 17:00; Workshop Chair(s): Ching-Yung Lin, Rand Waltzman, Wenjun Zeng, Andrew Gallagher

- DETERMINING LEADERSHIP IN CONTENTIOUS DISCUSSIONS
  Siddharth Jain, Eduard Hovy
- IMPROVING CLASSIFICATION ACCURACY OF YOUTUBE VIDEOS BY EXPLOITING FOCAL POINTS IN SOCIAL TAGS
  Amogh Mahapatra, Komal Kapoor, Ravindra Kasturi, Jaideep Srivastava
- COMPUTATIONAL TRUST ASSESSMENT OF OPEN MEDIA DATA
  Nadya Belov, Jennifer Golbeck, Cody Buntain, Jason Schlachter, Gloria Colabelli
- BUILDING COMPUTATIONAL SOCIAL SCIENCE MODELS FROM CROWD INSIGHT
  Alicia Ruvinsky, Alden Roberts
- CHARACTERIZING USER BEHAVIOR AND INFORMATION PROPAGATION ON A SOCIAL MULTIMEDIA NETWORK
  Francis O'donovan, Connie Fournelle, Steve Gaffigan, Oliver Brdiczka, Jianqiang Shen, Juan Liu, Kendra Moore
- ATTENTION AND VISIBILITY IN AN INFORMATION-RICH WORLD
  Nathan Hodas, Kristina Lerman
- COUPLED HIDDEN MARKOV MODELS FOR USER ACTIVITY IN SOCIAL NETWORKS
  Vasanthan Raghavan, Greg Ver Steeg, Aram Galstyan, Alexander Tartakovsky
- COMPUTATIONAL DISCOVERY OF PERSONAL TRAITS FROM SOCIAL MULTIMEDIA
  Michelle Zhou, Fei Wang, Thomas Zimmerman, Huahai Yang, Eben Haber, Liang Gou

- VISUAL EEVENT MINING FROM GEO-TWEET PHOTOS
  Takamu Kaneko, Keiji Yanai
- TEXT MESSAGE CORPUS: APPLYING NATURAL LANGUAGE PROCESSING TO MOBILE DEVICE FORENSICS
  Daniel O'day, Ricardo Calix
- MULTIPLE PIPS DETECTION IN UNBOUNDED VIDEO STREAM
  Chengdong Cui, Yao Zhao, Shikui Wei, Zhenfeng Zhu
- GENERATING REPRESENTATIVE IMAGES FOR LANDMARK BY DISCOVERING HIGH FREQUENCY SHOOTING LOCATIONS FROM COMMUNITY-CONTRIBUTED PHOTOS
  Shuhui Jiang, Xueming Qian, Yao Xue, Fan Li, Xingsong Hou
- CAMERA BASED CROSS DEVICES MANIPULATING WITH AUGMENTED REALITY
  Teng Li, Wei Hu, Jun Wu, Jinfeg Bai

1st Workshop on Management Information Systems (MIS) in Multimedia Art, Education, Entertainment, and Culture (MIS-MEDIA 2013)
Sacramento; 7/15/2013; 09:00 – 17:00; Workshop Chair(s): Artur Lugmayr, Tassilo Pellegrini, Emilija Stojmenova

- BRIEF INTRODUCTION INTO INFORMATION SYSTEMS & MANAGEMENT RESEARCH IN MEDIA INDUSTRIES
  Artur Lugmayr
- STRUCTURAL SIMILARITY WEIGHTING FOR IMAGE QUALITY ASSESSMENT
  Ke Gu, Guangtao Zhai, Xiaokang Yang, Wenjun Zhang
- MANAGEMENT OF INTANGIBLE CULTURAL HERITAGE IN DIGITAL MEDIA USING PAMIN
  Tatiana Tavares, Ana Claudia Silva, Valeria Gonŋalves

- FORECAST GRANT SIZING FOR VIDEO DELIVERY OVER PASSIVE OPTICAL NETWORKS
  Rami Haddad, Michael Mcgarry, Yuanqiu Luo
- GENERALIZED VIEW SYNTHESIS PREDICTION FOR 3D-AVC
  Liu He, Honggang Qi, Li Zhang, Ying Chen, Xin Zhao
- SPATIAL CO-OCCURRENCE OF LOCAL INTENSITY ORDER FOR FACE RECOGNITION
  Xianbiao Qi, Yi Lu, Shifeng Chen, Chun-Guang Li, Jun Guo
- JNS: AN ALTERNATIVE AUTHORING LANGUAGE FOR SPECIFYING NCL MULTIMEDIA DOCUMENTS
  Esdras Caleb Silva, Joel Santos, Debora Saade
- BLOCK-BASED SEMI-REVERSIBLE DATA HIDING WITHOUT OVERHEAD INFORMATION
  Athanasios Nikolaidis
- 3-D MODEL ASSISTED FACIAL ERROR CONCEALMENT TECHNIQUE USING REGENERATIVE PARTICLE FILTER BASED TRACKING
  Tathagata Chakraborti, Abhronil Sengupta, Abhishek Midya, Amit Konar, Somnath Sengupta
- JOINT IMAGE DENOISING USING LIGHT-FIELD DATA
  Zeyu Li, Harlyn Baker, Ruzena Bajcsy
- ACTIVE GRID-BASED METHOD FOR VISUALIZING PASS REGIONS IN SOCCER VIDEOS
  Sho Takahashi, Miki Haseyama
- THE BOOK OF ELLIE: AN INTERACTIVE BOOK FOR TEACHING THE ALPHABET TO CHILDREN
  Eleni Papadaki, Xenophon Zabulis, Stavroula Ntoa, George Margetis, Panagiotis Koutlemanis, Polykarpos Karamaounas, Constantine Stephanidis
- PERSONA-BASED EXPERT REVIEW OF AN E-LEARNING SYSTEM FOR ADULTS
  Emilija Stojmenova, Artur Lugmayr, Dejan Dinevski

