

出國報告（出國類別：論文發表）

中文：一個三向探照燈濾波器使用於物件輪廓萃取

English： A Tri-Directional Spotlight Filter  
for Object Contour Extraction

服務機關：嘉義大學電機系

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## 摘要

此次出國乃前往於上海舉行的 ICALIP 2014 的國際研討會，發表敝人與研究團隊學生合著的研究論文，並且參與相關熱門主題的議程以吸收新知及與外國教授學者交流。本會議此次在語音、影像與視覺的相關研究與應用的比重很多，期望透過此次發表找出可以更進一步的研究方向或是應用領域，進而深入研究後得以投稿至具有重要影響力的期刊，例如 Pattern Recognition 期刊。

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## 一、目的

此次出國乃前往於上海舉行的 ICALIP 2014 的國際研討會，發表敝人與研究團隊學生合著的研究論文，並且參與相關熱門主題的議程以吸收新知及與外國教授學者交流。本會議此次在語音、影像與視覺的相關研究與應用的比重很多，期望透過此次發表找出可以更進一步的研究方向或是應用領域，進而深入研究後得以投稿至具有重要影響力的期刊，例如 Pattern Recognition 期刊。

在本次發表之論文，提出一個以三向探照燈濾波器擷取區域結構資訊以偵測影像中物件外廓與邊緣之方法。此一方法係採用三個具方向性與重疊的扇形探照燈遮罩，並將之置於物件外廓之不連續點（即邊緣點）以擷取此不連續點鄰近之區域結構資訊，並進而偵測出物件的外廓。於人造影像與實際醫學影像上之實驗結果證明，此一外廓偵測方法除能有效的增強外廓偵測與萃取之精準度，亦優於於其他既有之方法。

## 二、過程

敝人於 103 年中即開始著手本次會議論文之研究與撰述，論文初稿完成後即於 2014 年 3 月份進行稿件的送交。並於 4 月中收到論文接受通知，隨後根據審稿委員之意見進行論文之修改定稿與論文註冊與費用之繳交。在大會的議程細目公佈後，我們被安排於 7/8 上午發表，發表時間確定後即開始安排行程。

此次會議舉辦地上海位於中國沿海地帶，本國籍航空公司航班可直接抵達中國浦東機場，搭乘地鐵就能抵達上海。研討會報到時間為 2014 年 7 月 6 日，故選自 5 日下午由桃園國際機場出發，當日晚間抵達上海。

7 月 6 日中午報到後，即參與各項會議議程，今天主要有兩個 Sessions：

第一個議程由四位專家進行每位約 30 分鐘之演講，而第二個議程則是有三位專家進行每位約 30 分鐘之演講，中間穿插有 coffee break，之後則於該飯店展開晚宴。7 日為研討會正式開幕的開幕式隨即展開各項研討議程，議程請見附件。

7 月 8 日為敝人論文發表日期，敝人所被安排的議程為 T-L4：image processing（影像處理）共有 7 篇文章 於 10:25-12:00 之間採 Oral Session 方式，本議程主席有兩位，分別是由台灣與中國的學者各一位擔任。本議程之文章有以下七篇：

T-L4.1：Vehicle Classification and Counting System-由台灣師範大學資工

系三位作者所發表，主要是探討汽車分類及車輛數計算之方法。

T-L4.2：Multimodal medical image fusion using wavelet transform and human vision system，由成都的中國電子科學與科技大學電腦系 5 位學者所提出，論文主要是探討利用 wavelet transform 及人類視覺系統進行醫學影像融合之方法。

T-L4.3：Face Recognition Based on Data Field，由位於北京市之 BeiHang 大學電腦科學與工程系 4 位學者所發表，論文主要是探討人臉辨識之方法。

T-L4.4：Fast Moving Object Detection Using Improved Gaussian Mixture Models，由北京技術學院電腦學院之 4 位學者所發表，論文主要是探討快樹枝物件偵測方法。

T-L4.5：Saliency Detection on Videos with Scene Change，由中國通信大學訊息工程學院的 3 位學者所發表，內容為視訊中場景變化之 Saliency Detection。

T-L4.6：MRI Brain Image Segmentation Based On Kerneled FCM Algorithm And Using Image Filtering Method，由中國成都的中國電子科學與科技大學電腦系 5 位學者所提出，論文主要是探討利用 Kerneled FCM Algorithm 並使用影像濾波器的方法進行 MRI 腦部影像區分。

T-L4.7：A Tri-Directional Spotlight Filter for Object Contour Extraction，此

乃敝人與學生之論文，其摘要與內容已於前描述完成，在此不再贅述。

	
本場議程主持人開場	論文發表照片

ICALIP 2014 研討會至 9 日結束，休息一晚後，敝人隔天(10 日)由浦東機場出發返國，晚上順利返回桃園國際機場結束本次旅程。

### 三、心得及建議事項

在 ICALIP 會議中，每個議程中的論文報告者所描述的研究成果都讓與會者感到非常有興趣，並有許多訊號、影像與音訊處理創新的想法。報告者與詢問者之間的問答與交流讓敝人瞭解到更多的研究領域與方向。而在論文報告完畢後，提問者所提的內容大部份關於此方法的實際運用，在問答與交流的過程中也讓我們想到此方法有更多元的運用方向。



## 四、附錄

### (一) 會議議程

# ICALIP2014

## 2014 International Conference on Audio, Language and Image Processing

### PROGRAM GUIDE

July 07-09, 2014

Marriott Shanghai Parkview, Shanghai, China



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## **The Conference at a Glance**

### **Sunday, July 06, 2014**

**13:30-17:00 Registration**

**13:30-17:30 2014 International Workshop on Big Data and Smart City**

**13:30-15:30 First Session**

- 13:30-14:00 Prof. Chuan-ping Hu, The Third Research Institute of Ministry of Public Security
- 14:00-14:30 Prof. Hua-dong Ma, School of Computer Science, Beijing University of Post and Telecommunications, China
- 14:30-15:00 Prof. Stuart White, Institute for Sustainable Futures, University of Technology, Sydney (UTS), Australia
- 15:00-15:30 Prof. Hui Zhang, Institute of Public Safety Research, Tsinghua University, China

**15:30-16:00 Coffee Break**

**16:00-17:30 Second Session**

- 16:00-16:30 Dr. Wonjun Kim, Advanced Media Lab., Samsung Advanced Institute of Technology (SAIT), Korea
- 16:30-17:00 Prof. Jian Cao, School of Electronic Information and Electrical Engineering, Shanghai Jiao Tong University, China
- 17:00-17:30 Dr. Yang Zhang, Shanghai Traffic Information Center, Shanghai, China

**18:00 Banquet**

### **Monday, July 07, 2014**

**08:30-08:45 Opening Ceremony**

**08:45-09:15 Keynote Speech: 1**

**Machine Learning Strategies for Big Data Utilization: Assembling via Statistical Soft Label**

Yasuo Matsuyama, Department of Computer Science and Engineering, Waseda University, Japan

**09:15-9:45 Keynote Speech: 2**

**Image and Video Analyses for Fishery Applications**

Jenq-Neng Hwang, Department of Electrical Engineering, the University of Washington, USA

**9:45-9:50**

**Industrial Application of Big Data in Image and Audio Processing**

Beijing Datatang Technology Co., Ltd, Beijing, China

**9:50-10:10 Coffee Break**

**10:10-10:40 Keynote Speech: 3**

**Affect Analysis: Challenges and Perspectives for Audio, Language and Image Processing**

J. Alfredo Sánchez, Department of Computing, Electronics and Mechatronic, Universidad de las Américas Puebla, Mexico

**10:40-11:10 Keynote Speech: 4**

**Beyond Stereoscopic: Multiview Video Processing**

Kwanghoon Sohn, School of Electrical and Electronic Engineering, Yonsei University, Korea

**11:10-11:40 Keynote Speech: 5**

**How Multimedia is Creating the Need for Software-Defined Systems and a New Breed of Processor**

Manuel Uhm, Coherent Logix, Inc., San Jose, California, USA

**11:40-13:30 Lunch**

**13:30-15:20 Oral Session (24 papers in 3 rooms)**

M-L1 Audio and Music Processing (Papers#:8)

M-L2 Bio-informatics (Papers#:8)

M-L3 Computer Graphic and Virtual Reality (Papers#:8)

**15:20-15:40 Coffee Break**

**15:20-15:40 Poster Session (15 papers)**

M-P1 Image Processing (Papers#:12)

Audio and Music Processing (Papers#:3)

**15:40-17:30 Oral Session (24 papers in 3 rooms)**

M-L4 Image Processing (Papers#:8)

M-L5 Image Processing (Papers#:8)

M-L6 Image Processing (Papers#:8)

**18:30-20:30 Night Banquet**

**Tuesday, July 08, 2014**

**08:30-10:05 Oral Session (14 papers in 2 rooms)**

T-L1 Image Processing (Papers#:7)

T-L2 Language and Speech Processing (Papers#:7)

**10:05-10:25 Coffee Break**

**10:05-10:25 Poster Session (13 papers)**

T-P1        Image Processing (Papers#:9)  
              Language and Speech Processing (Papers#:4)

**10:25-12:00 Oral Session (14 papers in 2 rooms)**

T-L3        Language and Speech Processing (Papers#:7)  
T-L4        Image Processing (Papers#:7)

**12:00-13:30 Lunch****13:30-15:20 Oral Session (16 papers in 2 rooms)**

T-L5        Remote Sensing and GIS (Papers#:8)  
T-L6        Big Data and Cloud Processing (Papers#:8)

**15:20-15:40 Coffee Break****15:20-15:40 Poster Session (13 papers)**

T-P2        Computer Graphic and Virtual Reality (Papers#:9)  
              Remote Sensing and GIS (Papers#:4)

**15:40-17:30 Oral Session (16 papers in 2 rooms)**

T-L7        Image Processing (Papers#:8)  
T-L8        Audio and Music Processing (Papers#:8)

**Wednesday, July 09, 2014****08:30-10:05 Oral Session (14 papers in 2 rooms)**

W-L1        Image Processing (Papers#:7)  
W-L2        Computer Graphic and Virtual Reality (Papers#:6)  
              Bio-informatics (Papers#:1)

**10:05-10:25 Coffee Break****10:05-10:25 Poster Session (13 papers)**

W-P1        Computer Graphic and Virtual Reality (Papers#:9)  
              Bio-informatics (Papers#:2)  
              Big Data and Cloud Processing (Papers#:2)

**10:25-12:00 Oral Session (14 papers in 2 rooms)**

W-L3        Language and Speech Processing (Papers#:6)  
              Multimedia SOC Design (Papers#:1)  
W-L4        Remote Sensing and GIS (Papers#:3)  
              Image Processing (Papers#:3)  
              Multimedia SOC Design (Papers#:1)

**12:00-13:30 Lunch****13:30-17:00 Campus Tour and Laboratory Visit**

## **Message from the Conference Chairs**

On behalf of the organization committee, we are most delighted to welcome you to join us at the 4<sup>th</sup> International Conference on Audio, Language and Image Processing (ICALIP2014) to be held in Shanghai, the largest city of China, on July 7 through July 9, 2014. The conference is technically sponsored by IEEE CIS Shanghai Chapter and is co-organized by IET Shanghai Local Network, Shanghai University, Tongji University, Fudan University and Shanghai Jiao Tong University.

As the flagship conference and one of the most important academic events in the region, ICALIP2014 aims to provide a unique forum for researchers, engineers and educators interested in audio, language and image processing to learn about recent progresses, to address related challenges and to develop new methods, applications and systems.

ICALIP2014 is featured with five world-class plenary lectures and 22 well-organized sessions (oral and poster) in eight topics, namely, Audio and Music Processing, Language and Speech Processing, Image Processing, Computer Graphic and Virtual Reality, Bio-informatics, Remote Sensing and GIS, Multimedia SOC Design, Big Data and Cloud Processing. Five keynote speeches are arranged in half-day plenary sessions with titled as “Machine Learning Strategies for Big Data Utilization: Assembling via Statistical Soft Label”, “Image and Video Analyses for Fishery Applications”, “Affect Analysis: Challenges and Perspectives for Audio, Language and Image Processing”, “Beyond Stereoscopic: Multiview Video Processing”, and “How Multimedia is Creating Need for Software-Defined Systems and a New Breed of Processor”, respectively.

Shanghai is the most populous city in China and also one of the largest urban areas in the world, with a population of over 20 million people in its metropolitan area. Located on China's east coast at the mouth of the Yangtze River, the city is administered as a municipality with province-level status. Shanghai is also China's largest economic comprehensive industrial base, technology center, and a famous historical and cultural city. The municipal government of Shanghai City has been very supportive to ICALIP2014 from many aspects since the very beginning of the preparation of the conference. The venue of the conference is Marriott Shanghai Parkview located in No. 333, West Guangzhong Road, Zhabei District, Shanghai. Conveniently situated with excellent transport links, the hotel includes the metro

service and the city ring road located right outside the main entrance. ICALIP2014 also offers a number of social and networking events for the conference attendees and their accompanying persons including banquet and culture-show performed by local artists.

As we conclude this message, we would like to thank all members of International Program Committee and Organization Committee of the conference for their strong support, tireless effort and efficient coordination. We are deeply indebted to the reviewers for their timely and insightful reviews on all the submitted manuscripts. We also wish to thank Dr. Li Hou, Mr. Xuannan Ye and Mr. Shishi Duan for their great effort to edit this Program Guide. We hope that you not only enjoy the technical programs of ICALIP2014 but also experience productive social and networking events. We wish you a memorable international conference in Shanghai.

Wanggen Wan, Jenq-Neng Hwang, Fa-Long Luo, Tingao Tang

General Co-Chairs  
ICALIP2014

## Location and Venue

The conference will be held at Marriott Shanghai Parkview (5-star Hotel) in Shanghai of China. The location can be found in the following map.



