

ICALIP2012

2012 International Conference on Audio, Language and Image Processing

PROGRAM GUIDE

July 16-18, 2012
Hua Ting Hotel, Shanghai, China



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The Conference at a Glance

Sunday, July 15, 2012

13:30-17:00 Registration

Monday, July 16, 2012

08:30-09:00 Opening Ceremony

09:00-09:20 Group Photo

09:20-10:05 Keynote Speech 1

Advanced Computational Imaging: Super-Resolution and 3D Acquisition Using Active Illumination

Panos Papamichalis, Department of Electrical Engineering, Southern Methodist University, USA

10:05-10:20 Coffee Break

10:20-11:05 Keynote Speech 2

Touring from our Research on Video Surveillance to Super-resolution Videos and 3D Videos

Wan-Chi Siu, Department of Electronic & Information Engineering, The Hong Kong Polytechnic University, China

11:05-11:50 Keynote Speech 3

Data-Driven Analysis and Fusion of Medical Imaging Data

Tulay Adali, Department of Computer Science and Electrical Engineering, University of Maryland Baltimore County (UMBC), USA

12:00-13:30 Lunch

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

13:30-17:30 Poster Session (14 papers)

M-L1 Image Processing (Papers#:10)

M-L2 Image Processing (Papers#:10)

M-L3 Image Processing (Papers#:10)

M-P1 Image Processing (Papers#:11)

Multimedia SOC Design (Papers#:3)

15:30-15:45 Coffee Break

15:45-17:45 Oral Session (30 papers in 3 rooms)

M-L4 Audio and Music Processing (Papers#:10)

M-L5 Audio and Music Processing (Papers#:10)

M-L6 Language and Speech Processing (Papers#:10)

18:00-19:30 Welcome Reception

Tuesday, July 17, 2012

08:30-09:15 Keynote Speech 4

Real Time Dynamics in Comprehensive 3D Environments Assisted with Image Based Solution

Enhua Wu, Faculty of Science and Technology, University of Macau & State Key Lab of Computer Science, Chinese Academy of Sciences, China

09:15-10:00 Keynote Speech 5

Humanistic Intelligence System - Multi-core Pattern Recognition Processor with Brain Mimicking Mixed Mode Intelligence Circuits

Hoi-Jun Yoo, Korea Advanced Institute of Science and Technology (KAIST), Korea

10:00-10:15 Coffee Break

10:15-10:45 Smart City Forum: Keynote Speech 1

Daylight and Solar Energy Simulation at Urban Scale

Benoit BECKERS, GSU (Urban Systems Engineering) Department, UTC (Compi ègne University of Technology), France

10:45-11:15 Smart City Forum: Keynote Speech 2

Multi-Modality Urban Scene Modeling

Ye Duan, Department of Computer Science, University of Missouri at Columbia, USA

11:15-11:45 Smart City Forum: Keynote Speech 3

Energy Efficient Heterogeneous Data Center Servers for Green and Smart Cities

Yajun Ha, Department of Electrical & Computer Engineering, National University of Singapore, Singapore

12:00-13:30 Lunch

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

13:30-17:30 Poster Session (13 papers)

T-L1 Language and Speech Processing (Papers#:10)

T-L2 Image Processing (Papers#:10)

T-L3 Image Processing (Papers#:10)

T-P1 Audio and Music Processing (Papers#:10)

Remote Sensing and GIS (Papers#:3)

15:30-15:45 Coffee Break

15:45-17:45 Oral Session (30 papers in 3 rooms)

T-L4 Image Processing (Papers#:10)

T-L5 Remote Sensing and GIS (Papers#:10)

T-L6 Bio-informatics (Papers#:10)

18:30-20:30 Night Banquet

Wednesday, July 18, 2012

08:30-09:00 Industry Forum: Keynote Speech 1

Green Future of Communication Networks: Technology and Practice

Shunqing Zhang, Huawei Technologies Co., Ltd., China

09:00-09:30 Industry Forum: Keynote Speech 2

The Application of PTN Technology in Building the Backbone Network of Smart City

Wei Zhou, Shanghai Information Network Co., Ltd., China

09:30-10:00 Industry Forum: Keynote Speech 3

Construction of Smart City: Shanghai Integrated Traffic Information Platform

Yang Zhang, Shanghai Municipal Transportation information Center, China

10:00-10:15 Coffee Break

10:15-10:45 Industry Forum: Keynote Speech 4

Advance in Programming Tools for High-Performance Chips and Reusable Designs

Ching Ma, Data I/O Corporation, USA

10:45-11:15 Industry Forum: Keynote Speech 5

Language Resources, the Accelerator of Human Language Technology

Xianfeng Cheng, SpeechOcean Inc., China

11:15-11:45 Industry Forum: Keynote Speech 6

The Potential Role of Virtual Reality for the Construction of Intelligent Virtual Cities

Zhaoguang Wang, Shanghai Graphic Design Information Co., Ltd, China

12:00-13:30 Lunch

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

13:30-17:30 Poster Session (12 papers)

W-L1 Image Processing (Papers#:10)

W-L2 Image Processing (Papers#:10)

W-L3 Language and Speech Processing (Papers#:10)

W-P1 Language and Speech Processing (Papers#:4)

Computer Graphic and Virtual Reality (Papers#:8)

15:30-15:45 Coffee Break

15:45-17:45 Oral Session (31 papers in 3 rooms)

W-L4 Audio and Music Processing (Papers#:3)

Image Processing (Papers#:7)

W-L5 Computer Graphic and Virtual Reality (Papers#:8)

Audio and Music Processing (Papers#:2)

W-L6 Language and Speech Processing (Papers#:7)

Multimedia SOC Design (Papers#:4)

Message from the Conference Chairs

On behalf of the organization committee, we are most delighted to welcome you to join us at 2012 International Conference on Audio, Language and Image Processing (ICALIP2012) to be held at Shanghai, China on July 16 through July 18, 2012. The conference is co-organized by IEEE CIS Shanghai Chapter, Asia-Pacific Signal and Information Processing Association, IET Shanghai Local Network, Shanghai University, Tongji University, Fudan University and Shanghai Jiao Tong University.

As one of the most important academic events in the region, ICALIP2012 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.

ICALIP2012 is featured with five world-class plenary lectures and 21 well-organized sessions (oral and poster) in seven 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. Five keynote speeches are arranged in two half-day plenary sessions with titled as “Advanced Computational Imaging: Super-Resolution and 3D Acquisition Using Active Illumination”, “Data-Driven Analysis and Fusion of Medical Imaging Data”, “Touring from Our Research on Video Surveillance to Super-resolution Videos and 3D Videos”, “Real Time Dynamics in Comprehensive 3D Environments Assisted with Image Based Solution”, and “Humanistic Intelligence System - Multi-core Pattern Recognition Processor with Brain Mimicking Mixed Mode Intelligence Circuits”, respectively. Also the Smart City Forum with three keynote speeches and Industry Forum with six keynote speeches are arranged together with ICALIP2012 in the second day and third day.

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 ICALIP2012 from many aspects since the very beginning of the preparation of the conference. The venue of the conference is Hua-Ting Hotel & Towers located in the heart of the city's booming commercial centre,

Xu-Jia Hui. Conveniently situated with excellent transport links, the hotel includes the metro service and the city ring road located right outside the main entrance. ICALIP2012 also offers a number of social and networking events for the conference attendees and their accompanying persons including Welcome Reception, Banquet and culture-show performed by local artists.

As we conclude this message, we would like to thank all members of International Program Committee, Organization Committee and Steering 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. Rui Wang, Mr. Haifeng Yu and Mr. Libing Lu for their great effort to edit this Program Guide. We hope that you not only enjoy the technical programs of ICALIP2012 but also experience productive social and networking events. We wish you a memorable international conference in Shanghai.

We acknowledge the great support from the Leading Academic Discipline Project of Shanghai Municipal Education Commission, Project Number: J50104.

Sadaoki Furui, Wanggen Wan, Fa-Long Luo, Kamisetty R. Rao

General Co-Chairs
ICALIP2012

Location and Venue

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



Venue Address:

1200 Caoxi Road North, Xuhui Area, Shanghai, China, 200030

The ways to reach the venue:

Taxi services are available:

From Pu-Dong International Airport to Venue, 48km, approximate 22US\$

From Hong-Qiao International Airport to Venue, 12km, approximate 5US\$

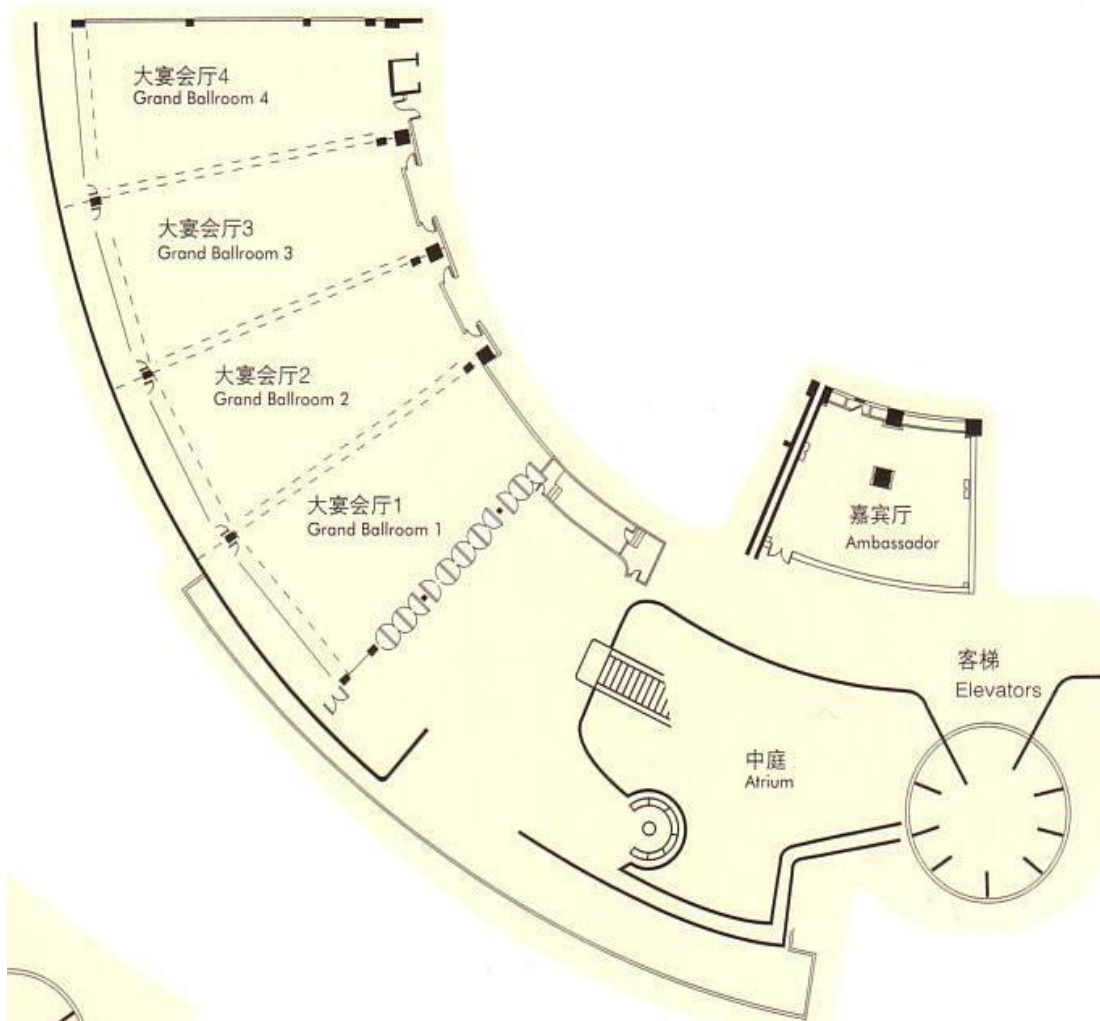
From Shanghai Railway Station to Venue, 12km, approximate 5US\$