- DEVELOPMENT OF DEVICE-TO-DEVICE(D2D) COMMUNICATION BASED NEW MOBILE PROXIMITY MULTIMEDIA SERVICE BUSINESS MODELS
  Seungwan Ryu, Sei-Kwon Park, Sam Chung, Namhoon Park

1st International Workshop on Media Fragment Creation and reMIXing (MMIX 13)
Valley; 7/19/2013; 09:00 – 12:00; Workshop Chair(s): Benoit Huet, Vasileios Mezaris, Lyndon Nixon

- STILL VISUALIZATION OF OBJECT MOTION IN COMPRESSED VIDEO
  Sayed Hossein Khatoonabadi, Ivan Bajic
- VIDEO CONCEPT DETECTION BY LEARNING FROM WEB IMAGES: A CASE STUDY ON CROSS DOMAIN LEARNING
  Shiai Zhu, Ting Yao, Chong-Wah Ngo
- ANALYSIS OF VISUAL SIMILARITY IN NEWS VIDEOS WITH ROBUST AND MEMORY-EFFICIENT IMAGE RETRIEVAL
  David Chen, Peter Vajda, Sam Tsai, Maryam Daneshi, Matt Yu, Huizhong Chen, Andre Araujo, Bernd Girod
- FAST OBJECT RE-DETECTION AND LOCALIZATION IN VIDEO FOR SPATIO-TEMPORAL FRAGMENT CREATION
  Lampis Apostolidis, Vasileios Mezaris, Yiannis Kompatsiaris
- TELL ME WHY! AIN'T NOTHIN' BUT A MISTAKE? DESCRIBING MEDIA ITEM DIFFERENCES WITH MEDIA FRAGMENTS URI AND SPEECH SYNTHESIS
  Thomas Steiner, Raphael Troncy
- A FEATURE-ANALYSIS BASED FRAGMENT REMIX INSTRUMENT
  Max Neupert, Joachim Gossmann

4th International Work-shop on Hot Topics in 3D (Hot3D)
Empire ; 7/15/2013; 09:00 – 17:00; Workshop Chair(s): Oscar Au, Dinei Florencio, Pascal Frossard, Cha Zhang

- EFFICIENT DEPTH MAP COMPRESSION EXPLOITING CORRELATION WITH TEXTURE DATA IN MULTIRESOLUTION PREDICTIVE IMAGE

CODERS
Khouloud Samrouth, Yi Liu, Olivier Deforges, Franŋois Pasteau, Wassim Falou, Mohamad Khalil

- A NOVEL PLANAR LAYERED REPRESENTATION FOR 3DTV AND FREEVIEW TV APPLICATIONS
  Burak Ozkalayci, Aydin Alatan
- AN EFFICIENT HOLE FILLING FOR DEPTH IMAGE BASED RENDERING
  Cevahir Cigla, Aydin Alatan
- IMPACT OF DISPARITY ERROR ON USER EXPERIENCE OF INTERACTING WITH STEREOSCOPIC 3D VIDEO CONTENT
  Haiyue Yuan, Janko Calic, Anil Fernando, Ahmet Kondoz
- A NEW RATE DISTORTION MODEL FOR MULTI-VIEW/3D VIDEO CODING
  Hoda Roodaki, Zahra Iravani, Mahmoud Reza Hashemi, Shervin Shirmohammadi, Moncef Gabbouj
- MODIFIED WEAK FUSION MODEL FOR DEPTHLESS STREAMING OF 3D VIDEOS
  Dogancan Temel, Qiongjie Lin, Guangcong Zhang, Ghassan Alregib
- REAL-TIME ENCODING OF LIVE RECONSTRUCTED MESH SEQUENCES FOR 3D TELE-IMMERSION
  Rufael Mekuria, Dimitrios Alexiadis, Petros Daras, Pablo Cesar
- TOWARDS LOCATION RECOGNITION USING RANGE IMAGES
  Anas Al-Nuaimi, Robert Huitl, Sinan Taifour, Supheakmungkol Sarin, Xiaohang Song, Yuan Xun Gu, Eckehard Steinbach, Michael Fahrmair
- REAL-TIME DENOISING OF TOF MEASUREMENTS BY SPATIO-TEMPORAL NON-LOCAL MEAN FILTERING
  Mihail Georgiev, Atanas Gotchev, Miska Hannuksela
- VISUAL SALIENCY DRIVEN ERROR PROTECTION FOR 3D VIDEO
  Chaminda Hewage, Junle Wang, Maria Martini, Patrick Le Callet

3rd IEEE International Workshop on Advances in Automated Multimedia Surveillance for Public Safety (AAMS-PS)

Regency1 ; 7/19/2013; 09:00 – 12:00; Workshop Chair(s): M. Anwar Hossain, Pradeep K. Atrey, Senem Velipasalar

- A FRAMEWORK FOR DETECTING COMPLEX EVENTS IN SURVEILLANCE VIDEOS
  Itır Önal, Karani Kardas, Yousef Rezaeitabar, Ulya Bayram, Murat Bal, Ilkay Ulusoy, Nihan Kesim Çiçekli
- LEARNING COMPLEX EVENT MODELS USING MARKOV LOGIC NETWORKS
  Karani Kardas, Nihan Kesim Çiçekli, Ilkay Ulusoy
- SPATIO-TEMPORAL VIDEO FILTERING FOR VIDEO SURVEILLANCE APPLICATIONS
  Amal Ben Hamida, Mohamed Koubaa, Henri Nicolas, Chokri Ben Amar
- ABNORMAL ACTION WARNING ON ENCRYPTED-CODED SURVEILLANCE VIDEO FOR HOME SAFETY
  Yi-Chong Zeng, Chi-Hung Tsai, Wen-Tsung Chang
- BETTER FACE DETECTION WITH VANISHING POINT-BASED IMAGE RECTIFICATION
  Tien-Lung Chang, Ching-Ho Wang, Jen-Hui Chuang
- CROWD DENSITY ANALYSIS USING SUBSPACE LEARNING ON LOCAL BINARY PATTERN
  Hajer Fradi, Xuran Zhao, Jean-Luc Dugelay
- FACE IDENTIFICATION USING WAVELET TRANSFORM OF SIFT FEATURES
  Mona Omidyeganeh, Shervin Shirmohammadi, Robert Laganiere, Richard Youmaran, Abbas Javadtalab
- AN HYBRID ACO-BASED APPROACH FOR MEDIA SERVICE COMPOSITION IN VIDEO SURVEILLANCE PLATFORM
  M.shamim Hossian, Mohammad Mehedi Hassan