### **Venue Address:**

No.333, West Guangzhong Road Zhabei District, Shanghai

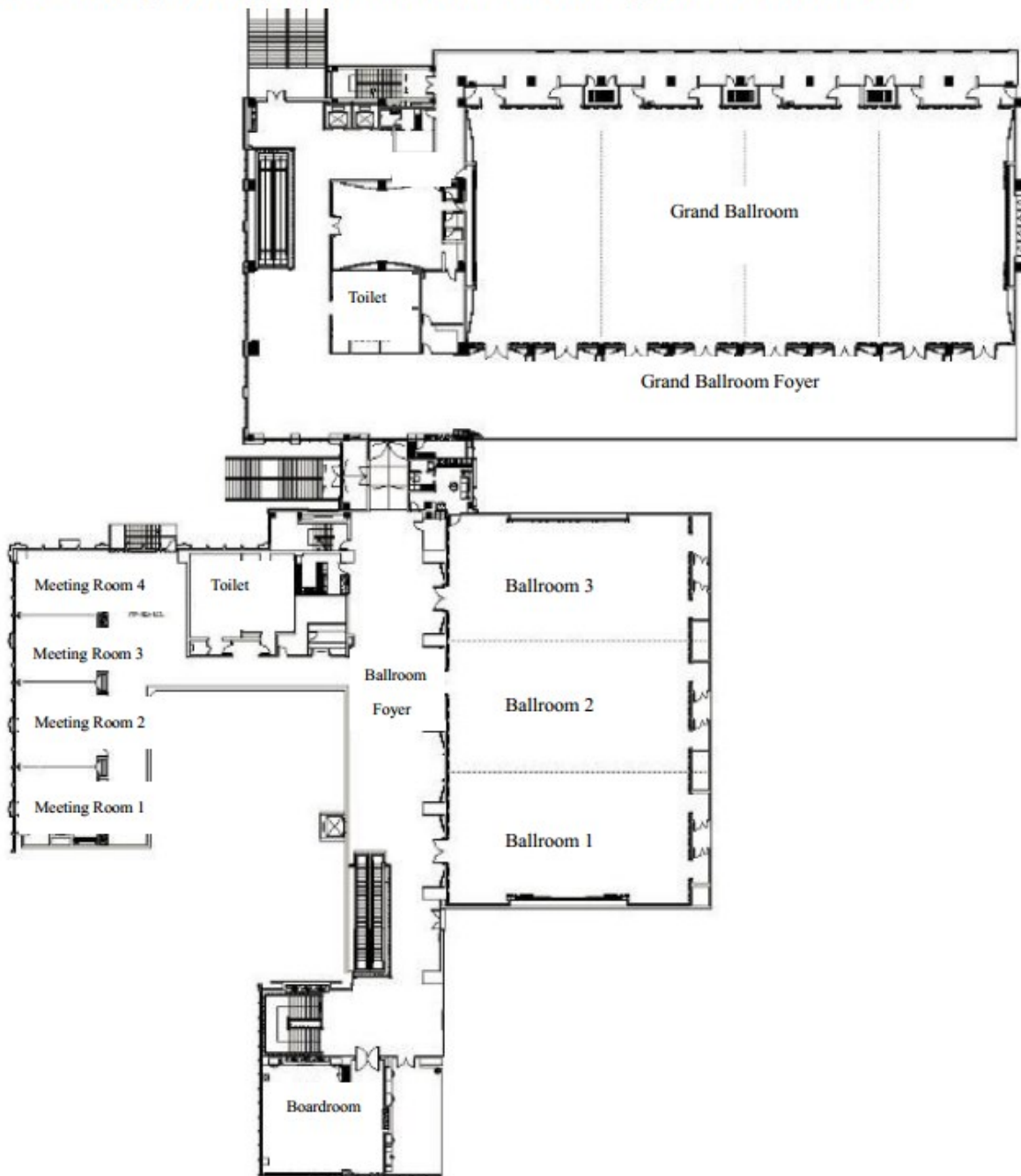
### **The ways to reach the venue:**

- 5 minutes walking distance to Metro Line No. 1 - Shanghai Circus World Station
- 15 minutes by car (7km) away from People's Square in downtown Shanghai
- 25 minutes by car (23km) away from Shanghai Hongqiao Airport
- 45 minutes by car (45km) away from Shanghai Pudong International Airport
- 15 minutes by car (6km) away from Shanghai Railway Station
- Adjacent to the largest public park in downtown Shanghai-Da Ning Ling Shi Park



# Marriott Shanghai Parkview Map

## Level 2 Meeting Floor (Grand Ballroom, Ballroom, Meeting Room 1-4, Boardroom)



# ICALIP 2014 Keynote Speeches

## Keynote Speech: 1

**Title: Machine Learning Strategies for Big Data Utilization:  
Assembling via Statistical Soft Label**

**Keynote Speaker: Yasuo Matsuyama, Department of Computer  
Science and Engineering, Waseda University, Japan**



### **Abstract:**

Big data is not a buzz word any more. For instance, every citizen generates video images by smart phones. His/her daily behavior is recorded unconsciously and is accumulated. When we open a browser connected to the Internet, we find many recommendations tagged to certain sites, although they sometimes irritate us. True big data is the one which has an inaccessible size for any user. However, the data of this class cannot be of practical use at all. Therefore, the big data discussed herein is the one with a workable size; but it is big enough. In most cases, big data are unstructured or only weakly structured. Even if its record is labelled, its annotation may be inappropriate or only for private use. Therefore, application oriented re-organization becomes necessary. But, this work is not possible solely by hand. Therefore, utilization of the machine learning has become a recent trend. In this presentation, we show that the machine learning theory and methods are very congenial to big data handling. Following the presentation of popular machine learning methods, we will show our case studies on binary data, brain signals, image retrieval, video retrieval, and GUIs (Graphical User Interfaces). Since these problems give seeds of new data processing, novel methods will be presented. Therein, the saying of “Good models mismatch well, and are therefore dependable.” will be observed. This talk includes topics on one more important trend. That is called crowd sourcing. This method is based on asking contributions from people for improving information processing systems. New trends of combining the machine learning and the crowd sourcing will also be presented.

### **Biography:**

**Prof. Yasuo Matsuyama** received the B. Eng., M. Eng. and Dr. Eng. degrees in electrical engineering in 1969, 1971 and 1974 from Waseda University, Tokyo, Japan. In 1974, he was sent to Stanford University under the JSPS-Fulbright fellowship. In 1978, he received the Ph.D. degree in electrical engineering from Stanford University. Both dissertation titles can be found in the site of the Mathematics Genealogy Project. Dr. Matsuyama was a research assistant at Stanford University, a professor/doctor course chairperson at Ibaraki University, Hitachi, and a co-chairperson of the National Personnel Authority. Since 1996, he has been a professor of the Department of Computer Science and Engineering of Waseda University. He is a Life Fellow of IEEE and a Fellow of IEICE. His research interest includes machine learning, brain informatics, and ICT system design. He is the founder of the  $\alpha$ -EM algorithm. He received the IEEE Trans. NN Outstanding Paper Award, and others from several societies.

## Keynote Speech: 2

**Title: Image and Video Analyses for Fishery Applications**

**Keynote Speaker: Jenq-Neng Hwang, Department of Electrical Engineering, the University of Washington, USA**



### **Abstract:**

Non-extractive fish abundance estimation, which can serve as a powerful tool for conservation/management of fish stocks through the aid of image/video analyses, has drawn increasing attention recently. The challenges of extracting information from vast amount of fishery data can be reduced by using automatic image/video analyses techniques for segmentation, tracking, length/size measurement and species identification, resulting in a better understanding of health status of oceans. Most existing well developed image/video analyses techniques cannot be directly applied for these tasks, due to non-steady illumination, ubiquitous noise and poor motion continuity of underwater videos, as well as unbalance size and subtle feature difference among different species of fish, etc. In this talk, I will present several innovative techniques to overcome the above issues so as to provide reliable underwater and onshore conveyor belt fish abundance estimation.

### **Biography:**

**Prof. Jenq-Neng Hwang** received the BS and MS degrees, both in electrical engineering from the National Taiwan University, Taipei, Taiwan, in 1981 and 1983 separately. He then received his Ph.D. degree from the University of Southern California. In the summer of 1989, Dr. Hwang joined the Department of Electrical Engineering of the University of Washington in Seattle, where he has been promoted to Full Professor since 1999. He is currently the Associate Chair for Research in the EE Department. He has written more than 300 journal, conference papers and book chapters in the areas of multimedia signal processing, and multimedia system integration and networking, including an authored textbook on "Multimedia Networking: from Theory to Practice," published by Cambridge University Press. Dr. Hwang has close working relationship with the industry on multimedia signal processing and multimedia networking.

Dr. Hwang received the 1995 IEEE Signal Processing Society's Best Journal Paper Award. He is a founding member of Multimedia Signal Processing Technical Committee of IEEE Signal Processing Society and was the Society's representative to IEEE Neural Network Council from 1996 to 2000. He is currently a member of Multimedia Technical Committee (MMTC) of IEEE Communication Society and also a member of Multimedia Signal Processing Technical Committee (MMSP TC) of IEEE Signal Processing Society. He served as associate editors for IEEE T-SP, T-NN and T-CSVT, T-IP and Signal Processing Magazine (SPM). He is currently on the editorial board of ETRI, IJDMB and JSPS journals. He was the Program Co-Chair of ICASSP 1998 and ISCAS 2009. Dr. Hwang is a fellow of IEEE since 2001.

## **Keynote Speech: 3**

**Title: Affect Analysis: Challenges and Perspectives for Audio, Language and Image processing**

**Keynote Speaker: J. Alfredo Sánchez, Department of Computing, Electronics and Mechatronic, Universidad de las Américas Puebla, Mexico**



### **Abstract:**

Affect analysis focuses on detecting and interpreting affective states such as happiness, sadness, anger or frustration. Affective computing has implications and many potential applications in contexts as diverse as distance education, smart cities or usability evaluation. Techniques for affect analysis vary from studying facial cues, to analyzing signals from body or brain sensors, to finding patterns in speech variations or posture reactions, among many others. This talk presents an overview of affective computing, focusing on recent advances and challenges of techniques for emotion analysis, particularly from the perspective of audio, language and image processing.

### **Biography:**

Alfredo Sánchez is a professor of computer science and director of the Laboratory of Interactive and Cooperative Technologies (<http://ict.udlap.mx>) at Universidad de las Américas Puebla (UDLAP). He holds MSc and PhD degrees in Computer Science from Texas A&M University. His research interests lie in the areas of Human-Computer Interaction, Natural User Interfaces and Information Visualization. He has been a visiting professor at the University of Waikato, New Zealand, a visiting scientist at the Center for Botanical Informatics of the Missouri Botanical Garden, and currently a visiting researcher at Institute of Smart City, Shanghai University. Prof. Sánchez serves at the editorial board of the Journal of Internet Services and Applications as well as the International Journal of Digital Libraries. He chairs the Latin American Community of Human-Computer Interaction under ACM's SIGCHI, and is co-founder of the Latin American Conference Series on Human-Computer Interaction (CLIHIC). He also has served as president of the Mexican Computer Science Society and has been a member of the National Researchers System.

## Keynote Speech: 4

**Title: Beyond Stereoscopic: Multiview Video Processing**

**Keynote Speaker: Kwanghoon Sohn, School of Electrical and Electronic Engineering, Yonsei University, Korea**



### Abstract:

Stereoscopic 3-D is now mature enough for the market in terms of quality of technology and content. Despite the high standards that stereoscopic 3-D has reached today, there is still room for improvement of technology and a number of central problems remain unsolved. In this talk, fundamentals of stereoscopic imaging technologies are first outlined that cover the core methodologies for depth acquisition via stereo matching and depth image-based rendering (DIBR) from a stereo image pair. Then, remaining challenges and opportunities are introduced that require further research and improvement. For a new display technology such as auto-stereoscopic displays, we will also give new research trends of multiview video processing such as probability-based rendering (PBR) for seamless multiview synthesis, data-driven approaches in the context of 2D-to-Multiview contents conversion, and 3-D video retargeting for display adaptation.

### Biography:

**Prof. Kwanghoon Sohn** received the BE degree in Electronics Engineering from Yonsei University, Seoul, Korea, in 1983, received MSEE degree in Electrical Engineering from University of Minnesota in 1985, and then received PhD degree in Electrical And Computer Engineering from North Carolina State University in 1992. His research interest includes 3D image processing, computer vision and image communication. Since 1995, he has been a professor at School of Electrical and Electronic Engineering, Yonsei University. Since 2012, he has been Chair of School of Electrical and Electronic Engineering, Yonsei University. Between 2002 and 2003, he was a visiting professor at School of Computer Engineering, Nanyang Technological University, Singapore. In the last five years, he has authored more than 40 publications in high-level international journals, such as IEEE Transactions on Image Processing and IEEE Transactions on Circuits and Systems for Video Technology. In 2010, he was a Technical Program Committee of IEEE International Conference on Multimedia and Expo (ICME) held in Singapore, and an Invited Speaker of International Meeting on Information Display International Display Manufacturing Conference and Asia Display held in Seoul, Korea. In 2011, he was an Invited Speaker of IEEE Conference on Industrial Electronics and Applications (ICIEA) held in Beijing, China. In 2012, he was Local Arrangement Chair of IEEE International Symposium on Broadband Multimedia Systems and Broadcasting (BMSB) held in Seoul, Korea, and Session Chair of IEEE International Conference on Image Processing (ICIP) held in Orlando, USA.

## **Keynote Speech: 5**

**Title: How Multimedia is Creating the Need for Software-Defined Systems and a New Breed of Processor**

**Keynote Speaker: Manuel Uhm, Coherent Logix, Inc., San Jose, California, USA**



### **Abstract:**

A software-defined system (SDS) is a system that is required to support several multimedia applications, often simultaneously. The need for SDS is being driven by the same phenomenon that is driving the wireless bandwidth explosion – audio, video and imaging. The key to enabling a superior user experience of audio, video and imaging over wireless devices is to reduce the system-wide latency. In this case, the system is not a single basestation or device, but rather a network of multiple basestations and devices, since the objective is to reduce the latency and buffering of a video being cached at a datacenter to being displayed on the mobile device. One means to accomplish this is to put real-time capable multimedia processing at the edge, which in this case would be the wireless physical layer just before transmission. In this way, high definition audio and video can be processed in real-time just prior to transmission and immediately following reception. The type of processing that would be required at the edge includes audio coding, video coding, transcoding and transrating.

From a processing perspective, the best way to reduce the latency is to co-locate the video processing and wireless processing, ideally in the same processor. This is now possible due to the advent of high performance, low power multi-core processors. To support a fully software-defined system requires a processor with the performance to do both wireless physical layer and multimedia processing, ideally entirely in software. This enables a highly flexible, differentiated platform that can virtualize the signal processing such that the platform does not need to be tied to any specific wireless air interface or video codec. Commercially available processor options that can enable an SDS will be explored.

### **Biography:**

**Dr. Manuel Uhm** joined Coherent Logix as the Vice President, Marketing, in 2011. Manuel is responsible for all marketing and sales activities, including the product portfolio and roadmaps. He is also responsible for strategic marketing and is an expert in market analysis and segmentation for processors. Currently, Manuel is also the Chief Marketing Officer (CMO) and a member of the Board of Directors of the Wireless Innovation Forum.

Previously, Manuel was the Marketing Director of Mobile for MIPS Technologies where he was responsible for leading MIPS' penetration into the mobile industry, including applications processors, LTE UE baseband processors and mobile connectivity processors. Prior to joining MIPS, Manuel was the Director of Wireless Communications for Xilinx, the leading supplier of programmable logic devices, where he grew the wireless business into Xilinx's #1 end market.



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# **ICALIP2014 Technical Program**

**Monday, July 07, 2014**

**08:30-08:45 Opening Ceremony**

**Location: Ballroom 3**

**08:45-09:15 Keynote Speech: 1**

**Machine Learning Strategies for Big Data Utilization: Assembling via Statistical Soft Label**

Yasuo Matsuyama, Department of Computer Science and Engineering, Waseda University, Japan

**Location: Ballroom 3**

**09:15-9:45 Keynote Speech: 2**

**Image and Video Analyses for Fishery Applications**

Jenq-Neng Hwang, Department of Electrical Engineering, the University of Washington, USA

**Location: Ballroom 3**

**9:45-9:50**

**Industrial Application of Big Data in Image and Audio Processing**

Beijing Datatang Technology Co., Ltd, Beijing, China

**Location: Ballroom 3**

**9:50-10:10 Coffee Break**

**10:10-10:40 Keynote Speech: 3**

**Affect Analysis: Challenges and Perspectives for Audio, Language and Image Processing**

J. Alfredo Sánchez, Department of Computing, Electronics and Mechatronic, Universidad de las Américas Puebla, Mexico

**Location: Ballroom 3**

**10:40-11:10 Keynote Speech: 4**

**Beyond Stereoscopic: Multiview Video Processing**

Kwanghoon Sohn, School of Electrical and Electronic Engineering, Yonsei University, Korea

**Location: Ballroom 3**

**11:10-11:40 Keynote Speech: 5**

**How Multimedia is Creating the Need for Software-Defined Systems and a New Breed of Processor**

Manuel Uhm, Coherent Logix, Inc., San Jose, California, USA

**11:40-13:30 Lunch**

**13:30-15:20 Oral Session (24 papers in 3 rooms)**

**M-L1 Audio and Music Processing (Papers#:8)**

**Chairs:** Etienne Gaudrain, University of Groningen, University Medical Center Groningen, Department of Otorhinolaryngology Head and Neck Surgery, Groningen, Netherlands.