From Shanghai South Railway Station to Venue, 3km, approximate 2US\$

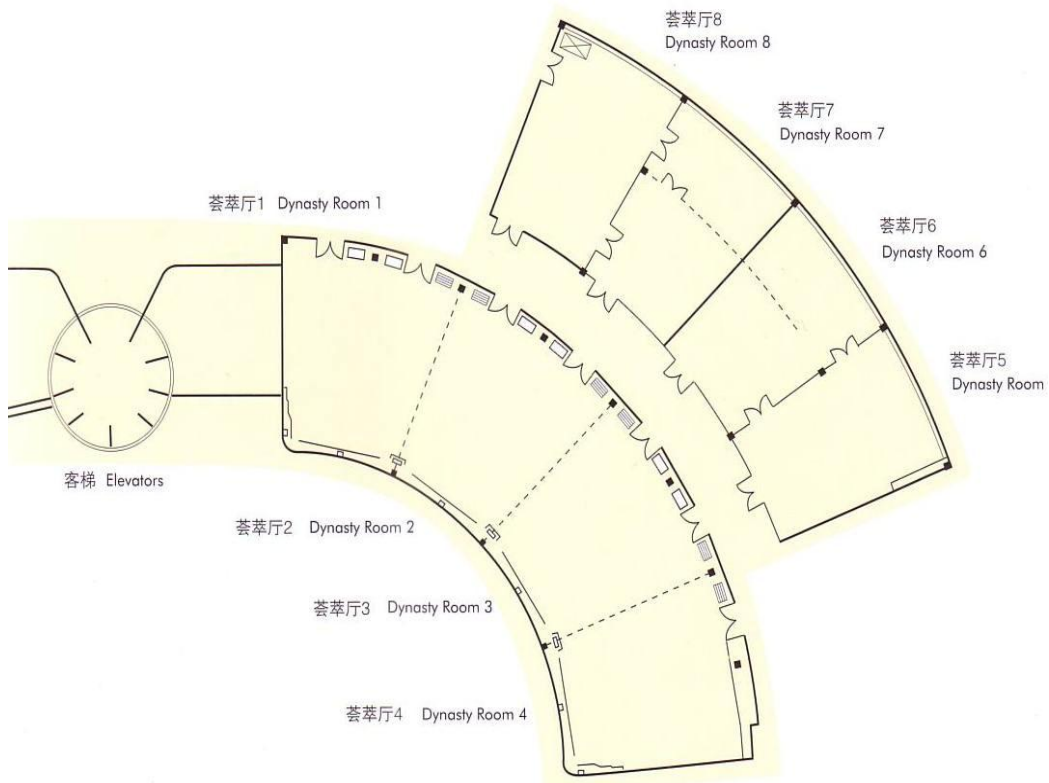
Subway line 1 is available, nearby the Shanghai Gymnasium station

Hua Ting Hotel Map

大宴会厅、嘉宾厅平面图 GRAND BALLROOM、AMBASSADOR HALL FLOOR PLANS



荟萃厅平面图 DYNASTY ROOM FLOOR PLANS



ICALIP 2012 Keynote Speeches

Keynote Speech 1

Title: Advanced Computational Imaging: Super-Resolution and 3D Acquisition Using Active Illumination

Keynote Speaker: Panos Papamichalis, Department of Electrical Engineering, Southern Methodist University, USA



Abstract:

Scenes captured by a digital camera are subject to constraints imposed by the camera optics. The camera optics limit the bandwidth of the analog image projected on the sensor, because of diffraction and optical aberrations. Processing of images captured under carefully designed illumination patterns allows recovery of frequencies exceeding the optical bandwidth. The ability to achieve improved optical resolution using strictly computational means is of significant interest to the optical imaging community.

The mathematical formulation underlying the use of Active Illumination in Optical Super-Resolution identifies constraints on the position of the camera and the illumination source, and also guides the selection of the illuminating pattern. The framework also reveals the possibility of recovering depth (3D) information with the same set-up. The findings discussed in this talk can help design imaging systems that feature improved optical resolution and 3D acquisition capabilities.

Biography:

Professor Panos Papamichalis has been a Professor of the Electrical Engineering Department at SMU since August 2003. Before that, he spent 23 year with Texas Instruments (TI), between 1980 and 2003, where he became a TI Fellow.

While at TI, Dr. Papamichalis served as the Director of Texas Instruments' Imaging & Audio Lab within the DSP R&D Center in Dallas, and as the Director of TI's Tsukuba R&D Center, in Tsukuba, Japan. From 1984 to 1990, he was a Senior Member of Technical Staff at the Texas Instruments DSP Applications group in Houston, Texas. He was responsible for developing applications of DSP algorithms on programmable DSP processors. He has also served as an adjunct professor at the University of Texas at Dallas, and at Rice University in Houston.

Dr. Papamichalis is an IEEE Fellow. He served as the 2000-2001 President of the IEEE Signal Processing Society. He was the General Chairman of the 1987 International Conference on Acoustics, Speech, and Signal Processing in Dallas, and was selected as a distinguished lecturer of the IEEE ASSP Society of 1989. Between 1990-96 he served as Vice President-Conferences of the IEEE Signal Processing Society. In 1996, he received Signal

Processing Society's Meritorious Service Award, and in 2000 he received the IEEE Third Millennium Medal.

He is the author of the book "Practical Approaches to Speech Coding", (Prentice-Hall, 1987) and the editor of volumes 2 and 3 of "Digital Signal Processing Applications with the TMS320 Family" (Prentice-Hall, 1990). Dr. Papamichalis holds four patents in the area of speech coding, and has published many papers on speech processing and digital signal processing. He is a member of Sigma Xi, HKN, and the Technical Chamber of Greece.

Keynote Speech 2

Title: Touring from our Research on Video Surveillance to Super-resolution Videos and 3D Videos

Keynote Speaker: Wan-Chi Siu, Department of Electronic & Information Engineering, The Hong Kong Polytechnic University, China



Abstract:

A modern digital monitoring system usually involves a large number of hi-tech components. These include video coding (using such as H.264 codec or HEVC in the future), video recording, object recognition, object tracking, etc. In this talk we will start with highlighting some of our consultancy works on video surveillance, which reveals the need for a further hi-tech development of videos. We will then introduce some of our research work on information reuse techniques for motion estimation in video coding and re-encoding applications. Our strategy on research relating academic and industrial research will also be discussed. Moving towards high-resolution videos is certainly a trend, but adding new features, such as mosaicing, multi-view and 3D videos are yet other dimensions of hi-tech development. Fruitful demonstrations and illustrations will be included, and the presentation will end with brief ideas on new trends and future applications.

Biography:

Professor Wan-Chi Siu (AP(HK) PolyU 1975, MPhil CUHK 1977, PhD Imperial College 1984) joined the Hong Kong Polytechnic University as a lecturer in 1980. He has become Chair Professor in the Department of Electronic and Information Engineering since 1992, and he is also Director of the Centre for Signal Processing. Prof. Siu was Head (EIE) and subsequently Dean of Engineering Faculty between 1994 and 2002 of the same university. Professor Siu is an expert in Digital Signal Processing, specializing in fast algorithms, video coding and pattern recognition. He has published 400 research papers, over 170 of which appeared in international journals, such as IEEE Transactions on Image Processing. His works on motion estimation, transcoding and DCT algorithms are well received by academic peers with high citations, and he has an overall h-index score of 26 (by Google Scholar). Furthermore, many of his research works have also been ported into industrial uses for hi-tech development in Hong Kong.

Prof. Siu is a Vice President, Chairman of Conference Board and a core member of the Board of Governors of the IEEE Signal Processing Society (2012–2014). He is/was guest editor, associate editor and member of editorial boards of a number of journals, including IEEE

Transactions on Circuits and Systems, IEEE Transactions on Image Processing, and Journal of VLSI Signal Processing Systems for Signal, Image, Video Technology. He is a very popular lecturing staff member within the University, while outside the University he has been a keynote speaker of over 10 international/national conferences in the recent 10 years. He received many awards, such as the Best Paper Award (1995), Distinguished Presenter Award (1997), IEEE Third Millennium Medal (2000), Best Teacher Award (2003), Outstanding Award in Research (2003) and Honorable Mention Winner Award (2004). He is the organizer of many world-class international conferences, for example ISCAS'1997 (as Technical Program Co-Chair), ICASSP'2003 (as the General Chair) and ICIP'2010 (as the General Chair). He is the chairman of many assessment panels and committees for professional bodies. In particular, in 1993/94, he chaired the first Engineering and Information Technology Panel of the Research Assessment Exercise (RAE) to initiate some milestone basic measures on research quality and to assess the research quality of academia in universities, which gives a long-term impact to the development of quality research in Hong Kong.

Keynote Speech 3

Title: Data-Driven Analysis and Fusion of Medical Imaging Data

Keynote Speaker: Tulay Adali, Department of Computer Science and Electrical Engineering, University of Maryland Baltimore County (UMBC), USA



Abstract:

Data-driven methods such as independent component analysis (ICA) have proven quite effective for the analysis of functional magnetic resonance (fMRI) data and for discovering associations between fMRI and other medical imaging data types such as electroencephalography (EEG) and structural MRI data. Without imposing strong modeling assumptions, these methods efficiently take advantage of the multivariate nature of fMRI data and are particularly attractive for use in cognitive paradigms where detailed a priori models of brain activity are not available.

This talk reviews major data-driven methods that have been successfully applied to fMRI analysis and fusion, and presents examples of their successful application for studying brain function in both healthy individuals and those suffering from mental disorders such as schizophrenia.

Biography:

Professor Tulay Adali received the Ph.D. degree in electrical engineering from North Carolina State University, Raleigh, in 1992 and joined the faculty at the University of Maryland Baltimore County (UMBC), Baltimore, the same year. She is currently a professor in the Department of Computer Science and Electrical Engineering at UMBC. She worked in the organization of a number of international conferences and workshops including the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), the IEEE International Workshop on Neural Networks for Signal Processing (NNSP), and the IEEE International Workshops on Machine Learning for Signal Processing (MLSP). She was the general co-chair for the NNSP workshops 2001--2003 and the technical chair of the MLSP workshops 2004--2006. She is the past chair and current member of the MLSP Technical

Committee, and is serving on the IEEE publications board and the IEEE Signal Processing Society conference board. Her research interests are in the areas of statistical signal processing, machine learning for signal processing, biomedical data analysis (functional MRI, MRI, PET, CR, ECG, and EEG), bioinformatics, and signal processing for optical communications. Dr. Adali is the recipient of a 1997 National Science Foundation CAREER Award.