1st IEEE International Workshop on Broadcast and User-Generated Content Recognition and Analysis (BRUREC)

Regency2 ; 7/19/2013; 09:00 – 12:00; Workshop Chair(s): Jinyu Han, Gerald Friedland, Peter Dunker

- CASCADED TRANSFORM SPACE WATERMARKING BASED ON ANALYSIS OF LOCAL ENTROPY VARIATION
  Shekoofeh Azizi, Shadrokh Samavi, Majid Mohrekesh, Shahram Shirani
- A NEW FACIAL FEATURE BASED ON THE FUSION OF TEXTURE AND SHAPE CHARACTERISTICS
  Haibin Liao, Liuyun Duan, Qinghu Chen, Wenhua Dai
- EIGENNEWS: GENERATING AND DELIVERING PERSONALIZED NEWS VIDEOS
  Maryam Daneshi, Peter Vajda, David Chen, Sam Tsai, Matt Yu, Andre Araujo, Huizhong Chen, Bernd Girod
- A SPATIO-TEMPORAL INTEREST POINT DETECTOR BASED ON VORTICITY FOR ACTION RECOGNITION
  Chen Yuanbo, Zhixuan Li, Xin Guo, Yanyun Zhao, Anni Cai
- MULTI-CORE BASED PARALLEL N-PATH LABELING HKM CLUSTERING ALGORITHM
  Kaiyang Liao, Guizhong Liu, Zhen Qiao, Chaoteng Liu
- KUUKKELI-TV: ONLINE CONTENT-BASED SERVICES AND APPLICATIONS FOR BROADCAST TV WITH LONG-TERM USER EXPERIMENTS
  Mika Rautiainen, Arto Heikkinen, Jouni Sarvanko, Vassilis Kostakos, Mika Ylianttila
- A NEW MULTI-SCALE FUZZY MODEL FOR HISTOGRAM-BASED DESCRIPTORS
  Lunshao Chai, Zhen Qin, Honggang Zhang, Jun Guo, Bir Bhanu
- LEVERAGING STRUCTURAL INFORMATION IN MUSIC-SPEECH DETECTION
  Jinyu Han, Bob Coover

International Workshop on Affective Analysis in Multimedia (AAM)
Hillsborough ; 7/15/2013; 09:00 – 17:00; Workshop Chair(s): Yi-Hsuan Yang, Mohammad Soleymani, Go Irie, Qi Tian

- EVALUATION OF A MOOD-BASED GRAPHICAL USER INTERFACE FOR ACCESSING TV ARCHIVES
  Jana Eggink
- SEMANTIC MODELS OF MUSICAL MOOD: COMPARISON BETWEEN CROWD-SOURCED AND CURATED EDITORIAL TAGS
  Pasi Saari, Mathieu Barthet , György Fazekas, Tuomas Eerola, Mark Sandler
- TOWARDS SEMANTIC AND AFFECTIVE CONTENT-BASED VIDEO RECOMMENDATION
  Taiga Yoshida, Go Irie, Hiroyuki Arai, Yukinobu Taniguchi
- LATENT FACIAL TOPICS FOR AFFECT ANALYSIS
  Prasanth Lade, Vineeth Balasubramanian, Sethuraman Panchanathan
- A TWO-LAYER MODEL FOR MUSIC PLEASURE REGRESSION
  Xing Wang, Yuqian Wu, Xiaoou Chen, Deshun Yang
- EVALUATING MUSIC EMOTION RECOGNITION: LESSONS FROM MUSIC GENRE RECOGNITION?
  Bob Sturm
- EMPIRICAL ANALYSIS OF MULTI-LABELING ALGORITHMS FOR MUSIC EMOTION ANNOTATION
  Ja-Hwung Su, Yi-Cheng Tsai, Shin-Mu Tseng
- EMOTION TRACKING IN MUSIC USING CONTINUOUS CONDITIONAL RANDOM FIELDS AND RELATIVE FEATURE REPRESENTATION
  Vaiva Imbrasaitė, Tadas Baltrušaitis, Peter Robinson
- AUDIO-VISUAL FEATURE-DECISION LEVEL FUSION FOR SPONTANEOUS EMOTION ESTIMATION IN SPEECH CONVERSATIONS
  Aya Sayedelahl, Rodrigo Araujo, Mohamed Kamel

2nd International Workshop on Emerging Multimedia Systems and Applications (EMSA 2013)
Regency1 ; 7/15/2013; 09:00 – 17:00; Workshop Chair(s): Weiyao Lin, Ming-Ting Sun, Dacheng Tao