Chung-Che Wang, Dept. of CS, National Tsing Hua Univ. Hsinchu, Taiwan

**Location:** Meeting Room 1

**M-L1.1 A novel time-frequency feature extraction for movie audio signals classification**

Jichen Yang, Qianhua He, Min Cai, Yanxiong Li

School of Electronic and Information Engineering South China University of Technology, Guangzhou, China

**M-L1.2 Speeding Up Audio Fingerprinting over GPUs**

Chung-Che Wang<sup>1</sup>, Jyh-Shing Roger Jang<sup>2</sup>, and Wenshan Liou<sup>3</sup>

<sup>1</sup>Dept. of CS National Tsing Hua Univ Hsinchu, Taiwan

<sup>2</sup>Dept. of CSIE National Taiwan Univ Taipei, Taiwan

<sup>3</sup>Smart Network System Institute III, Taipei, Taiwan

**M-L1.3 Subjective Evaluation on the Timbre of Horizontal Ambisonics Reproduction**

Liu Yang, Xie Bosun

Acoustic lab, Physics Department, School of Science South China University of Technology, Guangzhou, China

**M-L1.4 An Intrinsic Mode Function Basis Dictionary For Auditory Signal Processing**

Chang Gao, Haifeng li, Lin Ma

School of Computer Science and Technology, Harbin Institute of Technology, Harbin, China

**M-L1.5 Suitability of Speech Quality Evaluation Measures in Speech Enhancement**

Zhang Jie, Xiaoqun Zhao, Jingyun Xu, Zhang Yang

College of Electronic and Information Engineering, Tongji University, Shanghai, China

**M-L1.6 DCT based Algorithm on Dimension Reduction of Residual Frequency Magnitude Parameters**

Jingyun Xu, Xiaoqun Zhao, Rongyun Li, Qiao Wang

School of Electronics and Information Engineering, Tongji University, Shanghai, China

**M-L1.7 Measure and model of vocal-tract length discrimination in cochlear implants**

Etienne Gaudrain, Lucas Stam, Deniz Başkent

University of Groningen, University Medical Center Groningen, Department of Otorhinolaryngology Head and Neck Surgery, Groningen, The Netherlands

**M-L1.8 Relative Distance Estimation in Multi-channel Spatial Audio Signal**

Zhengyang Sun, Changchun Bao, Maoshen Jia, Bing Bu

Speech and Audio Signal Processing Laboratory, School of Electronic Information and Control Engineering, Beijing University of Technology, Beijing, China

**M-L2 Bio-informatics (Papers#:8)**

**Chairs:** Ruoyu Du, Division of Computer Science and Engineering, Chonbuk National University, Jeonju, Korea

Jun Wu, Department of Electronic Engineering, Fudan University, Shanghai, China. Department of Electronic Engineering, Yunnan University, Kunming, China

**Location:** Meeting Room 2

**M-L2.1 Segmentation and 3D Visualization of Pheochromocytoma in Contrast-Enhanced CT Images**

San Tang<sup>1</sup>, Yi Guo<sup>1</sup>, Yuanyuan Wang<sup>1</sup>, Wanli Cao<sup>2</sup>, Fukang Sun<sup>2</sup>

<sup>1</sup>Dept. of Elec. Engn. Fudan Univ. Shanghai, China

<sup>2</sup>Dept. of Urology Ruijin Hosp., Shanghai Jiao Tong Univ. School of Med. Shanghai, China

**M-L2.2 Atrial Fibrillation Detection Using Spectra of FSD Recurrence Complex Network**

Yajuan Zhang<sup>1</sup>, Yuanyuan Wang<sup>2</sup>, Cuiwei Yang<sup>2</sup>, Xiaomei Wu<sup>2</sup>, Yajie Qin<sup>1</sup>

<sup>1</sup>State Key Laboratory of ASIC and System, Fudan University, Shanghai, China.

<sup>2</sup>Department of Electronic Engineering, Fudan University, Shanghai, China.

**M-L2.3 A Textural Features Extraction Algorithm for Abdominal Wall Hernia Mesh Detection in Automated 3D Ultrasound Images**

Jun Wu<sup>1,2</sup>, Yuanyuan Wang<sup>1\*</sup>, Jinhua Yu<sup>1</sup>, Yue Chen<sup>3</sup>, Yun Pang<sup>3</sup>, Huaiyu Fan<sup>4</sup>, Zhiying Qiu<sup>3</sup>

<sup>1</sup>Department of Electronic Engineering, Fudan University, Shanghai, China

<sup>2</sup>Department of Electronic Engineering, Yunnan University, Kunming, China

<sup>3</sup>Department of Ultrasound, Huadong Hospital, Fudan University, Shanghai, China

<sup>4</sup>Department of Medical Information Engineering, Jining Medical University, Rizhao, China

**M-L2.4 Adaptive Beamforming in Ultrasound Imaging with Plane Wave Compounding**

Jinxin Zhao, Xing Zeng, Jinhua Yu, Yuanyuan Wang

Department of Electronic Engineering of Fudan University, Shanghai, China

**M-L2.5 A Constant Q Transform Based Approach for Robust EEG Spectral**

### **Analysis**

Hongjian Bo<sup>1</sup>, Haifeng Li<sup>1</sup>, Lin Ma<sup>1</sup>, Bo Yu<sup>1,2</sup>

<sup>1</sup>School of Computer Science and Technology, Harbin Institute of Technology, Harbin, China

<sup>2</sup>Software College, Harbin University of Science and Technology, Harbin, China

#### **M-L2.6 Power Spectral Performance Analysis of EEG during Emotional Auditory Experiment**

Ruoyu Du, Hyo Jong Lee

Division of Computer Science and Engineering, Chonbuk National University, Jeonju, Korea

Division of Computer Science and Engineering, Center for Advanced Image & Information Technology, Chonbuk National University, Jeonju, Korea

#### **M-L2.7 Implementation of a Rehabilitation Robot FOR Glenohumeral Joint Mobilization**

Jia-Ren Chang Chien, Chin-Fu Chang, Jia-hau Shiu

Department of Electronic Engineering, National Kaohsiung First University of Science and Technology, Taiwan, ROC

#### **M-L2.8 A Modified Independent Component Analysis Algorithm for Extrating the Fetal Electrocardiogram**

Yang Junchao, Peng Cheng, Qian Xiang

Shenzhen Key Laboratory for Minimal Invasive Medical Technologies, Graduate School at Shenzhen, Tsinghua Universtiy, Shenzhen, China

#### **M-L3 Computer Graphic and Virtual Reality (Papers#:8)**

**Chairs:** Ge Jin, Dept. of Construction Science & Organizational Leadership, Purdue University Calumet, Hammond, Indiana, USA

Fangliang Hu, School of Computer Science & Engineering, University of Electronic Science and Technology of China, Chengdu, China

**Location:** Meeting Room 3

#### **M-L3.1 A Novel Mesa-based OpenGL Implementation on an FPGA-based Embedded System**

Yukun Liu<sup>1,2</sup>

<sup>1</sup>School of Information Science and Engineering Hebei University of Science and Technology, Shijiazhuang, China

<sup>2</sup>Institute for Research of Applicable Computing University of Bedfordshire, Luton, UK

#### **M-L3.2 Highly parallel crowd simulation using speed field**

Zhang Zheng, He Zhang

Beijing Zheng An Rong Han Tec Co. LTD Beijing, China

#### **M-L3.3 ZiTime Studio: A Rapid Generation Framework of 3D User Interface Based on Mobile Platform**

Fangliang Hu<sup>1</sup>, Yue Cao<sup>1</sup>, Yong Yang<sup>2</sup>, Hao Zhou<sup>1</sup>, Hao Tan<sup>1</sup>

<sup>1</sup>School of Computer Science & Engineering, University of Electronic Science and Technology of China, Chengdu, China

<sup>2</sup>Cisco Systems (Shanghai) Video Technology Co., Ltd., Cisco Systems, Inc., Shanghai, China

**M-L3.4 Virtual Reality Game for Safety Education**

Ge Jin, Shoji Nakayama

Dept. of Construction Science & Organizational Leadership, Purdue University Calumet, Hammond, Indiana, USA

**M-L3.5 Comparison of Game Experience and Preferences between Young and Elderly**

Jung-Ying Wang

Department of Multimedia and Game Science, Lunghwa University of Science and Technology, Taoyuan County, Taiwan

**M-L3.6 Visualization of Heart from Cryosection Image Based on a Hybrid Transfer Function**

Yong Xia, Yixuan Liu, Kuanquan Wang

School of Computer Science and Technology, Harbin Institute of Technology, Harbin, China

**M-L3.7 Application of Fire Monitoring and Personnel Evacuation in Subway Station Based on Wireless Sensor Network**

Ke Yin<sup>1,2</sup>, Juncheng Jiang<sup>3</sup>

<sup>1</sup> Department of Urban Construction and Safety Engineering, Nanjing University of Technology, Nanjing, China

<sup>2</sup> Nanjing Forest Police College, Nanjing, Jiangsu, China

<sup>3</sup> Nanjing University of Technology, Nanjing, Jiangsu, China

**M-L3.8 Study on the Bidirectional A\* Algorithm based on Avoiding Risk**

Dianhua zhang<sup>1,2</sup>, Yimin chen<sup>1</sup>

<sup>1</sup>School of Computer Engineering and Science, Shanghai University, China

<sup>2</sup>College of Digital Arts, Shanghai University, Shanghai, China

**15:20-15:40 Coffee Break**

**15:20-15:40 Poster Session (15 papers)**

**M-P1 Image Processing (Papers#:12)**

**Audio and Music Processing (Papers#:3)**

**Chairs:** Xiuli Ma, Institute of Smart City, Shanghai University, Shanghai, China

Mingyang Yang, Institute of Smart City, Shanghai University, Shanghai, China

**Location:** Ballroom Foyer

**M-P1.1 An improved stereo matching algorithm based on corner points \***

Fang-ping Liu, Pei Wang

College of Electronic and Information Engineering of Shanghai Normal



University Shanghai, Shanghai, China

- M-P1.2 Algorithm of moving target detection based on multiply connected domain mergence**  
Yang Xu, Jianrong Cao, Zhenyu Li  
Shandong Jianzhu University, Jinan, China
- M-P1.3 Learning Features For Action Recognition And Identity With Deepbeliefnetworks**  
Khawlah Hussein Ali, Tianjiang Wang  
Huazhong University of Science and Technology, Wuhan, China
- M-P1.4 Novel Unsymmetrical Dual Cross-diamond Search Algorithm for Fast Block Motion Estimation**  
Bin Sun, Zhi Liu, and Haixia Zhang  
School of Information Science and Engineering Shandong University, China
- M-P1.5 Large Scale Visual SLAM with Single Fisheye Camera**  
Zhen Yang  
Advanced Driver Assistance Systems, Harman International Shanghai, Shanghai, China
- M-P1.6 A Fast CU Size Decision Algorithm Based on Adaptive Depth Selection for HEVC encoder**  
Shi Huade, Liang Fan, Chen Huanbang  
School of Information Science and Technology, Sun Yat-sen University, Guangzhou, China
- M-P1.7 Fast Mode Decision in HEVC for Depth Image Coding**  
Wei quan Wang, Yingyun Yang, Zhao hui Li  
College of Information Engineering Communication University of China, Beijing, China
- M-P1.8 Image Processing of Intestinal Mucosa**  
Igor Cataneo Silveira, Helyane Bronoski Borges, Geraldo Ranthum  
UTFPR– Universidade Tecnológica Federal do Paraná, Ponta Grossa, Brazil
- M-P1.9 Face Recognition with Contiguous Occlusion based on Image Segmentation**  
Zhirong Gao<sup>1</sup>, Dongmei Li<sup>2</sup>, Chengyi Xiong<sup>2</sup>, Hanxin Wang<sup>2</sup>, Huang Bo<sup>3</sup>  
<sup>1</sup>College of Computer Science, South-Central University for Nationalities, Wuhan, China  
<sup>2</sup>College of Electronic and Information Engineering, Hubei Key Lab of Intelligent Wireless Communication, South-Central University for Nationalities, Wuhan, China  
<sup>3</sup>Shenzhen Institute of Wuhan University, Shenzhen, China
- M-P1.10 Design and Implementation of Trademark Image Retrieval System**

Yang Laiwen, Shi Ping, Liu Yanhong  
School of Information Engineering, Communication University of China,  
Beijing, China

**M-P1.11 Road Pedestrian Detection Based on a Cascade of Feature Classifiers**

Xiao Zhang, Huansheng Song, Hua Cui  
School of Information Engineering, Chang'an University, xi'an, China

**M-P1.12 An approach of color image segmentation based on fuzzy clustering**

Shenhua Zhang  
Department of Electronic & Information Engineering, Ankang University,  
Ankang, China

**M-P1.13 A New Variable Step-Size Algorithm on Acoustic Feedback Suppression for Digital Hearing Aids**

Hui Shen<sup>1</sup>, Linghua Zhang<sup>2</sup>  
<sup>1</sup>College of Telecommunication & Information Engineering Nanjing  
University of Posts and Telecommunications Nanjing, Nanjing, China  
<sup>2</sup>Jiangsu Provincial Engineering Research Center of Telecommunications  
and Network Technology Nanjing, Nanjing, China

**M-P1.14 Implementation and Optimization of 1200bps Melpe Based on ARM**

Weiping Huang, Xiaoqun Zhao, Jingyun Xu  
College of Electronic and Information Engineering, Tongji University,  
Shanghai, China

**M-P1.15 DWT-SVD Based Blind Audio Watermarking Scheme For Copyright Protection**

Krishna Rao Kakkirala, Srinivasa Rao Chalamala, Bala Mallikarjuna Rao  
G  
TCS Innovation Labs, TATA Consultancy Services, Hyderabad, India

**15:40-17:30 Oral Session (24 papers in 3 rooms)**

**M-L4 Image Processing (Papers#:8)**

**Chairs:** Srinivasa Rao Chalamala, TCS Innovation Labs, TATA Consultancy  
Services, Hyderabad, India

Xianshu Ding, School of Computer Science & Engineering  
University of Electronic Science and Technology of China, Chengdu,  
Sichuan, China

**Location:** Meeting Room 1

**M-L4.1 Local Window K\_means Clustering and Merging For Color Image Segmentation**

Xianshu Ding<sup>1</sup>, Hang Lei<sup>2</sup>, Yunbo Rao<sup>2</sup>, Nan Sang<sup>2</sup>  
<sup>1</sup>School of Computer Science & Engineering University of Electronic Science  
and Technology of China, Chengdu, China  
<sup>2</sup>School of Information and Software Engineering University of Electronic  
Science and Technology of China, Chengdu, China