Keynote Speech 4

Title: Real Time Dynamics in Comprehensive 3D Environments Assisted with Image Based Solution

Keynote Speaker: Enhua Wu, Faculty of Science and Technology, University of Macau & State Key Lab of Computer Science, Chinese Academy of Sciences, China



Abstract:

At present, real time processing on the modeling and rendering of comprehensive dynamic environments becomes crucial in variety of applications such as computer simulation, virtual reality, computer games etc. The drastic evolvement of the processing power through the graphics hardware in recent years has provided promising solution to the problem. However in handling large size of environments, or in particular for the environments involved with highly comprehensive objects, real time processing is still a big challenge.

In this talk, the requirement and present challenge in the real time processing of large size or highly complex environments will be introduced, and as one of the solutions, the image-based approach will be introduced in detail, with the algorithms and testing results for the large size and/or comprehensive environments like the natural environments and complex subjects presented. The solution is image-based, but rather than making the normal 3d reconstruction from image/video more or less based on computer vision solution like in the augmented reality applications, we will directly compose the environments from the source model expressed by image/video or the synthesized images.

Biography:

Prof. Enhua Wu completed his BSc study in 1970 from Tsinghua University, Beijing and received his PhD degree from Department of Computer Science, University of Manchester, UK in 1984. He has been working at the State Key Lab. of Computer Science (SKLCS), Institute of Software(IOS), Chinese Academy of Sciences since 1985, as a director of its Research Dept. of Fundamental Theory and Advanced Technology until 1998. He has been also invited as a full professor of University of Macau (UM) since 1997, and now the Associate Dean of the Faculty of Science and Technology in UM. In recent years, he has been invited to chair or co-chair various conferences like ACM VRST2010, CASA2011, ACM VRCAI2008-2011, and as a keynote speaker for CGIV2009, IEEE MINES2010, ACM VRST2010, ACM VRCAI2011 etc.. He is an Associate Editor-in-Chief of the Journal of Computer Science and Technology (Science Press and Springer) and the editorial board member of The Visual Computer (Springer), Computer Animation and Virtual World (John

Wiley), Inter. J. Image and Graphics (World Scientific), Inter. J. Virtual Reality(IPI Press), and Inter. J. Software and Informatics (Science Press). His main interests are Realistic Image Synthesis, Virtual Reality and Scientific Visualization.

Keynote Speech 5

Title: Humanistic Intelligence System-Multi-core Pattern Recognition Processor with Brain Mimicking Mixed Mode Intelligence Circuits

Kenote Speaker: Hoi-Jun Yoo, Korea Advanced Institute of Science and Technology (KAIST), Korea



Abstract:

Recently, heterogeneous multi-core architecture has been widely used for different kinds of parallel computing that require high throughput and energy efficient operation. In this presentation, human brain is mimicked as the model for the heterogeneous multicore-processor architecture, especially for pattern recognition, one of the most data/computation intensive applications in smartphone and mobile gadgets. The neuro-fuzzy intelligence circuits are integrated with multicore processor for low power and high speed operation. Analog-digital mixed mode neuro-fuzzy circuits are implemented for the multi-core processor to provide the ‘attention’ to the regions-of-interest in cluttered images for higher processing speed and recognition accuracy. Furthermore, learning ability of the neuro-fuzzy intelligence enables the processor to adapt to current tasks and environment for system robustness. Based on the intelligence circuits, several multi-core architectures have been presented with high throughput Network-on-Chip (NoC) and the low power techniques such as DVFS and clock gating. They are utilized with dynamic resource management (DRM) to tune hardware resource adaptively for varying tasks of pattern recognition. The proposed processors have been examined with evaluation systems including the autonomous robot, the car navigation, and the life-log device.

Biography:

Professor Hoi-Jun Yoo graduated from the Electronic Department of Seoul National University, Seoul, Korea, in 1983 and received the M.S. and Ph.D. degrees in electrical engineering from the Korea Advanced Institute of Science and Technology (KAIST), Daejeon, in 1985 and 1988, respectively.

From 1988 to 1990, he was with Bell Communications Research, Red Bank, NJ, In 1991, he became Manager of a DRAM design group at Hyundai Electronics. Since 1998, he has been the faculty of the Department of Electrical Engineering at KAIST. From 2003 to 2005, he was the full time Advisor to Minister of Korea Ministry of Information and Communication and National Project Manager for SoC and Computer. From 2010 to 2012, he has served the president of Korean Institute of Next Generation Computing. His current interests are high-speed and low-power Network on Chips, computer vision SoC, Body Area Networks, biomedical devices and circuits, and memory circuits and systems. He received “Korean engineer of the month” award on Dec. 2010, and national medal of “Order of Service Merit” for his contribution to Korean DRAM industry. Dr. Yoo has been co-recipients of Design

Award of ASP-DAC 2001, and Outstanding Design Awards of 2005, 2006, 2007, 2010, 2011 A-SSCC, Student Design Context Award of 2007, 2008, 2010, 2011 DAC/ISSCC. He has served as a member of the executive committee of ISSCC, Symposium on VLSI, and A-SSCC and the TPC chair of the A-SSCC 2008 and ISWC 2010, IEEE Fellow, IEEE Distinguished Lecturer('10-'11), and Far East Chair of ISSCC('10-'11).

Smart City Forum: Keynote Speech 1

Title: Daylight and Solar Energy Simulation at Urban Scale

Keynote Speaker: Benoit BECKERS, GSU (Urban Systems Engineering) Department, UTC (Compi ègne University of Technology), France



Abstract:

World increasing urbanization, demands for energy saves and inquiries about the climatic heating have transformed the city into a physical problem of major concern. At the furthest point of this process, the architects have to follow building norms whose justifications are not only the immediate fulfillment of the client needs but also the general benefit of the citizens, i.e. in terms of greenhouse gas emission. However it is difficult to quantify these requirements in a dense and complex built environment. As a multi-physic and multi-scale system interacting with soil and atmosphere, the city remains a rather unknown object.

This presentation proposes a multidisciplinary and systemic approach related to specialties as different as meteorology, geography, architecture and urban systems engineering, throughout the essential problem of solar radiation.

The issue is considered as a whole, from the climatic data to the urban development strategies, showing how the new tools (second generation satellites, very large geometric models and technological improvement in the data acquisition) can be integrated in a course of action that will allow to obtain better quantification and control in order to transmit the useful information between the actors at macro (territory), meso (city) and micro (building) scales. These actors will so get the opportunity to better collaborate in the perspective of a sustainable and more hospitable city.

Biography:

Professor Benoit BECKERS has obtained an Engineering Degree in Physics from ULG (University of Li ège) in 1992. In 1993, he joined the Superior Architecture School of the Polytechnic University of Catalonia (UPC) in Barcelona, where he started personal researches on the following subjects: concert hall acoustics; daylight and solar radiation in the architectural and urban projects; geometrical methods in numerical simulation; waves perception in their physical and cultural environment. In 2005, he presented a doctoral thesis on the subject: "Sensitive Geometry". In 2008, he moved to France as associate professor (enseignant chercheur contractuel).

Benoit Beckers is the originator and one of the main designers of the "Heliodon" software devoted to the daylight and solar radiation simulation in architecture. This activity is

presented on the web site: www.heliodon.net

Today, his teaching activities include lectures in Compiègne, Barcelona and in the “École de Technologie Supérieure” (ÉTS), in Montréal. With the teaching courses “Lighting ambiances and environment” and “Urban thermal energy” in UTC. “Space and ambiance in the architecture”, in UPC. “Urban ecosystems”, in collaboration with ÉTS.

Since 2009, he has been supervising PhD students (currently four). Their subjects correspond to the priorities of the research group Avenues-GSU initiated in his Department. They deal with solar radiation simulation in the architectural project, energetic efficiency applied to important housing stocks with a long term (2050) perspective, renewable energy potential at the scale of France and urban solar potential optimization. In 2010, he organized an international workshop about “Solar Energy at Urban Scale” , presented on the web site: www.utc.fr/seus. In 2011, he presented his “habilitation to supervise researches” (the HDR French diploma) and in 2012 he edited the book “Solar Energy at Urban Scale”, ISTE- John Wiley, with 18 contributors.

Smart City Forum: Keynote Speech 2

Title: Multi-Modality Urban Scene Modeling

**Keynote Speaker: Ye Duan, Department of Computer Science,
University of Missouri at Columbia, USA**



Abstract:

3D urban scene modeling is very important for applications such as urban planning, construction, environment, communication, transportation, energy and property management, tourism, and virtual tours of cities, as well as security surveillance and emergency planning. In this talk we will present our recent work in 3D urban scene modeling from multiple imaging modalities such as airborne and terrestrial LIDAR, airborne and ground based video and images with a focus on 3D reconstruction, 3D segmentation, and 3D compression. We will also discuss our recent work in virtual navigation of the interior spaces of urban structures, rock geo-mechanics analysis for highway safety, etc.

Biography:

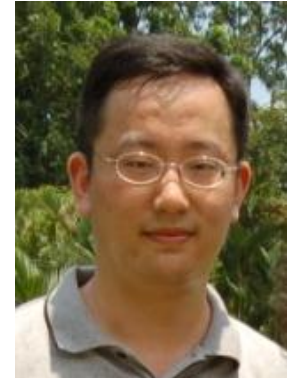
Professor Ye Duan is an Associate Professor of Computer Science at University of Missouri-Columbia. He is the Director of the Center for Urban Safety in the College Engineering at University of Missouri-Columbia. He is the Director of the Computer Graphics and Image Understanding Laboratory at the Department of Computer Science at University of Missouri-Columbia. He received his B.A. degree in Mathematics from Peking University in 1991. He received his M.S. degree in Mathematics from Utah State University in 1996. He received his M.S. and Ph.D. degree in Computer Science from the State University of New York at Stony Brook in 1998 and 2003. From September 2003 to August 2009, he was an Assistant Professor of Computer Science at University of Missouri-Columbia. He was a recipient of The Brain and Behavior Research Foundation Young Investigator Award. Currently he is an Editorial Board Member of the International Journal of Functional Informatics and Personalised Medicine. His research interests include Computer Graphics and

Visualization, Biomedical Imaging and Computer Vision, Geometric and Physics-based Modeling, Virtual Reality and Human-Computer Interaction, Computer Animation and Simulation.

Smart City Forum: Keynote Speech 3

Title: Energy Efficient Heterogeneous Data Center Servers for Green and Smart Cities

Keynote Speaker: Yajun Ha, Department of Electrical & Computer Engineering, National University of Singapore, Singapore



Abstract:

Data centers are an integral part of smart cities, but they're becoming increasingly more expensive to power and cool. Some large data centers draw as much energy as a small town and these figures continue to increase. By some estimates, the cost of running a data center may very well exceed the cost of buying one. As a result, green data centers are increasingly necessary for future cities.