- SELF-EXAMPLE BASED SUPER-RESOLUTION WITH FRACTAL-BASED GRADIENT ENHANCEMENT
  Licheng Yu, Yi Xu, Hongteng Xu, Xiaokang Yang
- CONTENT ADAPTIVE BILATERAL FILTERING
  Zhengguo Li, Jinghong Zheng, Zijian Zhu, Wei Yao, Shiqian Wu, Susanto Rahardja
- ANALYTICAL RATE MODEL FOR COMPRESSED VIDEO CONSIDERING IMPACTS OF SPATIAL, TEMPORAL AND AMPLITUDE RESOLUTIONS
  Zhan Ma, Felix Fernandes, Yao Wang
- EFFICIENT REALIZATION OF PARALLEL HEVC INTRA ENCODING
  Yanan Zhao, Li Song, Xiangwen Wang, Min Chen, Jia Wang
- GAZE PATTERN ANALYSIS FOR AUDIO-VISUAL CONTENTS UNDER THE PRESENCE OF VIDEO TRANSMISSION ERRORS
  Manri Cheon, Jong-Seok Lee
- OBJECT POSITION MEASURING BASED ON ADJUSTABLE DUAL-VIEW CAMERA
  Xiaowei Song, Yuanzhao Wu, Lei Yang, Zhong Liu
- HEURISTIC RELEVANCE LEARNING FOR WEB IMAGE ANNOTATION
  Feng Tian, Xu Kun Shen
- A NEW IMAGE-BASED ALGORITHM FOR ICING DETECTION AND ICING THICKNESS ESTIMATION FOR TRANSMISSION LINES
  You-Ping Zhong, Qi Zuo, Yang Zhou, Chongyang Zhang
- A NEW ALGORITHM FOR COMPRESSING MASSIVE REGION-OF-INTEREST LOCATION INFORMATION IN VIDEOS
  Mingliang Chen, Weiyao Lin, Xiaozhen Zheng, Xu Chen
- EXTRACTING THE SEMANTIC CONTENT OF WEB PAGES VIA REPEATED STRUCTURES
  Zheng He, Hangzai Luo, Jianping Fan, Xiao Liu
- LOGGING REAL PACKET RECEPTION PATTERNS FOR END-TO-END QAULITY OF EXPERIENCE ASSESSMENT IN WIRELESS MULTIMEDIA TRANSMISSION

Srdjan Sladojevic, Dubravko Culibrk, Milan Mirkovic, Damian Ruiz Coll, Gustavo Benvenutti Borba

- A BAG-OF-IMPORTANCE MODEL FOR VIDEO SUMMARIZATION
  Shiyang Lu, Zhiyong Wang, Yuan Song, Tao Mei, Dagan Feng
- A NEW MODELING FOR VISUAL ATTENTION CALCULATION IN VIDEO CODING
  Xu Chen, Ji-Hong Zhang, Xiao-Zhen Zheng, Zhouye Gu, Nam Ling
- LEARNING BAYESIAN NETWORK BY GENETIC ALGORITHM USING STRUCTURE-PARAMETER RESTRICTIONS
  Chongyang Zhang, Ming Cao, Biao Peng, Shibao Zheng
- IMAGE-BASED DEPTH-OF-FIELD RENDERING WITH NON-LOCAL MEANS FILTERING
  Weichen Xue, Xiangze Zhang, Bin Sheng, Lizhuang Ma
- TRANSFORM FOR INTER-LAYER PREDICTION RESIDUES IN SCALABLE VIDEO CODING
  Liwei Guo, Marta Karczewicz, Jianle Chen
- AN IMAGE QUALITY ASSESSMENT METRIC BASED ON QUATERNION WAVELET TRANSFORM
  Chen Qiwei, Yi Xu, Chuan Li, Ning Liu, Xiaokang Yang
- AUGMENTING REMOTE MULTIMODAL PERSON VERIFICATION BY EMBEDDING VOICE CHARACTERISTICS INTO FACE IMAGES
  Haoji Hu
- AN ERROR ROBUST DISTORTION MODEL FOR DEPTH MAP CODING IN ERROR PRONE NETWORK
  Min Gao, Xiaopeng Fan, Tao Zhang, Debin Zhao, Wen Gao
- DYNAMIC BACKGROUND SUBTRACTION BASED ON APPEARANCE AND MOTION PATTERN
  Haiyan Yin, Hua Yang, Hang Su, Chongyang Zhang

3rd IEEE International Workshop on Multimedia Services and Technologies for E-Health (Must-EH 2013)

Empire ; 7/19/2013; 09:00 – 12:00; Workshop Chair(s): M. Shamim Hossain, Mohamad Eid, Abdulmotaleb El Saddik

- MULTIMEDIA EXPERIENCE IN TELEMEDICINE: A STRATEGY FOR RECOVERING LIVE SURGERY TRANSMISSIONS ON DEMAND
  Tatiana Tavares, Wolgrand Cardoso, Sarah Soares
- CAPTURING ANKLE BENCHMARK KINEMATICS USING AN INTERACTIVE SENSORY WOBBLE BOARD
  Ali Karime, Hussein Al-Osman, Mohamad Eid, Abdulmotaleb El Saddik, Wail Gueaieb
- SMARTINSOLE: A FOOT-BASED ACTIVITY AND GAIT MEASUREMENT DEVICE
  Basim Hafidh, Hussein Al-Osman, Abdulmotaleb El Saddik
- SPATIO TEMPORAL MEDIA COMPONENTS FOR NEUROFEEDBACK
  Camilla B. Falk Jensen, Michael Kai Petersen, Jakob Eg Larsen, Arkadiuzs Stopczynski
- Carsten Stahlhut, Marieta Georgieva Ivanova, Tobias Andersen, Lars Kai Hansen
- CONTEXT-AWARE ELDERLY ENTERTAINMENT SUPPORT SYSTEM IN ASSISTED LIVING ENVIRONMENT
  Mohammad Anwar Hossain, Atif Alamri, Jorge Parra
- AN EFFICIENT QRS DETECTION METHOD FOR ECG SIGNAL CAPTURED FROM FINGERS
  Md Saiful Islam, Naif Alajlan

2nd International Workshop on Intelligent Mobile Vision (IMV 2013)
Sacramento ; 7/19/2013; 09:00 – 12:00; Workshop Chair(s): Gerard G. Medioni, Yi-Ping Hung, Yoichi Sato, Chu-Song Chen, Shang-Hong Lai, Hideo Saito