- M-L4.2 An Image Stabilization Algorithm on Corner Detection and Feature Block Matching**  
 Xu Yiming<sup>1</sup>, Gu Juping<sup>1</sup>, Zhu Hairong<sup>1</sup>, Chen Feng<sup>1</sup>, Lu Guan<sup>2</sup>  
<sup>1</sup> School of Electrical Engineering, Nantong University, Nantong, China  
<sup>2</sup> School of Mechanical Engineering, Nantong University, Nantong, China
- M-L4.3 Pedestrian Speed Estimation Based on Direct Linear Transformation Calibration**  
 Guofeng Wang<sup>1</sup>, Jiancheng Li<sup>1</sup>, Peng Zhang<sup>1</sup>, Xiao Zhang<sup>2</sup>, Huansheng Song<sup>2</sup>  
<sup>1</sup> China Highway Engineering Consulting Corporation, Beijing, China  
<sup>2</sup> School of Information Engineering Chang'an University, Xi'an, China
- M-L4.4 Sparse Code LBP and SIFT Features Together for Scene Categorization**  
 Shuang Bai  
 School of Electronic and Information Engineering Beijing Jiaotong University, Beijing, China
- M-L4.5 A Robust Video Synchronization Method Based on Hierarchical Shot Detection**  
 Srinivasa Rao Chalamala, Krishna Kakkirala, Jyoti Dhillon  
 TCS Innovation Labs, TATA Consultancy Services, Hyderabad, India
- M-L4.6 Iris Center Localization using Integral Projection and Gradients**  
 Dongxiao Li<sup>1,2</sup>, Fangqin Hu<sup>1,2</sup>, Lianghao Wang<sup>1,2</sup>, Ming Zhang<sup>1,2</sup>  
<sup>1</sup>Department of Information Science and Electronic Engineering, Zhejiang University, Hangzhou, China  
<sup>2</sup>Zhejiang Provincial Key Laboratory of Information Network Technology, Hangzhou, China
- M-L4.7 An Efficient Fusion Algorithm for Large Scale Face Verification Based on KISSME and Cosine Similarity**  
 Zhaoshuo Zeng, Shangping Zhong, Kaizhi Chen  
 College of Mathematics and Computer Science Fuzhou University, Fuzhou, China
- M-L4.8 An Efficient Fusion Method of Distance Metric Learning and Random Forests Distance for Image Verification**  
 Chengpei Le, Shangping Zhong, Kaizhi Chen  
 College of Mathematics and Computer Science Fuzhou University, Fuzhou, China
- M-L5 Image Processing (Papers#:8)**  
**Chairs:** Byung-Hun Oh, School of Information and Communication Engineering, Sungkyunkwan University, Kyungki-do, South Korea  
 Qian Huang, Key Laboratory of Electromagnetic Space Information, Chinese Academy of Sciences School of Computer Science and Technology, University of Science and Technology of China, Hefei, China

**Location:** Meeting Room 2

**M-L5.1 Visual Saliency Coding for Image Categorization**

Qian Huang, Shouhong Wan, Lihua Yue

Key Laboratory of Electromagnetic Space Information, Chinese Academy of Sciences, Hefei, China

School of Computer Science and Technology, University of Science and Technology of China, Hefei, China

**M-L5.2 Fusion of Backscatter And Transmission Images Based on Multi-Scale Image Decomposition**

Qingqing Chang , Jiamin Chen

Criminal Investigation Technology Department The Third Research Institute of Ministry of Public Security, Shanghai, China

**M-L5.3 First-Person-Vision-Based Driver Assistance System**

Kuang-Yu Liu<sup>1</sup> and Shih-Chung Hsu<sup>1</sup>, Chung-Lin Huang<sup>2</sup>

<sup>1</sup>Dept. of Electrical Engineering, National Tsing-Hua University, Hsin-Chu, Taiwan

<sup>2</sup>Dept. of Applied Informatics and Multimedia, Asia University, Tai-Chung, Taiwan

**M-L5.4 Human Upper-Body Motion Capturing using Kinect**

Wei-Chia Kao<sup>1</sup> and Shih-Chung Hsu<sup>1</sup>, Chung-Lin Huang<sup>2</sup>

<sup>1</sup>Department of Electrical Engineering, National Tsing-Hua University, Hsin-Chu, Taiwan

<sup>2</sup>Department of Applied Informatics and Multimedia Asia University, Tai-Chung, Taiwan

**M-L5.5 The Algorithm of Descriptor based on LPP and SIFT**

Ruwei Luo<sup>1</sup>, Yun Cheng<sup>2</sup>

<sup>1</sup>Department of Information Science and Engineering, Hunan University of Humanities, Science and Technology, Changsha, China

<sup>2</sup>Department of Mechanical and Electrical Engineering, Hunan University of Humanities, Science and Technology, Changsha, China

**M-L5.6 A Study on Facial Components Detection Method for Face-based Emotion Recognition**

Byung-Hun Oh, Kwang-Seok Hong

School of Information and Communication Engineering, Sungkyunkwan University, South Korea

**M-L5.7 Iris Based Biometric Identification System**

Ankur Kumar, Abhijit R. Asati

Department of Electrical and Electronics, Birla Institute of Technology and Science, Pilani, India

**M-L5.8 A Discriminative Spatial Bag-of-Word Scheme with Distinct Patch**

Junfeng Wu<sup>1,2</sup>, Wenyu Qu<sup>1</sup>, Hongbin Hu<sup>3</sup>, Zhiyang Li<sup>1</sup>, Yujie Xu<sup>1</sup>, Ye Tao<sup>2</sup>

<sup>1</sup>School of Information Science and Technology, Dalian Maritime University,

Dalian, China

<sup>2</sup>Educational Technology and Computing Center, Dalian Ocean University,  
Dalian, China

<sup>3</sup>Inner Mongolia Electric Power Research Institute, Huhhot, China

**M-L6 Image Processing (Papers#:8)**

**Chairs:** Yongbin Gao, Department of Computer Science and Engineering,  
Chonbuk National University, Jeonju, Korea  
Zhuoyi Zhao, Institute of Image Processing and Pattern  
Recognition, Shanghai Jiao Tong University, Shanghai, China

**Location:** Meeting Room 3

**M-L6.1 Binarization of Degraded Document Image Using Gaussian Markov  
Random Field Model**

Shujing Lu<sup>1,2</sup>, Yue Lu<sup>1,2</sup>

<sup>1</sup>Department of Computer Science and Technology, East China Normal  
University, Shanghai, China

<sup>2</sup>ECNU-SRI Joint Lab for Pattern Analysis and Intelligence System, Shanghai  
Research Institute of China Post Group, Shanghai, China

**M-L6.2 Pose Unconstrained Face Recognition based on SIFT and Alignment  
Error**

Yongbin Gao<sup>1</sup>, Hyo Jong Lee<sup>2</sup>

<sup>1</sup>Department of Computer Science and Engineering, Chonbuk National  
University, Jeonju, Korea

<sup>2</sup>Department of Computer Science and Engineering, Center for Advanced  
Image and Information Technology, Chonbuk National University, Jeonju,  
Korea

**M-L6.3 Exposing Image Forgery Using Inconsistent Reflection Vanishing Point**

Huayong Ge<sup>1</sup>, Hafiz Malik<sup>2</sup>

<sup>1</sup> College of Information Sciences and Technology, Engineering Research  
Center of Digitized Textile & Fashion Technology, Ministry of Education,  
Donghua University, Shanghai, China

<sup>2</sup>Dept. of Electrical and Computer Engineering University of  
Michigan-Dearborn, MI, USA

**M-L6.4 Multi Image Super Resolution Reconstruction Using A Novel  
Degradation Model**

Zehua Lyu<sup>1</sup>, Shengrong Zhao<sup>1,2</sup>, Shaohong Fang<sup>1</sup>, Hu Liang<sup>2</sup>

<sup>1</sup>School of Software Engineering, Huazhong University of Science and  
Technology, Wuhan, China

<sup>2</sup>School of Computer Science and Technology, Huazhong University of  
Science and Technology, Wuhan, China

**M-L6.5 DCT Fingerprint Classifier Based Group Fingerprint**

Zhao Yong, Zhang Aixin, Lu Songnian

Department of electrical engineering, Shanghai Jiao Tong University,  
Shanghai, China

**M-L6.6 Face Recognition Systems Based on Independent Component Analysis and Support Vector Machine**

Jia Jun Zhang ,Yu Ting Shi

Zhejiang Key Lab for Signal Processing, Zhejiang University of Technology, Hangzhou, China

**M-L6.7 From Dense Subgraph to Graph Matching:A Label Propagation Approach**

Zhuoyi Zhao, Yu Qiao, Jie Yang , Li Bai

Institute of Image Processing and Pattern Recognition, Shanghai Jiao Tong University, Shanghai, China

School of Computer Science, University of Nottingham, Nottingham, UK

**M-L6.8 An Improved Compressive Tracker for Multiple Pedestrians in Surveillance Videos**

Zhengyan Ding<sup>1</sup>, Shibao Zheng<sup>1,2</sup>, Ming Xue<sup>1</sup>, Guang Tian<sup>3</sup>, Hongbo Li<sup>1</sup>, Wenjie Zhu<sup>1</sup>

<sup>1</sup>Institute of Image Communication and Network Engineering, Shanghai Jiao Tong University, Shanghai, China

<sup>2</sup>Shanghai Key Labs of Digital Media Processing and Communication, Shanghai, China

<sup>3</sup>Bocom smart network technologies Inc, Shanghai, China

**18:30-20:30 Night Banquet**

**Tuesday, July 08, 2014**

**08:30-10:05 Oral Session (14 papers in 2 rooms)**

**T-L1 Image Processing (Papers#:7)**

**Chairs:** Omar Alaql, Department of Computer Science Kent State University Kent, Ohio

Yi Dai, Institute of Image Communication and Network Engineering, Shanghai Jiao Tong University, Shanghai, China

**Location:** Meeting Room 1

**T-L1.1 Text Line Extraction for Historical Document Images using Steerable Directional Filters**

Omar Alaql, Cheng Chang Lu

Department of Computer Science, Kent State University, Kent, Ohio, USA

**T-L1.2 End-Point Preserved Stroke Extraction**

Jian-Jiun Ding, Pin-Xuan Lee, Szu-Wei Fu, Hao-Hsuan Chang, and Chen-Wei Huang

Graduate Institute of Communication Engineering, National Taiwan University, Taipei, Taiwan

**T-L1.3 Fast Morphology Algorithm with Parallel Processing Structures**

Jian-Jiun Ding, Pin-Xuan Lee Graduate Institute of Communication

Engineering, National Taiwan University, Taipei, Taiwan

**T-L1.4 JND Assisted Fast Mode Decision For Multiview Video Coding**

Yongfang Wang, Xiwu Shang

School of Communication and Information Engineering, Shanghai University, Shanghai, China

**T-L1.5 Enhancing Foreground Segmentation By Motion-based Contour**

Yi Dai<sup>1</sup>, Shibao Zheng<sup>1</sup>, Ming Xue<sup>1</sup>, Longfei Liang<sup>2</sup>

<sup>1</sup>Institute of Image Communication and Network Engineering, Shanghai Jiao Tong University, Shanghai, China

<sup>2</sup>Bocom smart network technologies Inc, Shanghai, China

**T-L1.6 Fast single image dehazing algorithm**

Xipan Lu, Guoyun Lv, Tao Lei

School of Electronic and Information, Northwestern Polytechnical University, China

**T-L1.7 Accurate Object Segmentation Using Novel Active Shape and Appearance Models Based on Support Vector Machine Learning**

Suhuai Luo<sup>1</sup>, Jiaming Li<sup>2</sup>

<sup>1</sup>The University of Newcastle, Australia

<sup>2</sup>CSIRO Computational Informatics, Australia

**T-L2 Language and Speech Processing (Papers#:7)**

**Chairs:** Ismail Shahin, Department of Electrical and Computer Engineering University of Sharjah, Sharjah, United Arab Emirates

Mingzhe Zhu, Department of Electronic Engineering, Xidian University, Xi'an, China

**Location:** Meeting Room 2

**T-L2.1 Speaker Identification in Shouted Talking Environments Based on Novel Third-Order Hidden Markov Models**

Ismail Shahin

Department of Electrical and Computer Engineering University of Sharjah Sharjah, United Arab Emirates

**T-L2.2 Hybrid Model based sentiment classification of Chinese Micro-blog**

Xiao Sun, Chengcheng Li

Anhui Province Key Laboratory of Affective Computing and Advanced Intelligent Machine, Hefei, China

School of Computer and Information, Hefei University of Technology, Hefei, China

**T-L2.3 Speaker Identification under The Changed Sound Environment**

Yanyan Shan, Qi Zhu

College of Communication & Information Engineering Nanjing University of Posts and Telecommunications, Nanjing, China

- T-L2.4 A novel speech reconstruction algorithm for DSR back-end\***  
 Jiang Wenbin, Ying Rendong and Liu Peilin  
 School of Electronic Information and Electrical Engineering Shanghai Jiao  
 Tong University, Shanghai, China
- T-L2.5 Bandwidth Extension of Narrowband Speech Based on Hidden  
 Markov Model**  
 Zhang Yong, Liu Yi  
 ShenZhen Key Laboratory of Intelligent Media and Speech Peking  
 University ShenZhen Research Institute, ShenZhen, China
- T-L2.6 Research on the Vowel Pattern of the Amdo Tibetan's Xiahe Dialect**  
 Lv Shiliang, Jin Yasheng and Ma Ning  
 Key Lab of China's National Linguistic, Information Technology,  
 Northwest University for Nationalities, Lanzhou, China
- T-L2.7 A S-transform Based Spectrum Enhancement Method for Complex  
 Noise Environment**  
 Mingzhe Zhu, Zhenhua Jiang, Xinliang Zhang and Yue Qi  
 Department of Electronic Engineering, Xidian University, Xi'an, China

**10:05-10:25 Coffee Break**

**10:05-10:25 Poster Session (13 papers)**

- T-P1 Image Processing (Papers#:9)  
 Language and Speech Processing (Papers#:4)**  
**Chairs:** Xuzhi Wang, Institute of Smart City, Shanghai University,  
 Shanghai, China  
 Rong Sun, Institute of Smart City, Shanghai University,  
 Shanghai, China  
**Location:** Ballroom Foyer
- T-P1.1 Traffic Sign Recognition Based on Kernel Sparse Representation**  
 Rui Wang, Guoqiang Xie, Junli Chen, Xiuli Ma, Zongxin Yu  
 School of Communication and Information Engineering, Shanghai University  
 Institute of Smart City, Shanghai University, Shanghai, China
- T-P1.2 A New Method of Abnormal Event Detection Based On Sparse  
 Reconstruction**  
 Shishi Duan, Xiangyang Wang , Xiaoqing Yu  
 School of Communication and Information Engineering, Shanghai University,  
 Institute of Smart City, Shanghai University, Shanghai, China
- T-P1.3 An Improved Similarity Measure Algorithm Based On Point Feature  
 Histogram**  
 Xiaoqing Yu<sup>1,2</sup>, Chao Yang<sup>1,2</sup>, Yanlu Yin<sup>1,2</sup>, Wanggen Wan<sup>1,2</sup>  
<sup>1</sup>School of Communication and Information Engineering, Shanghai  
 University, China  
<sup>2</sup>Institute of Smart City, Shanghai University, China, Shanghai, China