Addressing power consumption at the compute level pays rich dividends. Every compute watt reduced has a multiplied effect of three. For every watt saved in computation, two additional watts are saved — one watt in power conversion and one watt in cooling. Consequently, big power savings can be gained from small percentages in processor power savings.

The maximum gains in power savings are obtained when the architecture of the processor is matched as closely as possible to the application running on it. However, most current servers offer homogeneous multi-processor platforms leading to huge power consumption. As a result, energy consumption of data center servers will be greatly saved if the granularity of the computing matches that of the pay load.

In this talk, we introduce the development of a heterogeneous multi-processor architecture targeted towards servers in data centers. Our target architecture will have processors of different performance-power trade-offs including some processors operating at lower voltage. In addition to that it will have some reconfigurable logic, some application specific processors and some ASIC components in it.

Having heterogeneous architecture would allow processors of different granularities to be integrated in one platform and give the middleware/operating system the opportunity to match the right processor or computing element for the right pay load job. For example, for a bit level encryption/decryption payload, it is extremely inefficient to execute them on a word level homogenous processor, but it can be extremely efficient to execute them on a fine-grain bit level FPGA platform in terms of power and timing. Heterogeneous server architecture makes this perfect matching possible, thus greatly saves the server computing energy as it is much more efficient.

Biography:

Dr.Yajun Ha received the B.S. degree in Electrical Engineering from Zhejiang University, China, in 1996, the M.Eng. degree in Electrical Engineering from National University of Singapore, in 1999, and the Ph.D. degree in Electrical Engineering from Katholieke Universiteit Leuven (KULeuven), Belgium in February 2004.

From 1996 to 1997, he was a Research Engineer in the Shanghai Aerospace Bureau, Shanghai, China. From January 1999 to February 2004, he worked as a researcher at the Inter-University MicroElectronics Center (IMEC) in Leuven, Belgium. Since February 2004, he has been with the Dept. of Electrical and Computer Engineering at National University of Singapore, where he is currently an Assistant Professor.

His research interests are in the general area of embedded computing (VLSI) architecture and design methodologies, with the special focus on reconfigurable computing. He has published around 60 journal/conference papers on these topics.

He has served a number of positions in the professional communities. He serves as the Associate Editor for the IEEE Transactions on Circuits & Systems II (2011-2013) and the Journal of Low Power Electronics (Since 2009). He serves as the General Co-Chair of ASP-DAC 2014; Program Co-Chair for FPT 2010; Chair of the Singapore Chapter of the IEEE Circuits and Systems (CAS) Society (2011 and 2012); Member of ASP-DAC Steering Committee; Member of IEEE CAS VLSI and Applications Technical Committee. He is the Program Committee Member for a number of well-known conferences in the fields of embedded systems and FPGAs, such as DATE, ASP-DAC, FPL, FPT, RAW, ARC and ERSAC. He served as an external proposal reviewer for the Netherlands Science Foundation (2007) and the Qatar National Research Fund (2009, 2012). He was an Expert Group Member of Chinese National Electronic Design Contest (NUEDC) - Embedded System Design Invitational Contest (2006, 2008 and 2010). He is currently a Senior Member of IEEE.

Industry Forum: Keynote Speech 1

Title: Green Future of Communication Networks: Technology and Practice

Keynote Speaker: Shunqing Zhang, Huawei Technologies Co., Ltd., China

Abstract:

Due to the explosive traffic amount generated by smart devices, the energy consumption becomes the killing factor for the future evolution of communication networks. It has been predicted that the information and communication technology (ICT) industry will be responsible for 4% of the total CO₂ emission by the year 2020. Hence, in this talk, we shall briefly introduce the global demand for the green evolution and the recent research efforts, including the mobile VCE green radio project, the Energy Aware Radio and neTwork tecHnologies (EARTH) project as well as the GreenTouch consortium. In addition, the recent activities in the theoretical research and industrial product development will also be introduced to facilitate the future green evolution. Together with other worldwide partners, we shall make it real to enrich the green future for communication networks.

Industry Forum: Keynote Speech 2

Title: The Application of PTN Technology in Building the Backbone Network of Smart City

Keynote Speaker: Wei Zhou, the Deputy General Manager of Shanghai Information Network Co.,Ltd., China

Abstract:

The metropolitan area network, which carries high quality leased lines for financial agencies, governmental organizations, research and development institutions and enterprises, acts as an important role in Smart City development. The backbone network technology has evolved from DDN, ATM, and CE to PTN due to technological advancement and increasing requirements by customers. With MPLS-TP as the core, PTN will meet future network quality and transmission requirements. In this presentation, the characteristics and the key technologies of PTN are introduced. Typical applications of PTN technology in building the Smart City process, with real cases in financial institutions, governmental organizations and data centers will also be illustrated.

Industry Forum: Keynote Speech 3

Title: Construction of Smart City: Shanghai Integrated Traffic Information Platform

Keynote Speaker: Yang Zhang, Shanghai Municipal Transportation Information Center, China

Abstract:

The lecture introduces the development of transportation informationization in Shanghai through the construction of Shanghai Integrated Transportation Information Platform (SITIP). The core concept of SITIP contains its goal, service object, and guiding thought for development. After providing the general architecture of the platform, three main parts including road transportation, public transportation, and inter-city transportation are shown through kinds of figures in detail. Finally, its successful application during Shanghai Expo 2010 is described, which contains the study and distribution of Dr. Zhang's daily expo visitor volume forecasts.

Industry Forum: Keynote Speech 4

Title: Advance in Programming Tools for High-Performance Chips and Reusable Designs

Keynote Speaker: Ching Ma, Data I/O Corporation, USA

Abstract:

Billions of devices would be programmed every year to enable people's daily life communication convenience and industrial application. With semiconductor process

advancement, the process node has come down to 20nm: such technology has fundamentally posed the challenges to not only semiconductor manufacturing industrial but also to programming industrial where data loss through programming will be inevitable. All the devices would have to be programmed on board so that data retention could be assured without going through high temperature solder reflow process. How to enable the interface for thousands of hardware architecture with in-house IP design security concern would require every company to do the programming itself. How to support various application with always last minute request is crucial to their business success. Azido software has been introduced to support all the software and hardware engineers to pick up programming knowledge quickly and design their own interface to perform programming to their need. Furthermore Azido can be extended for all application which reusable cases are common. We will present the architecture of Azido software and various applications such as in programming and imaging processing.

Industry Forum: Keynote Speech 5

Title: Language Resources, the Accelerator of Human Language Technology

Keynote Speaker: Xianfeng Cheng, SpeechOcean Inc., China

Abstract:

As previous resource, Language resources are of crucial importance for research and development in whole Human Language Technologies such as of Speech, Text analyzing, Machine translating, Image Processing, Web searching and etc..

This presentation, by illustrating the current status of industrial huge language resources in fields of audio, Text, and image, tries to show up how the qualified language resource have contributed to Industrial R&D and market applications of Human Language Technologies (HLT) nowadays and how the rich qualified language resources create the great opportunity to accelerate the transferring of academic R&D HLT result to the global market and provide awareness and bridge-building for market take-up of research results and stimulate co-operation between academia and industry in the whole field of HLT for the next decade.

Industry Forum: Keynote Speech 6

Title: The Potential Role of Virtual Reality for the Construction of Intelligent Virtual Cities

Keynote Speaker: Zhaoguang Wang, Ph.d, Product Manager from GDI, Shanghai Graphic Design Information Co., Ltd, China

Abstract:

With the development of computer hardware and software technology, the virtual reality which is featured by immersion, interaction and imagination, has been playing a potential role in the construction of intelligent virtual cities. The concepts of virtual reality, some existing virtual city applications and the trend will be detailed in the presentation.

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ICALIP2012 Technical Program

Monday, July 16, 2012

08:30-09:00 Opening Ceremony

Location: Grand Ballroom 1

09:00-09:20 Group Photo

09:20-10:05 Keynote Speech 1

Advanced Computational Imaging: Super-Resolution and 3D Acquisition Using Active Illumination

Panos Papamichalis, Department of Electrical Engineering, Southern Methodist University, USA

Location: Grand Ballroom 1

10:05-10:20 Coffee Break

10:20-11:05 Keynote Speech 2

Touring from our Research on Video Surveillance to Super-resolution Videos and 3D Videos

Wan-Chi Siu, Department of Electronic & Information Engineering, The Hong Kong Polytechnic University, China

Location: Grand Ballroom 1

11:05-11:50 Keynote Speech 3

Data-Driven Analysis and Fusion of Medical Imaging Data

Tulay Adali, Department of Computer Science and Electrical Engineering, University of Maryland Baltimore County (UMBC), USA

Location: Grand Ballroom 1

12:00-13:30 Lunch

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

13:30-17:30 Poster Session (14 papers)

M-L1 Image Processing (Papers#:10)

Chairs: Tulay Adali, Department of Computer Science and Electrical Engineering, University of Maryland Baltimore County (UMBC), USA.

A. Hilal, UMR STMR - LM2S - ICD, Université de Technologie de Troyes, 12 rue Marie Curie, BP 2060, 10010 Troyes Cedex, France

Location: Dynasty Room 1

- M-L1.1 Local Histogram Modification Based Contrast Enhancement
Qiyuan Tian¹, Jiang Duan²
¹Department of Electrical Engineering, Stanford University, USA
²School of Economic Information Engineering, Southwestern University of Finance and Economics, Chengdu, China
- M-L1.2 Automatic Understanding of Road Signs in Vehicular Active Night Vision System
Oded Perry, Yitzhak Yitzhaky
Ben-Gurion University of the Negev, Department of Electro-Optics Engineering, POB 653, Beer-Sheva 84105, Israel
- M-L1.3 Real Shape Inner Iris Boundary Segmentation Using Active Contour without Edges
A. Hilal^{1,2}, P. Beausery¹, B. Daya²
¹UMR STMR - LM2S - ICD, Université de Technologie de Troyes, 12 rue Marie Curie, BP 2060, 10010 Troyes Cedex, France
²IUT, Université Libanaise, BP 813, Saida, Liban
- M-L1.4 Content Based Image Retrieval with Bin of Color Histogram
Van Hieu Vu¹, Quynh Nguyen Huu², Ha Nguyen Thi Thu²
¹Haiphong University, Hanoi, Vietnam
²Electric Power University, Hanoi, Vietnam
- M-L1.5 Scaling and Rotating Texture Classification Based on JSEG Algorithm
Chih-Chia Yao, Ya-Yun Yu
Chaoyang University of Technology, Department of Computer Science and Information Engineering, Taichung, Taiwan
- M-L1.6 High Performance 2-D IDCT for Image/Video Decoding Based on FPGA
Junming Shan, Chunchun Chen, Eryan Yang
School of Communication and Information Engineering, Shanghai University, Shanghai, China
- M-L1.7 Hardware Solution of Real-time Depth Estimation Based on Stereo Vision
Li He-jian^{1,2}, Teng Guo-wei^{1,2}, Zhang Zhao-yang^{1,2}, An Ping^{1,2}, Ma Ran^{1,2}, Wang Jian-wei^{1,2}, Wu Fu-qiong^{1,2}
¹Key Laboratory of Advanced Display and System Application Ministry of Education, Shanghai 200072, China
²School of Communication and Information Engineering, Shanghai University, Shanghai 200072, China
- M-L1.8 Implementation of Efficient Line Detection with Oriented Hough Transform
Dongjin Fan, Hui Bi, Lidong Wang
National Computer Network Emergency Response Technical Team/Coordination Center of China, Beijing, China
- M-L1.9 Multiple Facade Images Matching for 3D Building Modeling
Yunsheng Zhang, Zhengrong Zou
School of Geosciences and Info-Physics, Central South University, 932 South Road Lushan, ChangSha, China
- M-L1.10 Dangerous Object Recognition for Visual Surveillance
Peng Yao^{1,2}, Yongtian Wang¹, Can Chen¹, Dongdong Weng¹, Yue Liu¹

¹School of Optoelectronics, Beijing Institute of Technology, Beijing, China
²Science and Technology on Complex Land Systems Simulation Laboratory, Beijing, China

M-L2 Image Processing (Papers#:10)

Chairs: Wan-Chi Siu, Department of Electronic & Information Engineering,
The Hong Kong Polytechnic University, China.
Oscar Au, Department of Electronic and Computer Engineering, Hong
Kong University of Science and Technology, Clear Water Bay,
Kowloon, Hong Kong.