- LINE-OF-SIGHT SIGNALING AND POSITIONING FOR MOBILE DEVICES
  Wei Hong, Ramin Samadani, Mary Baker

- VEHICLE MAKE AND MODEL RECOGNITION BY KEYPOINT MATCHING OF PSEUDO FRONTAL VIEW
  Yukiko Shinozuka, Ruiko Miyano, Takuya Minagawa, Hideo Saito
- FROM SMARTPHONE TO VIRTUAL WINDOW
  Emile Zhang, Hideo Saito, Francois De Sorbier
- FAST MOBILE IMAGE RETRIEVAL
  David Edmundson, Gerald Schaefer
- VISION BASED CAMPUS GUIDE SYSTEM ON INTELLIGENT MOBILE PHONE
  Di-Kai Yang, Yu-Wen Lin, Yi-I Chiu, Pau-Choo Chung, Chun-Rong Huang
- CONTROL YOUR SMART HOME WITH AN AUTONOMOUSLY MOBILE SMARTPHONE
  Haidong Wang, Jamal Saboune, Abdulmotaleb El Saddik
- MOBILE VISUAL CLOTHING SEARCH
  George Cushen, Mark Nixon
- TELEPORT: VIRTUAL TOURING OF DUN-HUANG WITH A MOBILE DEVICE
  Shen-Chi Chen, Chia-Wei Hsu, Da-Yuan Huang, Shish-Yao Lin, Yi-Ping Hun

1st Workshop on GREEN Multimedia: Energy-efficient Multimedia Computing, Communication and Presentation
Piedmont; 7/19/2013; 09:00 – 12:00; Workshop Chair(s): Zhan Ma, Zhu Li, Andrew Segall, Yao Wang

- ONE-PASS MODE DECISION FOR LOW-COMPLEXIY SCALABLE VIDEO ENCODING
  Meng Xu, Yao Wang
- MARKOV DECISION PROCESS BASED ENERGY-EFFICIENT SCHEDULING FOR SLICE-PARALLEL VIDEO DECODING
  Nicholas Mastronarde, Karim Kanoun, David Atienza, Mihaela Van Der Schaar

- A FAST CODING UNIT SELECTION ALGORITHM FOR HEVC
  Jiawen Qiu, Fan Liang, Yonglin Luo
- LOW-COMPLEXITY MERGE CANDIDATE DECISION FOR FAST HEVC ENCODING
  Muchen Li, Keiichi Chono, Satoshi Goto
- PARALLELING VARIABLE BLOCK SIZE MOTION ESTIMATION OF HEVC ON CPU PLUS GPU PLATFORM
  Xiangwen Wang, Li Song, Min Chen, Junjie Yang
- A HIGHLY EFFICIENT EXTERNAL MEMORY INTERFACE ARCHITECTURE FOR AVS HD VIDEO ENCODER
  Xiaofeng Huang, Chuang Zhu, Lei Zhang, Kaijin Wei, Huizhu Jia, Don Xie, Wen Gao
- HIGH-PERFORMANCE, VERY LOW POWER CONTENT-BASED SEARCH ENGINE
  Wenyu Jiang, Rongshan Yu
- ENERGY-EFFICIENT WIRELESS VIDEO STREAMING WITH H.264 CODING
  Pariya Raoufi, Joseph Peters

9th IEEE International Workshop on Networking Issues in Multimedia Entertainment (NIME 13)
Valley ; 7/15/2013; 09:00 – 17:00; Workshop Chair(s): Abdennour El Rhalibi, Marco Roccetti, Claudio Palazzi

- LISTENING TO UNANIMATED OBJECTS' STORIES FOR TREATMENT AND REPAIR: A COMPUTER VISION APPROACH
  Marco Roccetti, Alessandro Amoroso, Cristian Bertuccioli, Andrea Marcomini, Gustavo Marfia, Giovanni Matteucci
- EMBEDDED KEY FRAME EXTRACTION IN UGC SCENARIOS
  Alexandro Sentinelli, Luca Celetto, Gustavo Marfia, Marco Roccetti
- PERFORMANCE CONTROL OVER HETEROGENEOUS RECEIVERS FOR VIDEO MULTICAST
  Hang Zhang, Koushik Kar, John Woods

- FAST IMAGE RESIZING FOR MORE EFFICIENT DEVICE ADAPTATION
  Ali Ajorian, Shadrokh Samavi, Majid Mohrehkesh, Shahram Shirani
- SUPPORTING CULTURAL EMOTIONAL BROWSING FOR MUSEUMS: THE VERSOVERDI APP
  Marco Roccetti, Gustavo Marfia, Cristian Bertuccioli, Andrea Marcomini, Marco Zanichelli, Angelo Varni
- A NOVEL SCALABLE HYBRID ARCHITECTURE FOR MMOG
  Christopher Carter, Abdennour El Rhalibi, Madjid Merabti
- ADDRESSING RESPONSIVENESS IN INTERACTIVE, PERVASIVE GAMES
  Davit Stepanyan, Ani Nahapetian
- LIKE VEHICLES LIKE PEDESTRIANS, IN AN INTERCONNECTED WORLD
  Alessandro Amoroso, Marco Roccetti, Gustavo Marfia
- A TWOFOLD APPROACH TO OBJECT AND AVATAR DATA MANAGEMENT IN P2P-BASED VIRTUAL ENVIRONMENTS
  Maha Abdallah, Eliya Buyukkaya
- EVALUATING DESIGN CONSTRAINTS FOR PROXIMITY-BASED GAMES ON A REAL URBAN TOPOLOGY
  Dario Maggiorini, Laura Ripamonti, Armir Bujari, Claudio Palazzi
- FROM A PHYSICAL SYSTEM TO A PERVASIVE SOLUTION TO INCREASE PEOPLE PHYSICAL ACTIVITY:IS IT POSSIBLE?
  Matteo Ciman, Ombretta Gaggi
- GEO-ANCHORED FLOATING DATA FOR MOBILE USERS
  Armir Bujari, Dario Maggiorini, Claudio Palazzi, Laura Ripamonti, Henklajd Sadushi