- T-P1.4 Real-time Pedestrian Detection Using OpenCL**  
 Rong Sun<sup>1,2</sup>, Xuzhi Wang<sup>1,2</sup>, Xuannan Ye<sup>1,2</sup>  
<sup>1</sup>School of Communication and Information Engineering, Shanghai University, Shanghai, China  
<sup>2</sup>Institute of Smart City, Shanghai University, Shanghai, China
- T-P1.5 Passenger Counting Based on Kinect**  
 Xu Jianzhong, Zhu Qiuyu, Yuan Sai, Suo Wenjun  
 School of Communication & Information Engineering, Shanghai University, Shanghai, China
- T-P1.6 A Moving Objects Detection Algorithm in Video Sequence**  
 Mingyang Yang<sup>1,2</sup>  
<sup>1</sup>School of Communication and Information Engineering, Shanghai University, Shanghai, China  
<sup>2</sup>Institute of Smart City, Shanghai University, Shanghai, China
- T-P1.7 An adaptive image amplification method with integer multiples**  
 Xuexia Zhong<sup>1</sup>, Ying He<sup>1</sup>, Jian Wang<sup>1,2,3</sup>, Lin Mei<sup>1,3</sup>  
<sup>1</sup>Cyber Physical System R&D Center, The Third Research Institute of Ministry of Public Security, Shanghai, China  
<sup>2</sup>School of Electronic Information and Electrical Engineering, Shanghai Jiao Tong University, Shanghai, China  
<sup>3</sup>Shanghai Chenrui Information Technology Company, Shanghai, China
- T-P1.8 An Improved Three-Component Model-Based Decomposition for Polarimetric SAR Data**  
 Bo Chen, Licheng Jiao, Shuang Zhang  
 Key Laboratory of Intelligent Perception and Image Understanding of Ministry of Education of China, Xidian University, Xi'an, China
- T-P1.9 Background Modeling and Foreground Extraction Scheme for HD Traffic Bayonet**  
 Yixin Zhao<sup>1</sup>, Di Wu<sup>1</sup>, Jian Chen<sup>1</sup>, Jian Wang<sup>1,2,3</sup>  
<sup>1</sup>Cyber Physical System R&D Center, The Third Research Institute of Ministry of Public Security, Shanghai, China  
<sup>2</sup>School of Electronic Information and Electrical Engineering, Shanghai Jiao Tong University, Shanghai, China  
<sup>3</sup>Shanghai Chenrui Information Technology Company, Shanghai, China
- T-P1.10 Research Of The Breathing Characteristics When Reading Short Song-poems**  
 Xuechen Yin, Hongzhi Yu  
 Key Lab of China's National Linguistic Information Technology, Northwest University for Nationalities, Lanzhou, China
- T-P1.11 Modeling Pause Duration for Malayalam Language TTS**  
 Jesin James, Deepa P Gopinath  
 Department of Electronics and Communication, College of Engineering,

Trivandrum, India

**T-P1.12 Exploring the effect of constructional ability in character writing for Chinese**

Wei Cui <sup>1,2</sup>, Wengang Yin <sup>1</sup>, Yuxiao Xie<sup>3</sup>

<sup>1</sup>Key Laboratory of Mental Health, Institute of Psychology, Chinese Academy of Sciences, Beijing, China

<sup>2</sup>University of Chinese Academy of Sciences, Beijing, China

<sup>3</sup>Rehabilitation Department, China-Japan Friendship Hospital, Beijing, China

**T-P1.13 Topic Model-Based Micro-Blog User Interest Analysis**

Xinchen Hu, Dequan Zheng, Wanglong Sun, Sheng Li

MOE-MS Key Laboratory of Natural Language Processing and Speech,  
Harbin Institute of Technology, Harbin, China

**10:25-12:00 Oral Session (14 papers in 2 rooms)**

**T-L3 Language and Speech Processing (Papers#:7)**

**Chairs:** Chenchen Ding, Department of Computer Science, University of Tsukuba, Tsukuba, Japan  
Chang Liu, Department of Communication Sciences and Disorders,  
University of Texas at Austin, USA

**Location:** Meeting Room 1

**T-L3.1 To Filter Discontinuous Word Alignment for Statistical Machine Translation**

Chenchen Ding and Mikio Yamamoto

Department of Computer Science, University of Tsukuba, Tennodai,  
Tsukuba, Japan

**T-L3.2 Categorical tone identification in speech and non-speech sounds for Chinese- and English-native listeners**

Chang Liu

Dept. of Communication Sciences and Disorders, University of Texas at Austin, USA

**T-L3.3 Speech Enhancement Based on Combination of Wiener Filter and Subspace Filter**

Xia Yousheng, Huang Jianwen

College of Math and Computer Science, Fuzhou University, Fuzhou, China

**T-L3.4 An Improved ANN Method Based on Clustering Optimization for Voice Conversion**

Chen Xiantong, Zhang Linghua

College of Telecommunications & Information Engineering Nanjing  
University of Posts and Telecommunications, Nanjing, China

**T-L3.5 Improving Windows Tasks Recognizer for Assamese using Bigram Analysis**

Diganta Baishya, Pradip K. Das

Department of Computer Science & Engineering, Indian Institute of Technology Guwahati, Assam, India

**T-L3.6 A Study on the Effect of Speech Rate on Perception of Spoken Easy Japanese Using Speech Synthesis**

Hafiyun Prafianto<sup>1</sup>, Takashi Nose<sup>1</sup>, Yuya Chiba<sup>1</sup>, Akinori Ito<sup>1</sup>, Kazuyuki Sato<sup>2</sup>

<sup>1</sup>Graduate School of Engineering, Tohoku University, Sendai, Japan

<sup>2</sup>Faculty of Literature, Hirosaki University, Hirosaki, Japan

**T-L3.7 Speech Emotion Recognition Based on Dynamic Models**

Guoyun Lv<sup>1</sup>, Shuixian Hu<sup>2</sup>, Xipan Lu<sup>1</sup>

<sup>1</sup>School of Electronics and Information, Northwestern Polytechnical University, Xi'an, China

<sup>2</sup>Chinese Aeronautical Radio Electronics Research Institute, Shanghai, China

**T-L4 Image Processing (Papers#:7)**

**Chairs:** Chunyu Chen, Dept. of Computer Science and Information Engineering, National Taiwan Normal University, Taipei, Taiwan  
Tian Lan, School of Computer Science and Engineering, University Of Electronic Science And Technology Of China, Chengdu, China

**Location:** Meeting Room 2

**T-L4.1 Vehicle Classification and Counting System**

Chunyu Chen<sup>1</sup>, Yuming Liang<sup>2</sup>, Seiwang Chen<sup>1</sup>

<sup>1</sup>Dept. of Computer Science and Information Engineering, National Taiwan Normal University, Taipei, Taiwan

<sup>2</sup>Dept. of Computer Science and Information Engineering, Aletheia University, Taipei, Taiwan

**T-L4.2 Multimodal medical image fusion using wavelet transform and human vision system**

Tian Lan, Zhe Xiao, Yi Li, Yi Ding, Zhiguang Qin

School of Computer Science and Engineering, University Of Electronic Science And Technology Of China, Chengdu, China

**T-L4.3 Face Recognition Based on Data Field**

Xuejun Cao, Zhenyu Wu, Jinpeng Chen, Ming Zou

Computer Science and Engineering, BeiHang University, Beijing, China

**T-L4.4 Fast Moving Object Detection Using Improved Gaussian Mixture Models**

Ye Song, Na Fu, Xiaoping Li, Qiongxin Liu

College of Computer, Beijing Institute of Technology, Beijing, China

**T-L4.5 Saliency Detection on Videos with Scene Change**

Junling Li<sup>1</sup>, Fang Meng<sup>1</sup>, Jingbo Mao<sup>2</sup>

<sup>1</sup>Information Engineering School, Communication University of China,

Beijing, China

<sup>2</sup>Department of communications, Second Artillery Command College,  
Wuhan, China

**T-L4.6 MRI Brain Image Segmentation Based On Kerneled FCM Algorithm  
And Using Image Filtering Method**

Tian Lan, Zhe Xiao, Changsong Hu, Yi Ding, Zhiguang Qin  
School of Computer Science and Engineering, University Of Electronic  
Science And Technology Of China, Chengdu, China

**T-L4.7 A Tri-Directional Spotlight Filter for Object Contour Extraction**

Roy Chaoming Hsu<sup>1</sup>, Chia Hung Hsu<sup>1</sup>, Chengting Liu<sup>2</sup>, Guohua Qiu<sup>2</sup>

<sup>1</sup>Dept. of Electrical Engineering, National Chiayi University, Chiayi,  
Taiwan

<sup>2</sup>Dept. of Computer Science and Information Engineering, National Chiayi  
University, Chiayi, Taiwan

**12:00-13:30 Lunch**

**13:30-15:20 Oral Session (16 papers in 2 rooms)**

**T-L5 Remote Sensing and GIS (Papers#:8)**

**Chairs:** Dan Zhu, Key Laboratory for Information Science of  
Electromagnetic Waves (MoE), Fudan University, Shanghai,  
China

Shuo Jin, Key Laboratory for Information Science of  
Electromagnetic Waves (MoE), Fudan University, Shanghai,  
China

**Location:** Meeting Room 1

**T-L5.1 Shadow Detection in Color Aerial Sensing Images Based on Adaptive  
Pulse Coupled Neural Network**

Bu Min, Huang Wei, Wang Chen, Lu Yao  
School of Information and Communication Engineering, Shanghai  
University, Shanghai, China

**T-L5.2 Two-way Saliency for Airport Detection in Remote Sensing Images**

Dan Zhu<sup>1,2</sup>, Bin Wang<sup>1,2</sup>, Liming Zhang<sup>1,2</sup>

<sup>1</sup>Key Laboratory for Information Science of Electromagnetic Waves  
(MoE), Fudan University, Shanghai, China

<sup>2</sup>State Key Laboratory of Earth Surface Processes and Resource Ecology,  
Beijing Normal University, Beijing, China

**T-L5.3 A Novel Vectorized Approach to DOA and FOA Estimation**

Yi Zhang, Zhongfu Ye, Xu Xu

<sup>1</sup>Department of Electronic Engineering and Information Science,  
University of Science and Technology, China

<sup>2</sup> National Engineering Laboratory for Speech and Language Information  
Processing, China

- T-L5.4 A Preprocessing Method Based on Independent Component Analysis with References for Target Detection in Hyperspectral Imagery**  
Shuo Jin<sup>1,2</sup>, Bin Wang<sup>1,2</sup>  
<sup>1</sup>Key Laboratory for Information Science of Electromagnetic Waves (MoE), Fudan University, Shanghai, China  
<sup>2</sup>State Key Laboratory of Earth Surface Processes and Resource Ecology, Beijing Normal University, Beijing, China
- T-L5.5 A PDE-based Adaptive Median Filter to Process UV Detection Image Generated by ICCD**  
Zhenzhen Lu, Weiyu Liu, Dahai Han, Min Zhang  
Beijing University of Posts and Telecommunications, State Key Laboratory of IPOC, Beijing, China
- T-L5.6 Off-Grid Direction of Arrival Estimation Based on Weighted Sparse Bayesian Learning**  
Yi Zhang, Zhongfu Ye, and Xu Xu  
Department of Electronic Engineering and Information Science, University of Science and Technology of China, Hefei, China  
National Engineering Laboratory for Speech and Language Information Processing, Hefei, China
- T-L5.7 Accurate Parameters Estimation of Chirp Signal in Low SNR**  
Jinzhen Wang<sup>1,2</sup>, Shaoying Su<sup>1,2</sup>, Zengping Chen<sup>1,2</sup>  
<sup>1</sup>ATR Key Lab, School of Electronic Science and Engineering, China  
<sup>2</sup>National University of Defense Technology, China
- T-L5.8 Time Division in a Pulse Polarimetric Radar based ISAR Fusion Imaging Technique**  
Pengjiang Hu<sup>1,2</sup>, Yang Liu<sup>1,2</sup>, Biao Tian<sup>1,2</sup>, Shiyu Xu<sup>1,2</sup>, Zengping Chen<sup>1,2</sup>  
<sup>1</sup>Science and Technology on Automatic Target Recognition Laboratory, China  
<sup>2</sup>National University of Defense Technology, China
- T-L6 Big Data and Cloud Processing (Papers#:8)**  
**Chairs:** Wanlong Sun, MOE-MS Key Laboratory of Natural Language Processing and Speech Harbin Institute of Technology, Harbin, China  
Yu Zhao, Cyber Physical System R&D Center, The Third Research Institute of Ministry of Public Security, Shanghai, China  
**Location:** Meeting Room 2
- T-L6.1 A novel particle filtering algorithm for the noncooperative target tracking in General Aviation**  
Li Liang-qun, Hou Chao, Zeng Guo-liang  
ATR Key Laboratory, Shenzhen University Shenzhen, Guangdong Province, China
- T-L6.2 Wavelet Transform for Spectrum Sensing in Cognitive Radio**

## **Networks**

Yu Zhao<sup>1</sup>, Yuanyuan Wu<sup>1</sup>, Jian Wang<sup>1,2,3</sup>, Xuexia Zhong<sup>1</sup>, Lin Mei<sup>1</sup>

<sup>1</sup>Cyber Physical System R&D Center, The Third Research Institute of Ministry of Public Security, Shanghai, China

<sup>2</sup>School of Electronic Information and Electrical Engineering, Shanghai Jiao Tong University, Shanghai, China

<sup>3</sup>Chenrui Information Technology Company, Shanghai, China

### **T-L6.3 Microblog-Oriented Backbone Nodes Identification in Public Opinion Diffusion**

Wanlong Sun, Dequan Zheng, Xinchun Hu, Tiejun Zhao

MOE-MS Key Laboratory of Natural Language Processing and Speech

Harbin Institute of Technology, Harbin, China

### **T-L6.4 Task scheduling of cloud computing based on Improved CHC algorithm**

Liping Zhang, Weiqin Tong, Shengpeng Lu

School of Computer Engineering and Science, Shanghai University, Shanghai, China

### **T-L6.5 Optimal aggregation platform mechanism for mobile App auction**

Lei Wang, Zhide Chen

School of Mathematics and Computer Science, Fujian Normal University, Fuzhou, China

### **T-L6.6 Detecting Overlapping Community Structure of Complex Networks in Nature and Society**

Shimin Miao<sup>1,2</sup>, Wanggen Wan<sup>1,2</sup>, Xiaoqing Yu<sup>1,2</sup>, Etienne Thuillier<sup>3</sup>

<sup>1</sup>School of Communication and Information Engineering, Shanghai University, Shanghai, China

<sup>2</sup>Institute of Smart City, Shanghai University, Shanghai, China

<sup>3</sup>University of Technology of Belfort-Montbéliard, Belfort, France

### **T-L6.7 Explore Hot Spots of City Based on DBSCAN Algorithm**

Xiaoqing Yu<sup>1,2</sup>, Yupu Ding<sup>1,2</sup>, Wanggen Wan<sup>1,2</sup>, Etienne Thuillier<sup>3</sup>

<sup>1</sup>School of Communication and Information Engineering, Shanghai University, Shanghai, China

<sup>2</sup>Institute of Smart City, Shanghai University, Shanghai, China

<sup>3</sup>University of Technology of Belfort-Montbéliard, Belfort, France

### **T-L6.8 Visualization Research of the Tweet Diffusion in the Microblog Network**

Jing Lu<sup>1,2</sup>, Xiaoqing Yu<sup>1</sup>, Wanggen Wan<sup>1</sup>

<sup>1</sup>School of Communication and Information Engineering, Shanghai University, Shanghai, China

<sup>2</sup>School of Electronics and Information Engineering, Shanghai University of Electric Power, Shanghai, China

**15:20-15:40 Coffee Break**

**15:20-15:40 Poster Session (13 papers)**

**T-P2 Computer Graphic and Virtual Reality (Papers#:9)**

**Remote Sensing and GIS (Papers#:4)**

**Chairs:** Junli Chen, Institute of Smart City, Shanghai University, Shanghai, China

Kai Liu, Institute of Smart City, Shanghai University, Shanghai, China

**Location:** Ballroom Foyer

**T-P2.1 Design of Space Class Library for 3D Geological Modeling**

Hua Xu<sup>1</sup>, Qiang Wu<sup>2</sup>, Yu Wang<sup>3</sup>, Huan Yang<sup>3</sup>, ZiQiang Ma<sup>3</sup>