Location: Dynasty Room 2

- M-L2.1 Integrated Monitoring System for Fall Detection in Elderly
S. KHAWANDI¹, B. DAYA², P. CHAUVET³
¹Phd student, University of Angers, Angers 49000-France
²Prof., Lebanese University, 813-Lebanon
³Prof., Lunam University, Angers 49008-France
- M-L2.2 Automatic Object Detection and Matching Based on Proposed Signature
H. A. ELSALAMONY
Math Dept, Faculty of Science, Helwan University, Cairo, Egypt
- M-L2.3 Image Compression Technique Utilizing Reference Points Coding with
Threshold Values
Yi-Fei Tan, Wooi-Nee Tan
Faculty of Engineering, Multimedia University, Jalan Multimedia, 63100
Cyberjaya, Selangor, Malaysia.
- M-L2.4 Mutual Information Based Image Registration for MRI and CT SCAN Brain
Images
Mehfuza.S.Holia¹, V.K. Thakar²
¹Departement of Electronics, B.V.M Engineering College,Vallabh Vidyanagar,
India
²A.D.Patel Institute of Technology, Vallabh Vidyanagar, India.
- M-L2.5 Digital Photo Album Compression based on Global Motion Compensation and
Intra/Inter Prediction
Oscar Au^{1,2}, Sijin Li², Ruobing Zou², Wei Dai², Lin Sun²
¹Tongji University, Shanghai, China
²Department of Electronic and Computer Engineering, Hong Kong University
of Science and Technology, Clear Water Bay, Kowloon, Hong Kong
- M-L2.6 An Adaptive Corner Detecting for Real-Time Applications
Yuanxiu Xing^{1,2}, Dengyi Zhang¹, Jianhui Zhao¹, Feng Liu¹
¹School of Computer, Wuhan University, Wuhan, Hubei, P.R.China, 430072
²School of Science, Wuhan University of Science and Technology, Whhan,
Hubei, P.R.China, 430081
- M-L2.7 Abnormal Behavior Analysis Using LDA
Haixian Lu, Li Guo, Shu Gui, Jinsheng Xie
Department of Electronic Science and Technology, USTC, Hefei, 230027,
China

- M-L2.8 Point Correspondence by Matching Scaled Invariants
Jianqin Qu¹, Leiguang Gong², Chen Huang³, Ruoyu Fang³
¹College of Computer Science, Jilin University, Changchun, Jilin 130012, P.R. China
²Watson Research Center, IBM, 19 Skyline Dr. , Hawthorne, NY 10532, USA
³College of Engineering, Shantou University, Shantou, Guangdong 515063, P.R.China
- M-L2.9 Accurate Face Detection by Combining Multiple Classifiers Using Locally Assembled Histograms of Oriented Gradients
Bo Han, Yupin Luo
Tsinghua National Laboratory for Information Science and Technology, Department of Automation, Tsinghua University, Beijing 100084, China
- M-L2.10 Navigation Image Matching Based on Two-level Keypoints
Wang Yi^{1,2}
¹Tsinghua National Laboratory for Information Science and Technology (TNList) , Tsinghua University, Beijing 100084, China
²Department of Automation, Tsinghua University, Beijing 100084, China
- M-L3 Image Processing (Papers#:10)**
Chairs: Ye Duan, Department of Computer Science, University of Missouri at Columbia, USA.
Alfred Tan, Knowledge Transfer Office Hong Kong Baptist University Kowloon Tong, Kowloon, Hong Kong SAR.
Location: Dynasty Room 3
- M-L3.1 An Improved Method for Color Images Enhancement Considering HVS
Oscar C.Au^{1,2}, Lin SUN², Ruobing Zou², Wei Dai², Sijin Li²
¹Tongji University, Shanghai, China
²Department of Electronic and Computer Engineering, Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong
- M-L3.2 Improving Mobile Color 2D-Barcode JPEG Image Readability Using DCT Coefficient Distributions
Alfred Keng T.Tan¹, Douglas Chai²
¹Knowledge Transfer Office Hong Kong Baptist University Kowloon Tong, Kowloon, Hong Kong SAR
²School of Engineering Edith Cowan University Joondalup, WA 6027, Australia
- M-L3.3 Novel Weight Allocation Technique For Image Retrieval Based On Higher Order Colour Moments and CCM Texture Features.
Dipti Jadhav, Gargi Phadke, Satish Devane
Ramrao Adik Institute of Technology, Nerul, Navi Mumbai 400 706, India
- M-L3.4 An Overview of Night Vision Colorization Techniques using Multispectral Images: from Color Fusion to Color Mapping
Yufeng Zheng
Department of Advanced Technologies, Alcorn State University, Lorman, MS, USA

- M-L3.5 Super-resolution Reconstruction of Sequence Image Implemented on OMAP3530 Platform
 Juan Li¹, Binghua Su^{1,2}, Guiying Xu¹, Rimao Lin¹
¹ Key Laboratory of Photo Electronic Imaging Technology and System, Ministry of Education of China, Beijing Institute of Technology, Beijing, 100081, PR China
² Information School, Zhuhai Campus, Beijing Institute of Technology, Zhuhai, 519085, PR China
- M-L3.6 Secure Group Identity Authentication based on Non-perfect Secret Sharing Scheme
 Juan Wan¹, Zhengyao Bai¹, Xiao Bai²
¹School of Information Science and Engineering, Yunnan University, Kunming, P. R. China
²Office of Development and Planning, Beihang University, Beijing, China
- M-L3.7 Sensor Pattern Noise in JPEG Compressed Images
 Chenyang Shi, Yuting Su, Jing Zhang, Junyu Xu
 The School of Electronic Information Engineering, Tianjin University, Tianjin, P. R. China
- M-L3.8 Detection of Video Transcoding for Digital Forensics
 Junyu Xu, Yuting Su, Xingang You
 School of Electronic Information Engineering, Tianjin University, Tianjin, China
- M-L3.9 Reversible Image Watermarking by Rhombus Prediction and Histogram Modification
 Hao-tian Wu¹, Jiwu Huang¹, Ye Zhang², Jane You³
¹School of Information Science and Technology, Sun Yat-Sen University, Guangzhou, China
²Department of Information Engineering, Harbin Institute of Technology, Harbin, China
³Department of Computing, Hong Kong Polytechnic University, Hong Kong
- M-L3.10 Research and Realization of Perspective Correction Technology for Document Image
 Shouliang Liu, Yiming Li, Yupeng Gao, Kai Yang
 Physics and Electronic Information Engineering College, Wenzhou University, Wenzhou 325000, China
- M-P1 Image Processing (Papers#:11)**
Multimedia SOC Design (Papers#:3)
Chairs: Guo feng, Shanghai University, China.
 Hongxue Wang, Shanghai University, China
Location: Dynasty Room
- M-P1.1 Segmentation Algorithm of High Resolution Remote Sensing Images Based on LBP and Statistical Region Merging
 Bo Luo, Jian Cheng
 School of Electronic Engineering, University of Electronic Science and Technology of China, Chengdu, Sichuan, 611731, China

- M-P1.2 Texture Synthesis Based on Wavelet Transform
Wei Xiong, Xuzhi Wang, Liuchuang Gao
School of Communication & Information Engineering Shanghai University,
Shanghai, China
Institute of Smart City, Shanghai University, China
Shanghai HanPan Information S&T Ltd, Shanghai, China
- M-P1.3 An Improved Subdivision Algorithm Using for Heart Model
Jianhua Li , Xiuli Ma, Feng Zhou, Jingbo Li
School of Communication and Information, Shanghai University, China
Institute of Smart City, Shanghai University, China
Shanghai HanPan Information S&T Ltd, Shanghai, China
- M-P1.4 Unequal Error Protection Transmission Scheme for 3D Meshes Based on EWF
Longfei Li, Rui Wang, Wanggen Wan, Shuai Yu, Linfeng Du, Jie Hu
School of Communication and Information Engineering, Shanghai University,
Shanghai, China
Institute of Smart City, Shanghai University, Shanghai, China
Shanghai HanPan Information S&T Ltd, Shanghai, China
- M-P1.5 Local Subdivision on Triangle Mesh
Yangyang Jia, Xuzhi Wang, Xiuli Ma, Jinbo Li, Xueli Zhou
School of Communication and Information Engineering, Shanghai University,
Institute of Smart City, Shang Hai Han Pan S&T Ltd, Shanghai, China
- M-P1.6 Filtered Back Projection Reconstruction Research Based on Gaussian in PET
Images
Meng Yang, Peimin Yan, Hui Huang, Jifei Li
School of Communication and Information Engineering, Shanghai University,
Shanghai, China
- M-P1.7 Image Segmentation by Sparse Representation
Ying Wang, Xiangyang Wang, Chao Gan
School of Communication & Information Engineering, Shanghai University
Institute of Smart City, Shanghai University, China
Shanghai HanPan Information S&T Ltd , Shanghai, China
- M-P1.8 Scanning Text Image Radial Calibration Technology Research
Kai Yang, Yiming Li, Yupeng Gao, Shouliang Liu
Administrative building (205) Wenzhou University (south) Ouhai area
Wenzhou, Zhejiang Province, China 325035
- M-P1.9 A Contourlet-based Image Super-resolution Approach
Tao Zhang ¹, Xiangyu Yu²
¹Department of Physics & Electronic, Information Science, Guiyang
University, Guiyang, China
²School of Electronic and Information Engineering, South China University of
Technology, Guangzhou, China