IEEE Workshop on Multimodal and Alternative Perception for Visually Impaired People (MAP4VIP)
Crystal; 7/15/2013; 09:00 – 17:00; Workshop Chair(s): Zhigang Zhu, Zhengyou Zhang, Kok-Meng Lee, Yann LeCun

- THE ARGUS® II RETINAL PROSTHESIS SYSTEM: AN OVERVIEW
  David Zhou, Jessy Dorn, Robert Greenberg

- AUGMENTING INTENSITY TO ENHANCE SCENE STRUCTURE IN PROSTHETIC VISION
  Chris Mccarthy, David Feng, Nick Barnes
- SMARTPHONE-BASED CROSSWALK DETECTION AND LOCALIZATION FOR VISUALLY IMPAIRED PEDESTRIANS
  Vidya Murali, James Coughlan
- DEVELOPMENTS ON THE BOSTON 256-CHANNEL RETINAL IMPLANT
  Shawn Kelly, Douglas Shire, Jinghua Chen, Marcus Gingerich, Stuart Cogan, William Drohan, William Ellersick, Ashwati Krishnan, Sonny Behan, John Wyatt, Joseph Rizzo
- VISUAL SEMANTIC PARAMETERIZATION – TO ENHANCE BLIND USER PERCEPTION FOR INDOOR NAVIGATION
  Samleo Joseph, Chucai Yi, Fei Yan, Jizhong Xiao, Yingli Tian
- ATTENTION BIASED SPEEDED UP ROBUST FEATURES (AB-SURF): A NEURALLY-INSPIRED OBJECT RECOGNITION ALGORITHM FOR A WEARABLE AID FOR THE VISUALLY-IMPAIRED
  Kaveri Thakoor, Sophie Marat, Patrick Nasiatka, Ben Mcintosh, Furkan Sahin, Armand Tanguay, James Weiland, Laurent Itti
- A PRIMARY TRAVELLING ASSISTANT SYSTEM OF BUS DETECTION AND RECOGNITION FOR VISUALLY IMPAIRED PEOPLE
  Hangrong Pan, Chucai Yi, Yingli Tian
- ACCESSIBLE SECTION DETECTION FOR VISUAL GUIDANCE
  Daniel Koester, Boris Schauerte, Rainer Stiefelhagen
- EVALUATION OF FEEDBACK MECHANISMS FOR WEARABLE VISUAL AIDS
  Aminat Adebiyi, Gerard G. Medioni, Armand Tanguay, Furkan Sahin, Nii Mante, James Weiland
- SUPPORTING LEARNING FOR INDIVIDUALS WITH VISUAL IMPAIRMENT
  Francis Quek, Yasmine El-Glaly, Francisco Oliveira

- FROM RGB-D TO LOW-RESOLUTION TACTILE: SMART SAMPLING AND EARLY TESTING
  Hao Tang, Margaret Vincent, Tony Ro, Zhigang Zhu
- ASSISTING THE VISUALLY IMPAIRED USING DEPTH INFERENCE ON MOBILE DEVICES VIA STEREO MATCHING
  Benjamin Chidester, Minh Do

Tutorials

High Efficiency Video Coding – Coding Tools and Specification

Room: Piedmont

Date/Time: 15/7/2013, morning

Presenter(s): Mathias Wien

The tutorial provides an overview on the new video coding standard HEVC (High Efficiency Video Coding) jointly published by ITU-T and ISO/IEC as ITU-T H.265 and ISO/IEC 23008-2, respectively. HEVC has been developed with a focus on high definition and ultra high definition video resolutions. Besides improved coding efficiency, the main design criteria in the development phase of HEVC were low computational complexity and friendliness for parallelization on various algorithmic levels. Simulations with the HEVC test model software HM reportedly reveal rate savings of about 50% compared to the established video coding standard H.264/AVC at the same visual quality. The tutorial reviews in detail the video layer coding tools and develops the concepts behind the selected design choices. It provides thorough overview on the high-level syntax and discusses the design in many illustrative examples. While many tools or variants thereof have been available before, the HEVC design reveals many improvements compared to previous standards which result in compression gain and implementation

friendliness. The tutorial provides insight into the mechanisms that contribute to the observed improvements.

Social Multimedia Signals: When Social Networking Meets Signal Processing


Room: Gold

Date/Time: 15/7/2013, morning

Presenter(s): Wenjun Zeng, Suman D. Roy

Social Multimedia refers to media content generated from social networks. A Social Multimedia Signal presumes human users as sensors and contains the spatio-temporal activity pattern of users (or user community) with respect to some multimedia content shared within the social network. Since social data is inherently noisy, it is still uncertain as to what are the best practices to separate the signal from the noise in multimedia obtained from online social networks. Social Multimedia Signal Processing aims to transform the noise-like phenomena in social media into signals useful for building novel socially-aware multimedia applications such as cross-domain media recommendations and targeted advertising, exploring new social marketing methods and a fresh way to look at the existence of multimedia in online social networks.

The tutorial intends to provide a comprehensive coverage of the state-of-the-art in understanding media popularity and trends in online social networks through social multimedia signals. Audience will learn insights from the study of popularity and sharing patterns of online media, trend spread in social media, social network analysis for multimedia and visualizing diffusion of media in online social networks. In particular, the tutorial highlights two interesting aspects of shared media in social networks - its context and its

popularity over lifetime and how we can predict both these quantitatively using the signal generated from the concerned media.