<sup>1</sup>Information Engineering College Beijing Institute of Petrochemical Technology, Beijing, China

<sup>2</sup>State Key Laboratory of Coal Resources and Safe Mining China University of Mining and Technology, Beijing, China

<sup>3</sup>College of Information Science and Technology Beijing University of Chemical Technology, Beijing, China

**T-P2.2 Point Cloud Data Enhancement Based on Layer Connected Region**

Hongjuan Yang, Jiwen Chen

School of Information & Electrical Engineering Shandong Jianzhu University, Jinan, China

**T-P2.3 Simulations of Consecutive Diffusion Process**

Jiulong Chen<sup>1</sup>, Wenhua Zhu<sup>1, 2</sup>, Benoit Eynard<sup>2</sup>, Matthieu Bricogne<sup>2</sup>, Nadege Troussier<sup>3</sup>

<sup>1</sup> CIMS & Robot Center, Shanghai University, Shanghai, China

<sup>2</sup>CNRS UMR7337 Roberval, Department of Mechanical System Engineering, University of Technology of Compiègne, France

<sup>3</sup>CNRS UMR6972 STMR, Institute Charles Delaunay/CREIDD, University of Technology of Troyes, France

**T-P2.4 Intelligent Modeling of Moulded Case Circuit Breaker**

Shuai Kong<sup>1</sup>, Wenhua Zhu<sup>1,2</sup>, Benoit Eynard<sup>2</sup>, Matthieu Bricogne<sup>2</sup>, Nadege Troussier<sup>3</sup>

<sup>1</sup> Shanghai University, CIMS & Robot Center, Shanghai, China

<sup>2</sup>University of Technology of Compiègne, Department of Mechanical System Engineering, CNRS UMR7337 Roberval, France

<sup>3</sup>University of Technology of Troyes, Institute Charles Delaunay/CREIDD, CNRS UMR6972 STMR, France

**T-P2.5 Automatic 2D Animation Generation**

Hao Liu<sup>1</sup>, Songmao Zhang<sup>2</sup>, Ruqian Lu<sup>2</sup>

<sup>1</sup>Beijing Key Lab of Intelligent Software and Multimedia Techniques, Beijing University of Technology, Beijing, China

<sup>2</sup>CAS Key Lab of Management, Decision and Information Systems, Academy of Mathematics and Systems Science, Beijing, China

**T-P2.6 Virtual Neurosurgical Education for Image-guided Deep Brain**

## **Stimulation Neurosurgery**

Yuan Liu

Department of Electrical Engineering and Computer Science, Vanderbilt University, Nashville, TN, USA

### **T-P2.7 Variable Step Size LMS algorithm based on Modified Sigmoid Function**

Yong Chen, Jinpeng Tian, Yanping Liu

Key Laboratory of Specialty Fiber Optics and Optical Access Networks, Shanghai University, Shanghai, China

### **T-P2.8 Research on 3D Laser Scanning Technology Based on Point Cloud Data Acquisition**

Jing Wang<sup>1,2</sup>, Juan Zhang<sup>1,2</sup>, Qingtong Xu<sup>1,2</sup>

<sup>1</sup>School of Communication and Information Engineering, Shanghai University, Shanghai, China

<sup>2</sup>Institute of Smart City, Shanghai University, Shanghai, China

### **T-P2.9 The 3D-simulation Implementation of Parking Guidance System**

Yingying Yuan<sup>1,2</sup>, Kai Liu<sup>1,2</sup>

<sup>1,2</sup>School of Communication and Information Engineering, Shanghai University, Shanghai, China

<sup>1,2</sup>Institute of Smart City, Shanghai University, Shanghai, China

### **T-P2.10 Effects of individualized head-related transfer function on predicting spatial discrimination threshold using binaural auditory model**

**Yu Liu, Bosun Xie**

Acoustic Lab., Physics Dept., School of Science South China University of Technology, Guangzhou, China

### **T-P2.11 Generalized Relative Evaluation Measure for Spectral Unmixing**

Ouiem Bchir, Mohamed Maher Ben Ismail

College of Computer and Information Sciences, CS dept, King Saud University, Riyadh, KSA

### **T-P2.12 Survey on Number of Endmembers Estimation Techniques for Hyperspectral Data Unmixing**

Mohamed Maher Ben Ismail, Ouiem Bchir

College of Computer and Information Sciences, CS dept, King Saud University, Riyadh, KSA

### **T-P2.13 Impulse Current Testing System for Simulating Lightning Effect**

Yi Lin<sup>1</sup>, Qibin Zhou<sup>2</sup>

<sup>1</sup>Lightning Protective Devices Testing Center, Shanghai, China

<sup>2</sup>Shanghai Lightning Protection Center, Shanghai, China

## **15:40-17:30 Oral Session (16 papers in 2 rooms)**

### **T-L7 Image Processing (Papers#:8)**

**Chairs:** Mehdi Ghayoumi, Cheng Chang Lu, Computer Science



Department, Kent State University, Kent, Ohio, USA  
Zhiru Shi, Institute of Image Communication & Information  
Processing, Shanghai Jiao Tong University, Shanghai, China

**Location:** Meeting Room 1

**T-L7.1 Shadow Removal of Single Texture Region using Local Histogram Matching**

Pan Xiao , Yong Zhao, Yule Yuan  
The key laboratory of Integrated Microsystems, Peking University  
Shenzhen Graduate School, China

**T-L7.2 A Spectral based Visual Matching Method for Image Classification**

Yan Song, Wu Guo, LiRong Dai, Ian Vince Mccloughlin  
National Engineering Laboratory for Speech and Language Information  
Processing, University of Science and Technology of China, Hefei, China

**T-L7.3 Improving Exemplar Based Inpainting Method With a Fuzzy Approach**

Mehdi Ghayoumi, Cheng Chang Lu  
Computer Science Department, Kent State University, Kent, Ohio, USA

**T-L7.4 Motion Estimation For Depth Maps Coding Based on Rendered View Distortion**

Zhiru Shi, Yunyu Shi, Xiaoyun Zhang, Zhiyong Gao  
Institute of Image Communication & Information Processing, Shanghai  
Jiao Tong University, Shanghai, China

**T-L7.5 Shape Model and Marginal Space of 3D Ultrasound Volume Data for Automatically Detecting a Fetal Head**

Siqing Nie<sup>1</sup>, Jinhua Yu<sup>1</sup>, Yuanyuan Wang<sup>1</sup>, Jianqiu Zhang<sup>1</sup>, Ping Chen<sup>2</sup>  
<sup>1</sup>Department of Electronic Engineering, Fudan University, Shanghai, China  
<sup>2</sup>Ultrasound Department, Shanghai First Maternity and Infant Hospital,  
Tongji University, Shanghai, China

**T-L7.6 Multidimensional DFT-modulated filter bank: design and implementation**

Maxim Vashkevich<sup>1</sup>, Wanggen Wan<sup>2</sup>, Alexander Petrovsky<sup>3</sup>  
<sup>1</sup>Belarusian State University of Informatics and Radioelectronics, Minsk,  
Belarus  
<sup>2</sup>Shanghai University, School of Communication and Information  
Engineering, Shanghai, China  
<sup>3</sup>Belarusian State University of Informatics and Radioelectronics, Minsk,  
Belarus

**T-L7.7 Chinese Characters Recognition via Racah Moments**

Yexiao Wu, Simon Liao  
Applied Computer Science, The University of Winnipeg, Winnipeg,  
Manitoba, Canada

**T-L7.8 A Novel Efficient Method for Abnormal Face Detection in ATM**

Xihao Zhang<sup>1</sup>, Lin Zhou<sup>1</sup>, Tao Zhang<sup>2</sup>, Jie Yang<sup>2</sup>

<sup>1</sup>Department of Electronic Engineering, Shanghai JiaoTong University, Shanghai, China

<sup>2</sup>Department of Automation Shanghai Jiao Tong University, Shanghai, China

**T-L8 Audio and Music Processing (Papers#:8)**

**Chairs:** Masahito Okamoto, Graduate School of Engineering, Tohoku University, Sendai, Japan

Chunta Chen, Department of Computer Science, National Tsing Hua University, Hsinchu, Taiwan

**Location:** Meeting Room 2

**T-L8.1 A Shifted Alignment Algorithm for Query by Tapping**

Chunta Chen, Jyh-Shing Roger Jang

Department of Computer Science, National Tsing Hua University, Hsinchu, Taiwan

**T-L8.2 Comparison of Two Tonality Estimation Methods Used in a Psychoacoustic Model**

Hao Chen, Armin Taghipour, Bernd Edler

International Audio Laboratories Erlangen, Erlangen, Germany

**T-L8.3 Subjective Evaluation of Packet Loss Recovery Techniques for Voice over IP**

Masahito Okamoto<sup>1</sup>, Takashi Nose<sup>1</sup>, Akinori Ito<sup>1</sup>, Takeshi Nagano<sup>2</sup>

<sup>1</sup>Graduate School of Engineering, Tohoku University, Sendai, Japan

<sup>2</sup>Research Organization of Electrical Communication, Tohoku University, Sendai, Japan

**T-L8.4 Bidirectional Weight Graph Transformation Matching Algorithm**

Song Wang, Xin Guo, Xiaomin Mu, Lin Qi

School of Information Engineering, Zhengzhou University, Zhengzhou, China

**T-L8.5 The Design of Ambisonics Decoders for Irregular Speaker Array Conforming to Subjective Perception**

Rong Zhu, Changchun Bao, Maoshen Jia, Bing Bu

Speech and Audio Signal Processing Laboratory, School of Electronic Information and Control Engineering, Beijing University of Technology, Beijing, China

**T-L8.6 Very Short Feature Vector for Music Genre Classification Based on Distance Metric Learning**

Dalwon Jang and SeiJin Jang

Smart Media Research Center, Broadcasting & ICT R&D Division, Korea Electronics Technology Institute, Korea

**T-L8.7 An Audio Feature Extraction Scheme based on Spectral Decomposition**

Xueyuan Zhang, Zhuosheng Su, Pei Lin, Qianhua He, Jichen Yang  
School of Electronic and Information Engineering, South China University  
of Technology, Guangzhou, China

**T-L8.8 Scalable Audio Coding Based on Spatial Perception in Audio Surveillance**

Hui Liu, Li Gao

School of Art and Media, Wuhan Donghu University, Wuhan, China

National Engineering Research Center for Multimedia Software, Computer

School of Wuhan University, Wuhan, China

**Wednesday, July 09, 2014**

**08:30-10:05 Oral Session (14 papers in 2 rooms)**

**W-L1 Image Processing (Papers#:7)**

**Chairs:** Bao Trung Nguyen, Department of Electrical and Computer  
Engineering, Sungkyunkwan University, South Korea

Feiyang Zheng, Institute of Image Communication & Network  
Engineering, Shanghai Jiao Tong University, Shanghai, China

**Location:** Meeting Room 1

**W-L1.1 A Video Steganography Algorithm for MVC Without Distortion Drift**

Guanghua Song, Zhitang Li, Juan Zhao, Hao Tu, Junxia Cheng

Dept. of Computer Science and Technology, Huazhong University of  
Science & Technology, Wuhan, China

**W-L1.2 Adaptive Multi-Strategy for Multi-Vehicle with Mutual Occlusion Tracking**

Jie Yin, Guangling Sun

School of Communication and Information Engineering, Shanghai  
University, Shanghai, China

**W-L1.3 Fast Traffic Sign Detection under Challenging Conditions**

Bao Trung Nguyen<sup>1</sup>, JaeRyong Shim<sup>2</sup>, Joong Kyu Kim<sup>1</sup>

<sup>1</sup>Department of Electrical and Computer Engineering, Sungkyunkwan  
University, South Korea

<sup>2</sup>NanoPoint Co., Ltd. Seoul, South Korea

**W-L1.4 Multi-Operator Combination for Character Segmentation in Complex Background**

Yuchun Fang, Jialu Yao

School of Computer Engineering and Science, Shanghai University,  
Shanghai, China

**W-L1.5 Image Super Resolution Based on Local Self Examples with Nonlocal Constraints and Enhancement with 2-order Holomorphic Complete Differential Kernel**

He Jiang, Zhiyong Gao, Xiaoyun Zhang  
Institute of Image Communication & Information Processing, Shanghai  
Jiao Tong University, Shanghai, China

**W-L1.6 Fast H.264/AVC to HEVC Transcoding based on Residual Homogeneity**

Feiyang Zheng, Zhiru Shi, Xiaoyun Zhang, Zhiyong Gao  
Institute of Image Communication & Network Engineering, Shanghai Jiao  
Tong University, Shanghai, China

**W-L1.7 Chinese Character Recognition by Zernike Moments**

Tiansheng Wang, Simon Liao  
Applied Computer Science, The University of Winnipeg, Winnipeg,  
Manitoba

**W-L2 Computer Graphic and Virtual Reality (Papers#:6)  
Bio-informatics (Papers#:1)**

**Chairs:** Lotfi Bendaouia, Equipes de Traitement de l'Information et  
Systèmes , Cergy, France. Electronic and Informatics department,  
Saad Dahlab University, Blida, Algeria. Systems Architecture and  
Multimedias CDTA, Baba Hassen, Algeria  
Tingting Wang, College of Communications Engineering, Jilin  
University, Changchun, China

**Location:** Meeting Room 2

**W-L2.1 Electrostatic Tactile Rendering of Image based on Shape from Shading**

Tingting Wang, Xiaoying Sun  
College of Communications Engineering, Jilin University, Changchun,  
China

**W-L2.2 Optimization Control for Biped Motion Trajectory**

Yumeng Wang, Zheng Wang, Guanbo Bao, Bo Xu  
Interactive Digital Media Technology Research Center, Institute of  
Automation, Chinese Academy of Sciences, Beijing, China

**W-L2.3 Eye Expression Animation Based on Compliant Spatial Mechanisms  
Model**

Jianjian Wu, Guoyun Lv, Yangyu Fan  
School of Electronic and Information, Northwestern Polytechnical  
University, Xi'an, China

**W-L2.4 Specify Material Properties for Voxels in FEM-Based 3D Model  
Deformation**

Yanlu Yin<sup>1,2</sup>, Wanggen Wan<sup>1,2</sup>, Chao Yang<sup>1,2</sup>, Shimin Miao<sup>1,2</sup>  
<sup>1</sup>School of Communication and Information Engineering, Shanghai  
University, Shanghai, China  
<sup>2</sup>Institute of Smart City, Shanghai University, Shanghai, China

**W-L2.5 Procedural Modeling of Buildings Based on Facade Image  
Segmentation**

Kai Liu<sup>1,2</sup>, Junli Chen<sup>1,2</sup>, Suo Wang<sup>1,2</sup>, Xiaoqiang Zhu<sup>1,2</sup>  
<sup>1</sup>School of Communication and Information Engineering, Shanghai University, Shanghai, China  
<sup>2</sup>Institute of Smart City, Shanghai University, Shanghai, China

**W-L2.6 Research and Implementation of Shortest Path Algorithm on PLY Triangular Mesh Model**

Xiaojun Zhou, Yangyang Gao, Xiuli Ma, Jiejie Li  
School of Communication and Information, Shanghai University, Shanghai, China  
Institute of Smart City, Shanghai University, Shanghai, China