- M-P1.10 Human Motion Segmentation by RPCA with Augmented Lagrange Multiplier
Chao Gan, Xiangyang Wang, Ying Wang
School of Communication & Information Engineering, Shanghai University, Shanghai, China
Institute of Smart City, Shanghai University, Shanghai, China
Shanghai HanPan Information S&T Ltd, Shanghai, China
- M-P1.11 Model Optimization by Loop and Linear Subdivision
Yangyang Jia, Xuzhi Wang, Xiuli Ma, Jinbo Li, Xueli Zhou
School of Communication and Information Engineering Shanghai University, Institute of Smart City, Shang Hai Han Pan S&T Ltd, Shanghai, China
- M-P1.12 The Research of Security Algorithms for RF Tag
Wulong Yu, Shenghui Weng, Qinli Ke
School of Information Science And Technology, Beijing Institute of Technology, Beijing Institute of Technology, Zhuhai, Zhuhai Guangdong, China
- M-P1.13 Design of Test Platform for 3D Graphics Pipeline Based on Microblaze
Feng Guo^{1,2,3,4}, Wanggen Wan^{1,3}, Ximin Zhang^{1,3,4}, Xueli Zhou^{1,3,4}
¹School of Communication and Information Engineering, Shanghai University, Shanghai, China
²School of Informatics, Linyi University, Linyi, China
³Institute of Smart City, Shanghai University, China
⁴Shanghai HanPan Information S&T Ltd, Shanghai, China
- M-P1.14 High Efficient Logarithm Convertor for Graphics Physics Simulation
Liuchuang Gao, Mengyao Zhu, Junwei He, Wei Xiong
School of Communication and Information Engineering Shanghai University, Shanghai, China
Institute of Smart City, Shanghai University, Shanghai, China
Shanghai HanPan Information S&T Ltd, Shanghai, China

15:30-15:45 Coffee Break

15:45-17:45 Oral Session (30 papers in 3 rooms)

M-L4 Audio and Music Processing (Papers#:10)

Chairs: Benoit BECKERS, GSU (Urban Systems Engineering) Department, UTC (Compi ègne University of Technology), France.
IP Ralph W.L., Department of Mechanical Engineering, The University of Hong Kong, Hong Kong, China

Location: Dynasty Room 1

- M-L4.1 A New Digital Audio System Design to Cope with High Audio Scene (HAS) Encoding Technology for All Round Applications
IP Ralph W.L.¹, IP Percy W.H.²
¹Department of Mechanical Engineering, The University of Hong Kong, Hong Kong
²Technology Innovation Ltd. Cable TV Tower, Hong Kong

- M-L4.2 Phase Compensation for Multichannel Low-Frequency Response Using Minimax Approximation
Chingshun Lin, Yihen Chen
Department of Electronic Engineering, National Taiwan University of Science and Technology, Taiwan
- M-L4.3 Circuit Design and Performance Evaluation of High-Voltage Power Amplifier for Flexible Paper Speaker Applications
Yu-Chen Chang, Chun-Yu Yang, Chia-Hsing Li
Dept. of Electronic Engineering, National Taiwan University of Science and Technology, Taiwan
- M-L4.4 An Image Mosaic Algorithm Based on Characteristic Point Matching
Jing Xu¹, Xiaohong Yang², Xiangxin Shao³, Xianying Meng⁴
¹Department of Neurology Internal Medicine, First Hospital of Jilin University, Jilin, China
²Department of Aviation Control Engineering, Aviation University of Air Force, Jilin, China
³College of Electronic Science & Engineering, ChangChun University of Technology, Jilin, China
⁴Department of Thyroid Surgery, First Hospital of Jilin University, Jilin, China
- M-L4.5 Design of Efficient Decompression Algorithm in Helicopter Flight
Bian Yan-shan¹, Wu Ling-da¹, Qu Tian-yu², Zhang Yi¹
¹The Academy of Equipment, Beijing 101416, China
²No.65547 Troops, Liaoning 114200, China
- M-L4.6 An Adaptive Early Termination Algorithm of Fast Mode Decision for Multi-View Video Coding
Pei Tao¹, Guang Jiang¹, Wei Li²
¹ISN National Key Lab, School of Telecommunication Engineering, Xidian University, Xi'an 710071, China
²Xi'an Flight Automatic Control Research Institute, Xi'an 710065, China
- M-L4.7 Score-Informed Pitch-Wise Alignment Using Score-Driven Non-Negative Matrix Factorization
Tien-Ming Wang, Pei-Yin Tsai, Alvin W.Y. Su
The Department of Computer Science and Information Engineering, National Cheng-Kung University, Taiwan
- M-L4.8 A New Method for Calibration Depth and Color Camera Pair Based on Kinect
Weihua Liu, Yangyu Fan, Zhang Zhong, Tao Lei
School of Electronic and Information Engineering, Northwestern Polytechnical University, Xi'an, China
- M-L4.9 A Finite-State Entropy-Constrained Vector Quantizer for Audio MDCT Coefficients Coding
Sumxin Jiang, Rendong Yin, Peilin Liu
Department of Electronic Engineering, Shanghai Jiao Tong University, Shanghai, China

M-L4.10 Comprehensive Comparison of the Least Mean Square Algorithm and the Fast Deconvolution Algorithm for Crosstalk Cancellation
 Dan Li, Zhong-Hua Fu, Lei Xie, Yanning Zhang
 Shaanxi Provincial Key Laboratory of Speech and Image Information Processing, School of Computer Science, Northwestern Polytechnical University, Xi'an 710129, China

M-L5 Audio and Music Processing (Papers#:10)

Chairs: Hoi-Jun Yoo, Korea Advanced Institute of Science and Technology (KAIST), Korea.

Adrian Bahne, Uppsala University, Department of Engineering Sciences, Signals and Systems, Box 534, SE-751 21 Uppsala, Sweden

Location: Dynasty Room 2

M-L5.1 Reverberation Time Estimation Based on Multidelay Acoustic Echo Cancellation
 Changxue Ma, Guangji Shi
 DTS Inc.100 Enterprise Way, Suite C-120, Scotts Valley, CA, 95066, USA

M-L5.2 Time-Dependent Recursive Regularization for Sound Source Separation
 Tien-Ming Wang, Ta-Chun Chen, Yin-Lin Chen, Alvin W.Y. Su
 The Department of Computer Science and Information Engineering, National Cheng-Kung University, Taiwan

M-L5.3 Multi-theme Analysis of Music Emotion Similarity for Jukebox Application
 Chih-Yi Lin, Stone Cheng
 Master Program of Sound and Music Innovative Technologies, National Chiao Tung University, Hsinchu, Taiwan, ROC

M-L5.4 A Module-Integrated Isolated Solar Micro-inverter without Electrolytic Capacitors
 Chia-Hsing Li¹, Chun-Yu Yang¹, Yu-Chen Chang¹, Huang-Jen Chiu¹, Yu-Kang Lo¹, Ching-Chun Chuang¹, Shih-Jen Cheng¹, Min-Chien Kuo², Yi-Ming Huang², Yuan-Bor Jean², Yung-Cheng Huang²
¹Dept. of Electronic Engineering, National Taiwan University of Science and Technology, Taiwan
²AUO Optonics Corp, Central Taiwan Science Park, Taichung, Taiwan

M-L5.5 Improved Loudspeaker--Room Equalization for Stereo Systems Regarding Channel Similarity
 Adrian Bahne, Lars-Johan Brännmark, Anders Ahlén
 Uppsala University, Department of Engineering Sciences, Signals and Systems, Box 534, SE-751 21 Uppsala, Sweden

M-L5.6 Audio Feature Extraction for Classification Using Relative Transformation
 Guihua Wen^{1,2}, Jian Tuo¹, Lijun Jiang¹, Jia Wei¹
¹South China University of Technology, Guangzhou 510641, China
²State Key Laboratory of Brain and Cognitive Science, Beijing 100101, China

- M-L5.7 Automatic Instrument and Environmental Sound Recognition for Media Annotation of TV Content
Sofia Cavaco, Frederico Malheiro, João Mateus, Rui Jesus, Nuno Correia
CITI, Departamento de Informática, Faculdade de Ciências Tecnologia,
Universidade Nova de Lisboa, Caparica, Portugal
Multimedia and Machine Learning Group, Instituto Superior de Engenharia de Lisboa, Rua Conselheiro Emídio Navarro, Lisboa, Portugal
- M-L5.8 PCA Based on Mutual Information for Acoustic Environment Classification
Xueli Fan, Haihong Feng, Meng Yuan
Shanghai Acoustics Laboratory, Chinese Academy of Sciences, Shanghai, China
- M-L5.9 HHT Based Long Term Feature Extracting Method for Speech Emotion Classification
Zhenlu Wang, Haifeng Li, Lin Ma
School of Computer Science and Technology, Harbin Institute of Technology, Harbin, China
- M-L5.10 Radon Transform and DWT based Audio Watermarking Algorithm against DA/AD Conversion
Cairong Li^{1,2}, Ruimin Hu², Wei Zeng³
¹Faculty of History and Culture, Hubei University, China
²National Engineering Research Center for Multimedia Software, Wuhan University, China
³Jiangxi Electric Power Research Institute, Nanchang, China
- M-L6 Audio and Music Processing (Papers#:10)**
Chairs: An Ji, Marquette University, Department of Electrical and Computer Engineering, Speech and Signal Processing Laboratory. P.O. Box, 1881. Milwaukee, WI 53201-1881, USA
Michael Kai Petersen, School Graduate School of Engineering, Tohoku University, Faculty of Literature, Hirosaki University, Japan
Location: Dynasty Room 3
- M-L6.1 Despeckling Medical Ultrasound Image Based on Spatially Adaptive Maximum-Likelihood Estimation
Jinhua Yu, Tao Hou, Yi Guo, Yuanyuan Wang
State Key Laboratory of ASIC & System, Department of Electronic Engineering, Fudan University, Shanghai 200433, China
- M-L6.2 Tracking Articulator Movements using Orientation Measurements
An Ji, Michael T. Johnson, Jeffrey Berry
Marquette University, Department of Electrical and Computer Engineering, Speech and Signal Processing Laboratory. P.O. Box, 1881. Milwaukee, WI 53201-1881, USA
- M-L6.3 Effect of Arabic Emphaticness on Voice Onset Time(VOT)
Yousef Ajami Alotaibi, Sulaiman S. AlDahri
College of Computer & Information Sciences, Computer Engineering Department, King Saud University, Riyadh, Saudi Arabia

- M-L6.4 Automatic Assessment of Easiness of Japanese for Writing Aid of "Easy Japanese"
Meng Zhang, Akinori Ito, Kazuyuki Sato
School Graduate School of Engineering, Tohoku University, Faculty of Literature, Hirosaki University, Japan
- M-L6.5 On an Emotional Node: Modeling Sentiment in Graphs of Action Verbs
Michael Kai Petersen, Lars Kai Hansen
Cognitive Systems, DTU Informatics, Technical University of Denmark. Building 321, DK-2800 Kgs. Lyngby, Denmark
- M-L6.6 Confidence Measure by Substring Comparison for Automatic Speech Recognition
Bartosz Ziółko, Tomasz Jadczyk, Dawid Skurzok, Mariusz Ziółko
Department of Electronics, AGH University of Science and Technology, Al. Mickiewicza 30, 30-059 Kraków, Poland
- M-L6.7 Joint N-gram Chinese Language Modeling with an Application to Chinese Word Segmentation
Xin He, Zhijian Ou, Jiasong Sun
Department of Electronic Engineering, Tsinghua University, Beijing 100084, China
- M-L6.8 Subjective and Objective Quality Assessment of Re-sampling Audio
Limin Hou, Weiqi Wu, Shuang Yang, Tao Yang, Xinpeng Zhang
School of Communication and Information Engineering, Shanghai University, Shanghai, China, 200072
- M-L6.9 A Hierarchy-based Constraint Dependency Grammar Parsing for Chinese
Peng Li, Lejian Liao, Xin Li
Beijing Engineering Research Centre of High Volume Language Information Processing & Cloud Computing Applications, School of Computer Science, Beijing Institute of Technology, Beijing 100081, China
- M-L6.10 Distinguishing Infant Cry from Adult Voice Based on Spectrum Analysis
Xin Wei, Yan-Xiong Li, Lin Zhong, Jian-Bin Liang
School of Electronic and Information Engineering, South China University of Technology, Guangzhou, China.