The tutorial is divided into three parts, focusing on: (1) Social Multimedia Signal Detection and Estimation, (2) Social Multimedia Signal Drifts and spatio-temporal trajectory, and (3) Social Multimedia Signal Penetration across media platforms on the Internet.

Active Learning for Multimedia Content Analysis



Room: Garden

Date/Time: 15/7/2013, morning

Presenter(s): Shayok Chakraborty, Vineeth Balasubramanian, Sethuraman (Panch) Panchanathan

The increasing miniaturization of sensing technologies, together with their widespread use, has resulted in the generation of humongous amounts of multimedia data (in the form of images, audio and text among others) in today's world. While this has expanded the possibilities of solving real world problems (such as understanding the behavior of people, objects and activities) using computational learning frameworks, selecting the salient data samples from such huge collections of data has proved to be a significant and practical challenge. Further, to train a reliable classification model, it is indispensable to have a large quantity of labeled training data. Manual annotation of large amounts of data is an expensive process in terms of time, labor and human expertise. This has set the stage for research in the field of active learning in multimedia content analysis. Active learning algorithms automatically select the salient and exemplar instances from large quantities of unlabeled data and thereby tremendously reduce human

annotation effort in training an effective classifier. Moreover, they endow the classification model with greater generalization capability, as it gets trained on the most informative samples from the underlying data population. Active learning can be applied across all existing classification methods and with any kind of data, thus making it a very generalizable approach. The success of active learning in several multimedia computing applications (such as image retrieval, text/web mining, speech processing and social network analysis) has resulted in the extension of the framework to problem settings beyond regular classification. Active learning concepts have been extended to newer problem settings like clustering, regression, feature selection and anomaly / rare category detection. This tutorial will seek to present a comprehensive overview of active learning in multimedia content analysis including historical perspectives, theoretical analysis and newer paradigms such as interactive learning, along with examples/case studies of their applications in multimedia content analysis.

HTTP Adaptive Streaming: Principles, Ongoing Research and Standards

Room: Crystal

Date/Time: 15/7/2013, afternoon

Presenter(s): Ali C. Begen, Thomas Stockhammer

This tutorial consists of three parts. In the first part, we survey well-established streaming solutions for over-the-top (OTT) video delivery, explaining how OTT video delivery contrasts to traditional broadcast managed IPTV services. We then provide a detailed overview of HTTP adaptive streaming and its building blocks. We explain the workflows for content generation, distribution and consumption. Some observations and experiences from real deployments including TV Everywhere are also provided. In the second part, we review recent research findings along with a discussion of future research directions. In the third part, we describe the

key standards and emerging technologies for HTTP adaptive streaming. In particular, the new ISO standard MPEG DASH, ongoing industry efforts in DASH Industry Forum and developing technologies such as eMBMS will be examined.

Development of Coding Tools from 2D to Depth-Enhanced 3D Video Compression

Room: Gold;

Date/Time: 15/7/2013, afternoon

Presenter(s): Karsten Móller

New home entertainment systems, such as glasses-free three-dimensional television require new 3D video technology beyond stereo video For the transmission scenarios, efficient standardized compression methods are required, such as 3D video coding for depth-enhanced multi-view video formats, which is the topic of this presentation. First, the principles of recent state-of-the-art 2D video coders, as well as stereo-only and multi-view coders are reviewed. Next, generic depth-enhanced 3D video formats are presented, which are independent of the 3D display type. For such formats, the specific requirements and an evaluation framework are explained. Then new 3D video coding tools will be presented for advanced inter-view prediction in video and depth data, depth-intra coding methods for edge preservation and inter-component prediction from video to depth. For the final 3D video coder, subjective and objective results in comparison to single-view and simple multi-view coding are shown. Finally, alternative 3D representation formats are discussed, which may become subject to future coding methods and extensions.

From Imaging Data to Useful Visual Information

Room: Garden

Date/Time: 15/7/2013, afternoon

Presenter(s): Jacob Scharcanski

In this talk, we address the problem of extracting relevant information from image data. We also introduce briefly the concepts and techniques often used in the automatic interpretation of phenomena based on imagery, or to make inferences based on models of such imagery data. When modeling and representing imaging measurements, usually we are trying to describe the world (or a real world phenomenon) using one or more images, and reconstruct some of its properties based on imagery data (like shape, texture or color). Actually, this is an ill-posed problem that humans can learn to solve effortlessly, but computer algorithms often are prone to errors. Nevertheless, in some cases computers can surpass humans and interpret imagery more accurately, given the proper choice of data representations (i.e. features), as we discuss in this talk. In order to illustrate this presentation, several applications are discussed, focusing in areas such as medicine, biometrics, surveillance, human-machine interfaces, multimedia. Finally, some challenging industrial applications also are discussed.

Signal Processing Methods for Stereoscopic and Multi-View 3D Displays



Room: Gold

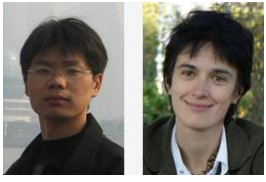
Date/Time: 19/7/2013, morning

Presenter(s): Atanas Boev, Robert Bregovic, Atanas Gotchev

Displays which aim at visualizing 3D scenes with realistic depth are broadly referred to as "3D displays". A class of such displays which create stereoscopic effect with no need of special grasses is referred to as auto-stereoscopic displays and in case of multiple parallax views created – as multi-view 3D displays. Due to technical limitations and design decisions, such displays might create visible distortions, which are interpreted by the human visual system as artifacts. The proposed tutorial overviews a number of signal processing techniques for decreasing the visibility of artifacts on 3D displays. The tutorial starts with identifying the properties of a 3D visual scene which the brain utilizes for perceiving depth. Further, operation principles of the most popular types of 3D displays are explained. Reflecting these principles, a 3D display general model in terms of signal processing channel is formulated. The model is operational for analyzing the changes in visual quality enforced by display distortions. The analysis allows identifying a set of optical properties which are directly related with the perceived quality. Methodologies for measuring these properties and creating quality profiles of 3D displays are discussed in the tutorial. A comparative study introducing measurement results on the visual quality and position of the sweet-spots of a number of 3D displays of different types is presented. Based on knowledge of 3D artifact visibility and understanding of distortions introduced by 3D displays, a number of signal processing methods for artifact mitigation are overviewed. These include methods for mitigating typical 3D display artifacts such as Moiré, fixed-pattern-noise, and ghosting.