**W-L2.7 FPGA-Implementation of a Bio-Inspired Medical Hearing Aid Based DWT-OLA**

Lotfi Bendaouia<sup>1,2,3</sup>, Si Mahmoud Karabernou<sup>1</sup>, Lounis Kessal<sup>1</sup>, Hassen Salhi<sup>2</sup>, Fayçal Ykhlef<sup>3</sup>  
<sup>1</sup>Equipes de Traitement de l'Information et Systèmes, CNRS ENSEA UMR8051, Cergy, France  
<sup>2</sup>Electronic and Informatics department, Saad Dahlab University, Blida, Algeria  
<sup>3</sup>Systems Architecture and Multimedias, CDTA, Baba Hassen, Algeria

**10:05-10:25 Coffee Break**

**10:05-10:25 Poster Session (13 papers)**

**W-P1 Computer Graphic and Virtual Reality (Papers#:9)  
Bio-informatics (Papers#:2)**

**Big Data and Cloud Processing (Papers#:2)**

**Chairs:** Ximin Zhang, Institute of Smart City, Shanghai University, Shanghai, China  
Qingtong Xu, Institute of Smart City, Shanghai University, Shanghai, China

**Location:** Ballroom Foyer

**W-P1.1 Evacuation of Pedestrians Using Lattice Gas Model and Floor Field Model**

Xiaoqing Yu<sup>1,2</sup>, Ranran Chang<sup>1,2</sup>, Chonghui Zhang<sup>1,2</sup>  
<sup>1</sup>School of Communication and Information Engineering, Shanghai University, Shanghai, China  
<sup>2</sup>Institute of Smart City, Shanghai University, Shanghai University, Shanghai, China

**W-P1.2 Designing and Implementing an Online Card Game Based on Android 2D Graphics**

Muxin Wang<sup>1,2</sup>, Liangfei Zhu<sup>1,2</sup>  
<sup>1</sup>School of Communication and Information Engineering, Shanghai University, Shanghai, China  
<sup>2</sup>Institute of Smart City, Shanghai University, Shanghai, China

- W-P1.3 A Pipeline for Surface Reconstruction of 3-Dimension Point Cloud**  
 Qingtong Xu<sup>1</sup>, Jing Wang<sup>1</sup>, Xuandong An<sup>1</sup>  
<sup>1</sup>School of Communication and Information Engineering, Shanghai University, Shanghai, China  
<sup>2</sup>School of Communication and Information Engineering, Institute of Smart City, Shanghai, China
- W-P1.4 A Subjective Quality Evaluation for 3D Point Cloud Models**  
 Juan Zhang<sup>1,2</sup>, Wenbin Huang<sup>1</sup>, Xiaoqiang Zhu<sup>1</sup>, Jenq-Neng Hwang<sup>3</sup>  
<sup>1</sup>School of Communication and Information Engineering, Shanghai University, Shanghai, China  
<sup>2</sup>Institute of Smart City, Shanghai University, Shanghai China  
<sup>3</sup>Dept. of Electrical Engineering, University of Washington, Seattle, WA, USA
- W-P1.5 Room Impulse Response Simulation Based on Equal-area Ray Tracing**  
 Chengcun Gu, Mengyao Zhu and Haofeng Lu, Benoit Beckers  
 School of Communication & Information Engineering, Shanghai University, Shanghai, China  
 Urban Systems Engineering Department, University of Technology of Compiègne, Compiègne, France
- W-P1.6 Mean Shift Clustering Segmentation and RANSAC Simplification of Color Point Cloud**  
 Zhang Ximin<sup>1,2</sup>, Wan Wanggen<sup>1</sup>, Xiao li<sup>2</sup>, Ma Junxing<sup>2</sup>  
<sup>1</sup>School of Communication & Information Engineering, Institute of Smart City, Shanghai University, Shanghai, China  
<sup>2</sup>Institute of physics and electronic engineering, Henan Institute of Education, Zhengzhou, China
- W-P1.7 Research On 3D Scanning Point Cloud De-noising**  
 Xuandong An<sup>1,2</sup>, Xiaoqing Yu<sup>1,2</sup>, Qingtong Xu<sup>1,2</sup>, Jing Wang<sup>1,2</sup>  
<sup>1</sup>School of Communication and Information Engineering, Shanghai University, Shanghai, China  
<sup>2</sup>Institute of Smart City, Shanghai University, Shanghai, China
- W-P1.8 A Two-Phase Approximation of Cylindrical Branching Models**  
 Xiaoqiang Zhu<sup>1,2</sup>, Junli Chen<sup>1,2</sup>, Juan Zhang<sup>1,2</sup>  
<sup>1</sup>School of Communication and Information Engineering, Shanghai University, Shanghai, China  
<sup>2</sup>Institute of Smart City, Shanghai University, Shanghai, China
- W-P1.9 The research on 3-D simulation of pedestrian evacuation of a room**  
 Chonghui Zhang<sup>1,2</sup>, Xiaoqing Yu<sup>1,2</sup>, Ranran Chang<sup>1,2</sup>  
<sup>1</sup>School of Communication and Information Engineering, Shanghai University, Shanghai, China  
<sup>2</sup>Institute of Smart City, Shanghai University, Shanghai, China
- W-P1.10 Study on Simulation of Catheter-Heart Interaction Based on**

### **BD-Tree**

Wenhui Li<sup>1,2</sup>, Xuzhi Wang<sup>1,2</sup>, Xiuli Ma<sup>1,2</sup>

<sup>1</sup>School of Communications and Information Engineering, Shanghai University, China

<sup>2</sup>Institute of Smart City, Shanghai University, Shanghai, China

### **W-P1.11 An Adaptive Threshold Algorithm Based on Wavelet in QRS Detection**

Xiaojun Zhou, Xiuli Ma, Yang Li

School of Communication and Information Engineering, Shanghai University, Shanghai, China

Institute of Smart City, Shanghai University, Shanghai, China

### **W-P1.12 Classifications with transferred samples based on RF-Spaces**

Lin Xiong<sup>1</sup>, Licheng Jiao<sup>1</sup>, Fei Yin<sup>2</sup>

<sup>1</sup>Key Laboratory of Intelligent Perception and Image Understanding of Ministry of Education of China, Xidian University, Xi'an, China

<sup>2</sup>Xi'an Electronic Engineering Research Institute, Institute No.206 of China Arms Industry Group Corporation, Xi'an, China

### **W-P1.13 POS Weighted TF-IDF Algorithm and its Application for an MOOC Search Engine**

Ruilin Xu

Department of Computer Science University of Illinois at Urbana-Champaign (UIUC) Urbana, USA

## **10:25-12:00 Oral Session (14 papers in 2 rooms)**

### **W-L3 Language and Speech Processing (Papers#:6) Multimedia SOC Design (Papers#:1)**

**Chairs:** William J. Teahan, School of Computer Science, Bangor University, Gwynedd, United Kingdom.

Xiaohao Yang, Department of Electronic Engineering, Tsinghua University, Beijing, China

**Location:** Meeting Room 1

### **W-L3.1 Adaptive Compression-based Models of Chinese Text**

William J. Teahan, Peiliang Wu, Wei Liu

School of Computer Science, Bangor University, Bangor, Gwynedd, United Kingdom

### **W-L3.2 Semi-supervised Learning of Dialogue Acts Using Sentence Similarity Based on Word Embeddings**

Xiaohao Yang<sup>1</sup>, Zhenfeng Chen<sup>2</sup>, Weilan Wu<sup>2</sup>, Jia Liu<sup>1</sup>

<sup>1</sup>Department of Electronic Engineering, Tsinghua University, Beijing, China

<sup>2</sup>University of Chinese Academy of Sciences, Beijing, China

### **W-L3.3 Robot: Have I Done Something Wrong? — Analysis of Prosodic**

**Features of Speech Commands under the Robot's Unintended Behavior**

Noriko Totsuka, Yuya Chiba, Takashi Nose and Akinori Ito  
Graduate School of Engineering Tohoku University, Sendai, Japan

**W-L3.4 Acoustic Modeling for Hindi Speech Recognition in Low-Resource Settings**

Anik Dey, Weibin Zhang, Pascale Fung  
Human Language Technology Center, Department of Electronic & Computer Engineering, HKUST, Hong Kong

**W-L3.5 The Influence of Pitch Accuracy on Synthetic Speech Quality**

Yuwen Yu, Xiaoqun Zhao, Jingyun Xu, Yang Zhang  
College of Electronic and Information Engineering, Tongji University, Shanghai, China

**W-L3.6 Lexicon Propagation for Learning a Large-scale Semantic Parser**

Jiongkun Xie, Xiaoping Chen  
Multi-Agents Systems Lab, University of Science and Technology of China, Hefei, China

**W-L3.7 Accelerating Gesture Recognition Algorithm Using Coarse Grained Reconfigurable Architectures**

Minsik Kim<sup>1</sup>, Deokho Kim<sup>1</sup>, Minyong Sung<sup>1</sup>, Wonjae Lee<sup>2</sup>, Jaehyun Kim<sup>2</sup>, and Won Woo Ro<sup>1</sup>

<sup>1</sup>School of Electrical and Electronic Engineering, Yonsei University, Seodaemun-gu, Seoul, Korea

<sup>2</sup>Multimedia R&D Team, DMC R&D Center, Samsung Electronics Co., Ltd, Suwon, Korea

**W-L4 Remote Sensing and GIS (Papers#:3)  
Image Processing (Papers#:3)  
Multimedia SOC Design (Papers#:1)**

**Chairs:** Zhao Chen, Key Laboratory for Information Science of Electromagnetic Waves (MoE), Fudan University, Shanghai, China. State Key Laboratory of Earth Surface Processes and Resource Ecology, Beijing Normal University, Beijing, China  
Laiwen Zheng, Department of Automation, Shanghai Jiao Tong University Key Laboratory of System Control and Information Processing, Ministry of Education, Shanghai, China

**Location:** Meeting Room 2

**W-L4.1 An Improved Spectral-Spatial Classification Framework for Hyperspectral Remote Sensing Images**

Zhao Chen<sup>1,2</sup>, Bin Wang<sup>1,2</sup>

<sup>1</sup>Key Laboratory for Information Science of Electromagnetic Waves (MoE), Fudan University, Shanghai, China

<sup>2</sup>State Key Laboratory of Earth Surface Processes and Resource Ecology, Beijing Normal University, Beijing, China



**W-L4.2 A Noise Removal Approach for Object-based Classification of VHR Imagery via Post-classification**

Laiwen Zheng, Lihong Wan, Hong Huo, Tao Fang  
Department of Automation, Shanghai Jiao Tong University Key Laboratory of System Control and Information Processing, Ministry of Education, Shanghai, China

**W-L4.3 Detection of LFM Signals in Low SNR Based on STFT and Wavelet Denoising**

Yu Duan, Jinzhen Wang, Shaoying Su, Zengping Chen  
ATR Key Lab, National University of Defense Technology, Changsha, China

**W-L4.4 The Two-dimensional Code Image Tilt Correction Method Based on Least Squares Support Vector Machines**

Yuanqian Cao<sup>1</sup>, Shicao Luo<sup>1</sup>, Yongsheng Ding<sup>1,2</sup>, Kuangrong Hao<sup>1,2</sup>  
<sup>1</sup>College of Information Sciences and Technology, Donghua University, Shanghai, China  
<sup>2</sup>Engineering Research Center of Digitized Textile & Fashion Technology, Ministry of Education Donghua University, Shanghai, China

**W-L4.5 Crowded Abnormal Detection Based on Mixture of Kernel Dynamic Texture**

Shishi Duan, Xiangyang Wang, Xiaoqing Yu  
School of Communication and Information Engineering, Shanghai University, Shanghai, China  
Institute of Smart City, Shanghai University, Shanghai, China

**W-L4.6 Fast Background Modeling Using GMM on GPU**

Xuannan Ye<sup>1,2</sup>, Wanggen Wan<sup>1,2</sup>  
<sup>1</sup>School of Communication and Information Engineering, Shanghai University, Shanghai, China  
<sup>2</sup>Institute of Smart City, Shanghai University, Shanghai, China

**W-L4.7 Structurally orthogonal finite precision implementation quaternionic based paraunitary filter bank**

Nick Petrovsky<sup>1</sup>, Andrew Stankevich<sup>1</sup>, Wanggen Wan<sup>2</sup>, Alexander Petrovsky<sup>1</sup>  
<sup>1</sup>Belarusian State University of Informatics and Radioelectronics, Minsk, Belarus  
<sup>2</sup>School of Communication and Information Engineering, Shanghai University, China

**12:00-13:30 Lunch**

**13:30-17:00 Campus Tour and Laboratory Visit**

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K Sato T-L3.6  
K S Hong M-L5.6  
K Y Liu M-L5.3  
K Yin M-L3.7  
K Z Chen M-L4.7  
K Z Chen M-L4.8

**L**  
L Bai M-L6.7  
L Bendaouia W-L2.7  
L C Cheng T-L7.3  
L C Jiao W-P1.12  
L C Jiao T-P1.8  
L F Liang T-L1.5  
L F Zhu W-P1.2  
L H Wan W-L4.2  
L H Wang M-L4.6  
L H Yue M-L5.1  
L H Zhang M-P1.13  
L H Zhang T-L3.4  
L Kessal W-L2.7  
L M Zhang T-L5.2  
L Ma M-L1.4  
L Ma M-L2.5  
L Mei T-L6.2  
L Mei T-P1.7  
L P Zhang T-L6.4  
L Q Li T-L6.1  
L Qi T-L8.4  
L R Dai T-L7.2  
L Stam M-L1.7  
L W Yang M-P1.10  
L W Zheng W-L4.2  
L Wang T-L6.5  
L Xiao W-P1.6  
L Xiong W-P1.12  
L Yao T-L5.1  
L Zhou T-L7.8  
L Gao T-L8.8

**M**  
M Bricogne T-P2.3  
M Bricogne T-P2.4  
M Bu T-L5.1  
M Cai M-L1.1  
M Ghayoumi T-L7.3  
M K Yamamoto T-L3.1  
M Kim W-L3.7  
M M B Ismail T-P2.11  
M M B Ismail T-P2.12  
M Okamoto T-L8.3  
M S Jia M-L1.8  
M S Jia T-L8.5  
M Y Sung W-L3.7  
M Vashkevich T-L7.6  
M X Wang W-P1.2  
M Xue M-L6.8  
M Xue T-L1.5  
M Y Yang T-P1.6  
M Y Zhu W-P1.5  
M Z Zhu T-L2.7  
M Zhang M-L4.6  
M Zhang T-L5.5  
M Zou T-L4.3

**N**  
N Fu T-L4.4  
N Ma T-L2.6  
N Petrovsky W-L4.7  
N Sang M-L4.1  
N Totsuka W-L3.3  
N Troussier T-P2.3  
N Troussier T-P2.4

**O**  
O Alaql T-L1.1  
O Bchir T-P2.11  
O Bchir T-P2.12

**P**  
P Chen T-L7.5  
P Cheng M-L2.8  
P Fung W-L3.4  
P J Hu T-L5.8  
P K. Das T-L3.5  
P L Liu T-L2.4  
P L Wu W-L3.1  
P Lin T-L8.7  
P Shi M-P1.10  
P Wang M-P1.1  
P X Lee T-L1.2  
P X Lee T-L1.3  
P Xiao T-L7.1  
P Zhang M-L4.3