18:00-19:30 Welcome Reception

Tuesday, July 17, 2012

08:30-09:15 Keynote Speech 4

Real Time Dynamics in Comprehensive 3D Environments Assisted with Image Based Solution

Enhua Wu, Faculty of Science and Technology, University of Macau & State Key Lab of Computer Science, Chinese Academy of Sciences, China

Location: Panorama Room

09:15-10:00 Keynote Speech 5

Humanistic Intelligence System - Multi-core Pattern Recognition Processor with Brain Mimicking Mixed Mode Intelligence Circuits
Hoi-Jun Yoo, Korea Advanced Institute of Science and Technology (KAIST), Korea
Location: Panorama Room

10:00-10:15 Coffee Break**10:15-10:45 Smart City Forum: Keynote Speech 1**

Daylight and Solar Energy Simulation at Urban Scale
Benoit BECKERS, GSU (Urban Systems Engineering) Department, UTC
(Compi ègne University of Technology), France
Location: Panorama Room

10:45-11:15 Smart City Forum: Keynote Speech 2

Multi-Modality Urban Scene Modeling
Ye Duan, Department of Computer Science, University of Missouri at Columbia, USA
Location: Panorama Room

11:15-11:45 Smart City Forum: Keynote Speech 3

Energy Efficient Heterogeneous Data Center Servers for Green and Smart Cities
Yajun Ha, Department of Electrical & Computer Engineering, National University of Singapore, Singapore
Location: Panorama Room

12:00-13:30 Lunch**13:30-15:30 Oral Session (30 papers in 3 rooms)****13:30-17:30 Poster Session (13 papers)****T-L1 Language and Speech Processing (Papers#:10)**

Chairs: M. S. Barakat, ICT Research Institute / School of Electrical, Computer and Telecommunication Engineering, University of Wollongong, NSW, Australia.
Sulaiman S. AlDahri, King Abdulaziz City for Science and Technology, Riyadh, Saudi Arabia.

Location: Dynasty Room 1

T-L1.1 Spectral Local Harmonicity Feature for Voice Activity Detection

Pham Chau Khoa, Chng Eng Siong
School of Computer Engineering, Nanyang Technological University, Singapore

T-L1.2 SVM Speaker Verification Based on NAP Sequence Kernels

Hengjie Li, Yujuan Xing, Ping Tan
School of Science and Engineering, Gansu Lianhe University, Lanzhou, China

- T-L1.3 Detecting Offensive User Video Blogs: An Adaptive Keyword Spotting Approach
M. S. Barakat, C. H. Ritz, D. A. Stirling
ICT Research Institute / School of Electrical, Computer and
Telecommunication Engineering, University of Wollongong, NSW, Australia.
- T-L1.4 The Effect of Arabic Emphaticness on Voice Time Onset (VOT)
Sulaiman S. AlDahri
King Abdulaziz City for Science and Technology, Riyadh, Saudi Arabia
- T-L1.5 GMM-UBM for Text-Dependent Speaker Recognition
Wanli Chen¹, Qingyang Hong², Ximin Li¹
¹Cognitive Science Department, Xiamen University, Xiamen, China
²Fujian Key Laboratory of the Brain-like Intelligent Systems, Xiamen
University, Xiamen, China
- T-L1.6 Syllable Category Based Short Utterance Speaker Recognition
Nakhat Fatima, Thomas Fang Zheng
Center for Speech and Language Technologies, Division of Technical
Innovation and Development, Tsinghua National Laboratory for Information
Science and Technology, Department of Computer Science and Technology,
Tsinghua University, Beijing, China
- T-L1.7 Generating Emphasis from Neutral Speech Using Hierarchical Perturbation
Model by Decision Tree and Support Vector Machine
Fanbo Meng¹, Zhiyong Wu^{1,2,3}, Helen Meng^{2,3}, Jia Jia^{1,3}, Lianhong Cai^{1,3}
¹Tsinghua National Laboratory for Information Science and Technology
(TNList), Department of Computer Science and Technology, Tsinghua
University, Beijing, China
²Department of Systems Engineering and Engineering Management, The
Chinese University of Hong Kong, Hong Kong SAR, China
³Tsinghua-CUHK Joint Research Center for Media Sciences, Technologies and
Systems, Graduate School at Shenzhen, Tsinghua University, Shenzhen, China
- T-L1.8 Adapted Language Modeling for Recognition of Retelling Story in Language
Learning
Meng Chen, Yang Song, Lan Wang
Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences,
Shenzhen, China
The Chinese University of Hong Kong, Hong Kong
- T-L1.9 Straight Model for Voice Conversion Based on Acoustical Universal Structure
Gang Xu, Qi Zhou, Dong Zhao, Ding Huang
Electrical & Electronic Engineering School, North China Electric Power
University (NCEPU), China
- T-L1.10 Mel Domain Objective Speech Quality Evaluation Measure Performance
Wenlian Zhan, Zhulin Shen
School of Foreign Languages, Hunan International Economics University,
Changsha, China

T-L2 Image Processing (Papers#:10)

Chairs: Benoit BECKERS, GSU(Urban Systems Engineering) Department, UTC (Compi ègne University of Technology), France.

Liu Fang, School of Electronic Information & Control Engineering, Beijing University of Technology, Beijing, China.

Location: Dynasty Room 2

T-L2.1 A New Image Denoising Algorithm Based on Nonsubsampled Contourlet Transform

Haohao Song, Jian Gu

The MPS Quality Supervision and Testing Center of Security Products for Computer Information System, Shanghai, China

T-L2.2 Combination of Curvelet Threshold with Bilateral Filtering for Image Denoising

Guojun Liu¹, Wentao Ma², Yuemei Ma²

¹School of Mathematics and Computer Science, Ningxia University, Yinchuan, China

²Ningxia Institute of Ethnic Preparatory Education, Ningxia University, Yinchuan, China

T-L2.3 Image Fusion Using Adaptive Dual-Tree Discrete Wavelet Packets Based on the Noise Distribution Estimation

Liu Fang¹, Yang Biao², Kaigang Li¹

¹School of Electronic Information & Control Engineering, Beijing University of Technology, Beijing, China

²Department of Automation, North China University of Technology, Beijing, China

T-L2.4 A Color Interpolation Scheme Based on Improved Bilinear Scheme for Bayer CFA Digital Cameras

Hao Ren¹, Lei Xie^{1,2}, Huifang Chen^{1,2}

¹Dept. of Information Science and Electronic Engineering, Zhejiang University, Zhejiang, China

²Zhejiang Provincial Key Laboratory of Information Network Technology, Hangzhou, P. R. China

T-L2.5 A Blind Image Restoration Algorithm Based on Nonlocal Means and EM Algorithm

Chao Dong, Meihua Xie

Department of Systems Science, School of Science, National University of Defense Technology, Changsha, Hunan, China.

T-L2.6 A Super Resolution Reconstruction Scheme for Mixed Spatio-Temporal Stereo Video

Boyang Zhang¹, Ju Liu¹, Jing Ge¹, Changbing Chen¹, Hui Yuan¹, Wei Liu²

¹School of Information Science and Engineering, Shandong University, Jinan, China

²Hisense State Key Laboratory of Digital Multi-Media Technology Corp. Ltd., Qingdao, China

- T-L2.7 A New Image Deblurring Method Based on Fractional Differential
Wei Wang, Peizhong Lu
School of Computer Science, Fudan University, Shanghai, China
- T-L2.8 Bayesian Nonlocal Means Image Denoising Based on Principal Neighborhood
Dictionaries
Huihui Lu
Xidian University, Xi'an, China.
- T-L2.9 Removing Illumination from Image Pair for Stereo Matching
Yawei Han, Guixin Xuan, Changyong Li, Danyang Li, Hui Han
Chongqing Communication Institute, Chongqing, China
- T-L2.10 Alleviating Blocking Artifacts via Curve-Fitting
Chenyu Xu^{1,2}, Renjie He^{1,2}, Shaohui Mei^{1,2}, Mingyi He^{1,2}
¹Shaanxi Provincial Key Laboratory of Information Acquisition and Processing
(IAP), China
²School of Electronics and Information, Northwestern Polytechnical
University, Xi'an, China
- T-L3 Image Processing (Papers#:10)**
Chairs: Ye Duan, Department of Computer Science, University of Missouri at
Columbia, USA.
Zhong Zhen, Shanghai Jiao Tong University, Shanghai, China
Location: Dynasty Room 3
- T-L3.1 Video Abnormal Target Description Based on CRF Model
Long Zhao, Li Guo, Jinsheng Xie, Hao Liu
Department of Electronic Science and Technology, University of Science and
Technology of China, Hefei, China
- T-L3.2 Three-dimensional Reconstruction of Slice Image Based on Range-gated
Active Laser Imaging Technique
Lin Du, Yingchun Li, Huichao Guo, Youchen Fan
The Academy of Equipment, Beijing, China
- T-L3.3 An Automatic Image and Video Colorization Algorithm based on Pattern
Continuity
Zhong Zhen, Gui Yan, Ma Lizhuang
Shanghai Jiao Tong University, Shanghai, China
- T-L3.4 A Method of Extracting Skeleton based on FMM
Xiuqiang Pan
College of Information and Communications, Zhejiang Industry & Trade
Vocational College, Wenzhou, China
- T-L3.5 A Novel 2D-to-3D Conversion Method Based on Blocks World
Pan Ji^{1,2}, Lianghao Wang^{1,2}, Dong-Xiao Li^{1,2}, Ming Zhang^{1,2}
¹Institute of Information and Communication Engineering, Zhejiang
University, Hangzhou, China
²Zhejiang Provincial Key Laboratory of Information Network Technology,
Hangzhou, China