Frequency-domain analysis is specifically emphasized and the notation of display passband is introduced. This notation is utilized for introducing a framework for design of tunable anti-aliasing filters. At the end, a set of real-time algorithms for view-point based optimization are reviewed.

Online Learning for Real-Time Multimedia



Room: Garden

Date/Time: 19/7/2013, morning

Presenter(s): Fangwen Fu, Mihaela van der Schaar

Real-time multimedia applications operate in dynamic and unknown environments where they experience time-varying and a priori unknown channel and network conditions, source and traffic characteristics and/or energy, system or usage requirements. Traditional concepts and techniques used for multimedia (processing, compression, networking, systems etc.) rely on well-known optimization, learning and adaptation methods which are not successful in enabling multimedia applications to efficiently and robustly adapt at run-time to the dynamic and unknown environments which they are facing. For this, new theories, algorithms and metrics are needed to complement the classical optimization, stochastic control and learning theories.

In this tutorial we present a novel and unified online learning framework (including both formalisms and practical implementations) aimed at optimizing delay-critical multimedia operating in uncertain and/or dynamically-changing source, network and user environments. Using the proposed online learning framework, devices, algorithms and protocols operating in various networking environments and at various layers of the protocol stack are able to learn how to act in order to maximize their own utilities using a novel class of online (reinforcement) learning techniques that

do not require a priori specified models of these environments. The online learning techniques which we will introduce are unique because they are very efficient and fast, yet general, and thus they can be easily applied to learn optimal policies online (at run-time), based on the experienced dynamics. The online learning methods presented in this tutorial can be used to optimally adapt the encoding strategies (e.g. AVC or HEVC rate control), transmission strategies at the various layers of the protocol stack (e.g. error control, scheduling, stream switching, congestion control, routing, energy-efficient processing etc.) to the various unknown and dynamic environments in which they need to operate. Importantly, the presented online learning formalisms and solutions can be simultaneously deployed at one or multiple layers of the protocol stack and they can operate in concert, to provide integrated cross-layer solutions. They can also be used in both single user as well as multi-user networking environments.

Perceptual Coding of Digital Pictures

Room: Crystal

Date/Time: 19/7/2013, morning

Presenter(s): K. R. Rao, Hong Ren Wu

Traditional definition of digital picture coding covers compression of visual signals including still images and moving or motion pictures or image sequences or videos. Digital picture compression products, systems and applications proliferated over the past two decades, at a pace which had never been witnessed since the pioneering work by Goodall at Bell Labs in 1949, in visual communications, broadcasting and entertainment, including video telephony, video conferencing, digital television (TV) broadcasting including standard definition (SD), high definition (HD), and three-dimensional (3-D) video signals, IPTV (Internet protocol TV), IP CCTV (closed-circuits TV), video streaming and on-demand services, PACS (picture

archiving and communication system) for biomedical imaging, satellite imaging, DVD (digital versatile disc) and HD DVD/Blu-ray products, broadband wireless and multimedia communications. Super-HD (SHD) and ultra-HD (UHD) TV are being standardized. Human visual system (HVS) based picture coding research and development has been an important and very challenging topic in both theory and practice since the very beginning with an emphasis on constant picture quality coding based on rate-distortion (R-D) theory. Its importance, relevance and urgency have become increasingly obvious to research and professional communities and industries to develop future generations of high quality picture coding standards, products and systems for quality user experience applications such as SHD or UHD video systems, digital cinema distribution systems, 3-D video/TV, immersive interactive visual systems, medical imaging and picture archiving systems for tele-medicine/health, and quality multimedia systems and services. It aims at transforming visual communication services and entertainment from the "best efforts" to visual quality assured practice for relevant industries to be sustainable in the long run.

This tutorial consists of three components, including an introduction to perceptual coding of digital pictures (PCP), HVS modelling for picture coders, and adaption of HVS models to picture coding. The introduction clarifies the theoretical foundation for perceptual picture coding against the backdrop of classical principles for picture coding. It reviews the historical development of human perception-based approaches to picture coding, leading to the state-of-the-art. It highlights various perceptual coding techniques at different periods and their incorporations in various picture coding standards. The tutorial in its second component provides a summary discussion on HVS characterisation and a comprehensive description of HVS threshold and supra-threshold models which have been successfully deployed in picture coding designs. The adaptation of HVS models to PCP is developed focusing on three major categories at either perceptually lossless or perceptually lossy levels, including perceptual predictive coding, perceptual quantizer design and RpD (rate-perceptual-distortion) optimization. HVS-based pre- and post-filtering techniques are briefly discussed due to their unique roles in visual signal bandwidth reduction and

minimisation of compression visual distortion which improves perceived picture quality. The tutorial concludes by highlighting a number of theoretical and practical challenges of this fascinating area in a field of engineering and technology which has been transforming our way of life.

The tutorial aims at providing the participants with a comprehensive treatment and knowledge of perceptual (i.e., HVS based) picture coding and compression, discussing formulations of perceptual picture coders which have been reported in recent years, facilitating rapid adoption and adaptation of various HVS models to picture coding products and systems for enhanced quality of experiences in digital media communication and entertainment services, and highlighting critical issues and challenges for the next generation high quality picture coding systems and applications.

See you next year:

ICME 2014

July 14 – 18, 2014

Chengdu, China

www.icme2014.org