**Q**  
Q B Zhou T-P2.13  
Q H He M-L1.1  
Q H He T-L8.7  
Q Huang M-L5.1

Q Q Chang	M-L5.2	S Tang	M-L2.1	W Y Liu	T-L5.5
Q T Xu	T-P2.8	S W Chen	T-L4.1	W Y Qu	M-L5.8
Q T Xu	W-P1.3	S W Fu	T-L1.2	<b>X</b>	
Q T Xu	W-P1.7	S Wang	T-L8.4	X C Hu	T-L6.3
Q Wang	M-L1.6	S Wang	W-L2.5	X C Hu	T-P1.13
Q Wu	T-P2.1	S X Hu	T-L3.7	X C Yin	T-P1.10
Q X Liu	T-L4.4	S Y Su	T-L5.7	X D An	W-P1.3
Q Xiang	M-L2.8	S Y Su	W-L4.3	X D An	W-P1.7
Q Y Zhu	T-P1.5	S Y Xu	T-L5.8	X Guo	T-L8.4
Q Zhu	T-L2.3	S Yuan	T-P1.5	X H Yang	W-L3.2
<b>R</b>		S Zhang	T-P1.8	X H Zhang	T-L7.8
R C M Hsu	T-L4.7	<b>T</b>		X J Cao	T-L4.3
R D Ying	T-L2.4	T Fang	W-L4.2	X J Zhou	W-L2.6
R Q Lu	T-P2.5	T J Wang	M-P1.3	X J Zhou	W-P1.11
R R Chang	W-P1.1	T J Zhao	T-L6.3	X L Ma	T-P1.1
R R Chang	W-P1.9	T Lan	T-L4.2	X L Ma	W-P1.10
R Sun	T-P1.4	T Lan	T-L4.6	X L Ma	W-P1.11
R W Luo	M-L5.5	T Lei	T-L1.6	X L Ma	W-L2.6
R Wang	T-P1.1	T Nagano	T-L8.3	X L Zhang	T-L2.7
R Y Du	M-L2.6	T Nose	T-L3.6	X M Mu	T-L8.4
R Y Li	M-L1.6	T Nose	T-L8.3	X M Wu	M-L2.2
R Zhu	T-L8.5	T Nose	W-L3.3	X M Zhang	W-P1.6
R L Xu	W-P1.13	T S Wang	W-L1.7	X N Ye	T-P1.4
<b>S</b>		T T Wang	W-L2.1	X N Ye	W-L4.6
S Liao	T-L7.7	T Zhang	T-L7.8	X P Chen	W-L3.6
S B Zheng	M-L6.8	<b>U</b>		X P Li	T-L4.4
S B Zheng	T-L1.5	<b>V</b>		X P Lu	T-L1.6
S Bai	M-L4.4	<b>W</b>		X P Lu	T-L3.7
S C Hsu	M-L5.3	W B Huang	W-P1.4	X Q Yu	T-L6.7
S C Hsu	M-L5.4	W B Jiang	T-L2.4	X Q Yu	T-P1.3
S C Luo	W-L4.4	W B Zhang	W-L3.4	X Q Yu	W-P1.1
S H Fang	M-L6.4	W C Kao	M-L5.4	X Q Zhao	M-L1.5
S H Luo	T-L1.7	W Chen	T-L5.1	X Q Zhao	M-L1.6
S H Wan	M-L5.1	W Cui	T-P1.12	X Q Zhao	M-P1.14
S H Zhang	M-P1.12	W G Wan	T-L6.6	X Q Zhu	W-L3.5
S J Jang	T-L8.6	W G Wan	W-L4.6	X Q Zhu	W-L2.5
S J Lu	M-L6.1	W G Wan	W-L2.4	X Q Zhu	W-P1.4
S Jin	T-L5.4	W G Yin	T-P1.12	X Q Zhu	W-P1.8
S Kong	T-P2.4	W Guo	T-L7.2	X S Ding	M-L4.1
S L lv	T-L2.6	W H Li	W-P1.10	X Sun	T-L2.2
S Li	T-P1.13	W H Zhu	T-P2.3	X T Chen	T-L3.4
S Liao	W-L1.7	W H Zhu	T-P2.4	X W Shang	T-L1.4
S M Karabernou	W-L2.7	W J Suo	T-P1.5	X X Zhong	T-L6.2
S M Miao	T-L6.6	W J Teahan	W-L3.1	X X Zhong	T-P1.7
S M Miao	W-L2.4	W J Zhu	M-L6.8	X Xu	T-L5.6
S M Zhang	T-P2.5	W L Cao	M-L2.1	X Xu	T-L5.3
S N Lu	M-L6.5	W L Sun	T-L6.3	X Y Sun	W-L2.1
S Nakayama	M-L3.4	W L Sun	T-P1.13	X Y Wang	T-P1.2
S P Lu	T-L6.4	W L Wu	W-L3.2	X Y Wang	W-L4.5
S P Zhong	M-L4.7	W Lee	W-L3.7	X Y Zhang	T-L7.4
S P Zhong	M-L4.8	W Liu	W-L3.1	X Y Zhang	T-L8.7
S Q Nie	T-L7.5	W P Huang	M-P1.14	X Y Zhang	W-L1.5
S R Chalamala	M-L4.5	W Q Tong	T-L6.4	X Y Zhang	W-L1.6
S R Chalamala	M-P1.15	W Q Wang	M-P1.7	X Z Wang	T-P1.4
S R Zhao	M-L6.4	W S Liou	M-L1.2	X Z Wang	W-P1.10
S S Duan	T-P1.2	W W Ro	W-L3.7	X Zhang	M-L4.3
S S Duan	W-L4.5			X Zhang	M-P1.11

X Zeng	M-L2.4	Y X Xie	T-P1.12	Z Y Sun	M-L1.8
<b>Y</b>		Y Xia	M-L3.6	Z Y Wu	T-L4.3
Y B Rao	M-L4.1	Y Xu	M-P1.2	Z Y Zhao	M-L6.7
Y B Gao	M-L6.2	Y Y Fan	W-L2.3	Z Y Qiu	M-L2.3
Y C Fang	W-L1.4	Y Y Gao	W-L2.6	Z Yang	M-P1.5
Y Cao	M-L3.3	Y Y Shan	T-L2.3	Z Z Lu	T-L5.5
Y Chen	M-L2.3	Y Y Shi	T-L7.4	Z Zheng	M-L3.2
Y Chen	T-P2.7	Y Y Wang	M-L2.1		
Y Cheng	M-L5.5	Y Y Wang	M-L2.2		
Y Chiba	T-L3.6	Y Y Wang	T-L7.5		
Y Chiba	W-L3.3	Y Y Wu	T-L6.2		
Y Dai	T-L1.5	Y Y Yang	M-P1.7		
Y Ding	T-L4.2	Y Y Yuan	T-P2.9		
Y Ding	T-L4.6	Y Yang	M-L3.3		
Y Duan	W-L4.3	Y Zhang	M-L1.5		
Y F Wang	T-L1.4	Y Zhang	T-L2.5		
Y Guo	M-L2.1	Y Zhang	T-L5.6		
Y H Liu	M-P1.10	Y Zhang	W-L3.5		
Y He	T-P1.7	Y Zhang	T-L5.3		
Y J Qin	M-L2.2	Y Zhao	M-L6.5		
Y J Xu	M-L5.8	Y Zhao	T-L6.2		
Y J Zhang	M-L2.2	Y Zhao	T-L7.1		
Y K Liu	M-L3.1	Y Y Wang	M-L2.3		
Y L Yin	T-P1.3	Y Y Wang	M-L2.4		
Y L Yin	W-L2.4	Y X Zhao	T-P1.9		
Y L Yuan	T-L7.1	<b>Z</b>			
Y Li	T-L4.2	Z Chen	W-L4.1		
Y Li	W-P1.11	Z D Chen	T-L6.5		
Y Lin	T-P2.13	Z F Chen	W-L3.2		
Y Liu	M-L1.3	Z F Ye	T-L5.6		
Y Liu	T-L2.5	Z F Ye	T-L5.3		
Y Liu	T-L5.8	Z G Qin	T-L4.2		
Y Liu	T-P2.10	Z G Qin	T-L4.6		
Y Liu	T-P2.6	Z H Jiang	T-L2.7		
Y Lu	M-L6.1	Z H Li	M-P1.7		
Y M Chen	M-L3.8	Z H Lyu	M-L6.4		
Y M Liang	T-L4.1	Z Liu	M-P1.4		
Y M Wang	W-L2.2	Z P Chen	T-L5.7		
Y M Xu	M-L4.2	Z P Chen	T-L5.8		
Y P Ding	T-L6.7	Z P Chen	W-L4.3		
Y P Liu	T-P2.7	Z Q Ma	T-P2.1		
Y Pang	M-L2.3	Z R Gao	M-P1.9		
Y Q Cao	W-L4.4	Z R Shi	T-L7.4		
Y Qi	T-L2.7	Z R Shi	W-L1.6		
Y Qiao	M-L6.7	Z S Su	T-L8.7		
Y S Ding	W-L4.4	Z S Zeng	M-L4.7		
Y S Jin	T-L2.6	Z T Li	W-L1.1		
Y S Xia	T-L3.3	Z Wang	W-L2.2		
Y Song	T-L4.4	Z X Yu	T-P1.1		
Y Song	T-L7.2	Z Xiao	T-L4.2		
Y T Shi	M-L6.6	Z Xiao	T-L4.6		
Y Tao	M-L5.8	Z Y Ding	M-L6.8		
Y W Yu	W-L3.5	Z Y Gao	T-L7.4		
Y Wang	T-P2.1	Z Y Gao	W-L1.6		
Y X Li	M-L1.1	Z Y Gao	W-L1.5		
Y X Liu	M-L3.6	Z Y Li	M-L5.8		
Y X Wu	T-L7.7	Z Y Li	M-P1.2		

# Shanghai Travel and Tours Guide

Located at the center of the mainland's coastline, Shanghai has long been a major hub of communications, transportation, and international exchange. The municipality covers an area of 6,341 square kilometers and has a population of more than 13.5 million. Shanghai is China's largest economic comprehensive industrial base, and a famous historical and cultural city.

Visitors to Shanghai are not only dazzled by the modern metropolis and gateway to a developing China, but are also able to immerse themselves in the unique Shanghai culture, a combination of Chinese and Western elements. Colorful festivals and celebrations dot the yearly Shanghai activities calendar, such as the Shanghai Nanhui Peach Blossoms Festival, Shanghai International Tea Culture Festival and Shanghai China International Art Festival.

## The Bund

The well-known Bund is a must for visitors to Shanghai. Fifty-two buildings lining the narrow shoreline of the Huangpu River offer a living exhibition of Gothic, Baroque, Roman, Classic Revival and Renaissance architectural styles, as well as combinations of Chinese and Western styles. They are also a condensation of the recent history of the city. The wide embankment offers ample room for strolling and is used by locals for morning exercises and evening gatherings. In the evening, colorful lights illuminate the area and create a shimmering image deserving of the name Pearl of the Orient.



## The Yu Gardens

The Yu Gardens are a classical landscape in the Southern Chinese style with a history of more than 400 years. Pavilions, halls, rockeries and ponds display the finest in landscaping from the Southern style as seen in the Ming and Qing dynasties. More than 40 landscapes were ingeniously separated by latticed walls, winding corridors, and lattice windows.



## Nanjing Road

Nanjing Road East, honored as "China's No. 1 Street", has become an all-weather pedestrian arcade. Shops and restaurants provide products and services with their own characteristics, making it an ideal place that integrates shopping, restaurants, amusement and sightseeing.



## Jin Mao Tower

With 88 stories reaching a height of 420.5 meters and 290,000 square meter construction area, Jin Mao Tower, which literally means "Gold Luxuriance Building" in Chinese, is a perfect combination of traditional Chinese architectural style and the world's modern architectural technology.



The first two floors are a capacious and bright lobby. From the third to the 50th floor are spacious offices, which are open-plan (column-free) with a floor-to-floor height of 4 meters and a floor-to-ceiling height of 2.7m. The 51st and 52nd floors are mechanical rooms. The Grand Hyatt Shanghai hotel occupies floors from 53 to 87. It's the world's tallest five-star hotel in terms of distance from the ground, which boasts a 152m barrel-vaulted atrium that is lined with 28 annular well-illuminated corridors and staircases arrayed in a spiral. The 88th floor houses the Skywalk, a 1,520-square-meter indoor observation deck, which is the tallest and biggest one of its kind in the Chinese mainland. It offers a panoramic view of Shanghai and a topside view of the hotel atrium below.

## Shanghai Science and Technology Museum

Shanghai Science and Technology Museum (SSTM) that located in Pudong's huamu area is an important base in Shanghai for science education and spiritual civilization construction, and national AAAA tourist site as well. The whole building is magnificent: the spiral unsymmetrical structure that high in the West and lower in the East symbolizes the development of nature, human and technology;





huge glass curtain wall stands for the open, transparent and close to the public; the vitelline ball in the middle hall implies the life-breeding in the space; and the heavy roof reflects the unavoidable historic mission that SSTM committed.

## **The Orient Pearl TV Tower**

The Orient Pearl TV Tower is 468 meters high, the tallest in Asia and third tallest in the world. It faces the Bund across the Huangpu River. When viewed from the Bund, the tower and the Nanpu and Yangpu bridges create a vivid imagery known as "two dragons playing with a pearl." The sphere at the top has a diameter of 45 meters and is 263 meters above ground. The observation deck in the sphere offers a sweeping view of the city. The revolving restaurant is set at 267 meters above Pudong New Area. The dance ball, piano bar and 20 karaoke rooms, at 271 meters, are also opened to the public. The penthouse, which sits at 350 meters, has an observation deck, meeting room, and coffee shop. The tower integrates broadcasting technologies with sightseeing, catering, shopping, amusement, and accommodations. It has become the symbol of the city and a major tourist attraction in Shanghai.



## **People's Square**

People's Square has become the political and cultural center in Shanghai since 1994, when it was rebuilt. In and around the square are a massive fountain named the Light of Huangpu River, 10,000 square meters of lawns, six groups of relief carvings that depict the history of Shanghai, the New Shanghai Museum, the offices of the municipal government, an underground shopping plaza, the Shanghai Grand Theater and the Shanghai Exhibition Center.





# Marriott Shanghai Parkview

Marriott Shanghai Parkview is a five three-star hotel, located in No.333, West Guangzhong Road Zhabei District, Shanghai. Conveniently situated with excellent transport links, including the metro service and the city ring road located right outside the main entrance, and major department stores, offices, bars and restaurants are within walking distance.



## Chinese Address Cards

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### Marriott Shanghai Parkview

Address: No.333, West Guangzhong Road Zhabei District, Shanghai, China.

Tel: 86-021-36698888

上海宝华万豪酒店

地址: 上海市闸北区广中西路 333 号

电话: 86-21-64391000

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### Sheraton Hotel

Address: No.1928, Gonghexin Road , Zhabei District, Shanghai

Tel: 86-021-26022222

喜来登酒店

地址: 上海市闸北区共和新路 1928 号

电话: 86-021-26022222

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### Jinrong international Hotel

Address: No.2750 Gonghexin Road, Zhabei District, Shanghai

Tel: 86-021-56651888

锦荣国际大酒店

地址: 上海市闸北区共和新路 2750 号

电话: 86-021-56651888

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### Home inn

Address: No.809 Guangzhong Road, Zhabei District , Shanghai

Tel: 86-021-66318822

如家酒店

地址: 上海市闸北区广中路 809 号

电话: 86-021-66318822

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### Le-Hu Hotel of Shanghai University

Address: Yanchang Campus, Shanghai University(No. 788 Guangzhong Road, Zhabei District)

Tel: 86-021-66133688

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上海大学乐乎酒店

地址：上海市闸北区上海大延长校区（上海市闸北区广中路 788 号）

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