- T-L3.6 An Automatic 2D to 3D Conversion Algorithm Using Multi-depth Cues
Pan Ji^{1,2}, Lianghao Wang^{1,2}, Dong-Xiao Li^{1,2}, Ming Zhang^{1,2}
¹Institute of Information and Communication Engineering Zhejiang University, Hangzhou, China
²Zhejiang Provincial Key Laboratory of Information Network Technology, Hangzhou, China
- T-L3.7 Image Classification by Exploiting the Spatial Context Information
Yan Song¹, Lirong Dai¹, Li Yu²
¹Depart. of Electronic Engineering, University of Science and Technology of China, China
²Hefei TV Station, Hefei, China
- T-L3.8 Hybrid Stereo Matching by Dynamic Programming with Enhanced Cost Entry for Real-time Depth Generation
Qingqing Yang^{1,2}, Lianghao Wang^{1,2}, Dongxiao Li^{1,2}, Ming Zhang^{1,2}
¹Institute of Information and Communication Engineering, Zhejiang University, Hangzhou, China
²Zhejiang Provincial Key Laboratory of Information Network Technology, Hangzhou, China
- T-L3.9 Abnormal Object Representation Based on Surprise Model
Jinsheng Xie, Li Guo, Long Zhao, Shu Gui
Department of Electronic Science and Technology, University of Science and Technology of China, Hefei, China
- T-L3.10 Contour Detection Based on Semi-Ellipticity-Ring Surround Suppression
Dou Yan, Yu Yang
College of Information Science and Engineering, Yanshan University, Qinhuangdao, Hebei Province, China
- T-P1 Audio and Music Processing (Papers#:10)**
Remote Sensing and GIS (Papers#:3)
Chairs: Ximin Zhang, Shanghai University, China
Libing Lu, Shanghai University, China
Location: Dynasty Room
- T-P1.1 Rendering of Large-Scale 3D Terrain Point Cloud Based on Out-of-Core
Liang Liu^{1,2,3}, Xiaoqing Yu^{1,2,3}, Wanggen Wan^{1,2,3}, Haifeng Yu^{1,2,3}, Ran Liu^{1,2,3}
¹School of Communication and Information Engineering, Shanghai, China
²Institute of Smart City, Shanghai University, Shanghai, China
³Shanghai HanPan Information S&T Ltd., Shanghai, China
- T-P1.2 Study of Depth of Field Based on GPU Post-Processing
Wei Xiong^{1,2,3}, Xuzhi Wang^{1,4}, Feng Guo^{1,2,3,4}
¹School of Communication & Information Engineering, Shanghai University, Shanghai, China
²Institute of Smart City, Shanghai University, China
³Shanghai HanPan Information S&T Ltd, Shanghai, China
⁴School of Informatics, Linyi University, Linyi, China

- T-P1.3 Threat Substances Explosion and Polluted Building Surfaces Detection Research in 3D Virtual City Based on ArcGIS
Li Li^{1,2,3}, Wanggen Wan^{1,2,3}, Xinxin Li^{1,2,3}, Rui Wang^{1,2,3}, Ximin Zhang^{1,2,3}, Xiaoqing Yu^{1,2,3}
¹School of Communication and Information Engineering, Shanghai University, China
²Institute of Smart City, Shanghai University, China
³Shanghai HanPan Information S&T Ltd, Shanghai, China
- T-P1.4 The Telematic Learning Environment: Experiences and Outcomes Teaching via Network Audio
Diana Chester
New York University Abu Dhabi, USA
- T-P1.5 Robust Audio Fingerprint Extraction Algorithm Based on 2-D Chroma
Hongxue Wang^{1,2,3}, Xiaoqing Yu^{1,2,3}, Wanggen Wan^{1,2,3}, Ram Swaminathan^{1,2,3}
¹School of Communication and Information Engineering, Shanghai, China
²Institute of Smart City, Shanghai University, Shanghai, China
³Shanghai HanPan Information S&T Ltd., Shanghai, China
- T-P1.6 Noise Reduction Based on Nearest Neighbor Estimation for Audio Feature Extraction
Jianhua Shi^{1,2,3}, Xiaoqing Yu^{1,2,3}, Yunhui Wang^{1,2,3}, Wanggen Wan^{1,2,3}, Ram Swaminathan^{1,2,3}
¹School of Communication and Information Engineering, Shanghai, China
²Institute of Smart City, Shanghai University, Shanghai, China
³Shanghai HanPan Information S&T Ltd., Shanghai, China
- T-P1.7 Audio Fingerprinting Based on Dynamic Subband Locating and Normalized SSC
Wei Xiong^{1,2,3}, Xiaoqing Yu^{1,2,3}, Wengen Wang^{1,2,3}, Wanggen Wan^{1,2,3}, Ram Swaminathan^{1,2,3}
¹School of Communication and Information Engineering, Shanghai, China
²Institute of Smart City, Shanghai University, Shanghai, China
³Shanghai HanPan Information S&T Ltd., Shanghai, China
- T-P1.8 On Objective Assessment of Audio Quality-A Review
Jia Zheng^{1,2,3}, Mengyao Zhu^{1,2,3}, Yao Song^{1,2,3}
¹School of Communication and Information Engineering, Shanghai, China
²Institute of Smart City, Shanghai University, Shanghai, China
³Shanghai HanPan Information S&T Ltd., Shanghai, China
- T-P1.9 Analysis on Greedy Reconstruction Algorithms Based on Compressed Sensing
Linfeng Du^{1,2,3}, Rui Wang^{1,2,3}, Wanggen Wan^{1,2,3}, Xiaoqing Yu^{1,2,3}, Shuai Yu^{1,2,3}
¹School of Communication and Information Engineering, Shanghai, China
²Institute of Smart City, Shanghai University, Shanghai, China
³Shanghai HanPan Information S&T Ltd., Shanghai, China

- T-P1.10 An Improved Spectral Subtraction Method
Huanhuan Liu^{1,2,3}, Xiaoqing Yu^{*1,2,3}, Wanggen Wan^{1,2,3}, Ram Swaminathan^{1,2,3}
¹Shool of Communication and Information Engineering, Shanghai, China
²Institute of Smart City, Shanghai University, Shanghai, China
³Shanghai HanPan Information S&T Ltd., Shanghai, China
- T-P1.11 A Method of Fast Rebuilding and Displaying Lujiazui Area Based on ArcGlobe
Li Li^{1,2,3}, Wanggen Wan^{1,2,3}, Xinxin Li^{1,2,3}, Ximin Zhang^{1,2,3}, Wei Xiong^{1,2,3}, Xiaoqing Yu^{1,2,3}
¹Shool of Communication and Information Engineering, Shanghai, China
²Institute of Smart City, Shanghai University, Shanghai, China
³Shanghai HanPan Information S&T Ltd., Shanghai, China
- T-P1.12 Random Routing Algorithm for Rhombic-deployed Sensor Networks Based on Compressed Sensing
Rui Wang, Shuai Yu, Wanggen Wan, Yueyue Gao, Linfeng Du
¹Shool of Communication and Information Engineering, Shanghai, China
²Institute of Smart City, Shanghai University, Shanghai, China
³Shanghai HanPan Information S&T Ltd., Shanghai, China
- T-P1.13 A Study of the Unification of Multisensor Data
Ruoyan Wang¹, Zhaohua Wang², Dajun Lian²
¹The school of Innovation Experiment Dalian University of Technology, China
²The school of Environmental Science and Engineering Suzhou University of Science and Technology, China

15:30-15:45 Coffee Break

15:45-17:45 Oral Session (30 papers in 3 rooms)

- T-L4 Image Processing (Papers#:10)**
Chairs: Lee Hung Liew, Faculty of Computer & Mathematical Sciences, Samarahan Campus, Universiti Teknologi MARA, Malaysia.
Belkacem Baassou, Shaanxi Provincial Key Laboratory of Information Acquisition and Processing (IAP), China.
Location: Dynasty Room 1
- T-L4.1 Comparative Analysis and Evaluation of Geometric Transformations on Distortions for Image Rectification
Lee Hung Liew¹, Yin Chai Wang¹, Wai Shiang Cheah²
¹Faculty of Computer & Mathematical Sciences, Samarahan Campus, Universiti Teknologi MARA
²Faculty of Computer Science and Information Technology, Universiti Malaysia Sarawak

- T-L4.2 Digital Outcrop Modeling and Geology Information Extraction Based on Ground-Based Lidar
Qihong Zeng, Xing Xie, Youyan Zhang, Yong Ye, Yan Hu, Song Liu
Research Institute of Petroleum Exploration and Development, PetroChina, Beijing, China
- T-L4.3 Localization in NLOS Environment Using TOA/DOA/DOD
Liping Du, LuLu Kang, Ying Lv
Department of Communication, School of Computer & Communication Engineering, University of Science and Technology Beijing, Beijing 100083, China.
- T-L4.4 DOA Estimation for Wideband Signals via the Homotopy Approach
Nan Hu^{1,2}, Zhongfu Ye^{1,2}, Xu Xu^{1,2}
¹Department of Electronic Engineering and Information Science, University of Science and Technology of China, Hefei, Anhui 230027, China
²National Engineering Laboratory for Speech and Language Information Processing, Hefei, Anhui 230027, China
- T-L4.5 Accuracy Improvement Method of Forest Height Estimation for PolInSAR Image
Nghia Pham Minh, Bin Zou
Harbin Institute of Technology, No 92 West DaZhi street, Harbin, 150001, China
- T-L4.6 Integrating Segmentation and Classification Accuracy for Accuracy Assessment in Object-based Image Analysis
Nan Li, Hong Huo, Tao Fang
Institute of Image Processing and Pattern Recognition, Department of Automation, Shanghai Jiao Tong University, and Key Laboratory of System Control and Information Processing, Ministry of Education, Shanghai, China
- T-L4.7 On Hyperspectral Remotely Sensed Image Classification Based on MNF and AdaBoosting
Yuming Xu¹, Ping Yu², Baofeng Guo¹, Xiaojian Gao¹, Yunfei Guo¹
¹Institution of Information and Control, School of Automation, Hangzhou Dianzi University, Hangzhou, China
²Changchun Institution of Optics, Fin Mechanics and Physics, Chinese Academy of Sciences, Changchun, China
- T-L4.8 Unsupervised Hyperspectral Image Classification Algorithm by Integrating Spatial-Spectral Information
Belkacem Baassou^{1,2}, Mingyi He^{1,2}, Shaohui Mei^{1,2}, Yifan Zhang^{1,2}
¹Shaanxi Provincial Key Laboratory of Information Acquisition and Processing (IAP), China
²School of Electronics and Information, Northwestern Polytechnical University, Xi'an, 710129, China

- T-L4.9 Experimental Study on Rationality of ‘Hilbert Envelope’ Based on Empirical Mode Decomposition
Qinglin Meng^{1,2}, Meng Yuan¹, Jianping Zhao^{1,2}, Haihong Feng¹
¹Shanghai Acoustics Laboratory, Chinese Academy of Sciences, China
²Graduate University of Chinese Academy of Sciences, China
- T-L4.10 Real-Time 3DTV System for Autostereoscopic Displays
ShaoJun Yao^{1,2}, PengFei Jin^{1,2}, Hang Fu^{1,2}, LiangHao Wang^{1,2}, DongXiao Li^{1,2}, Ming Zhang^{1,2}
¹Institute of Information and Communication Engineering, Zhejiang University, Hangzhou 310027, China
²Zhejiang Provincial Key Laboratory of Information Network Technology, Hangzhou 310027, China
- T-L5 Remote Sensing and GIS (Papers#:10)**
Chairs: Congying Wan, Department of Biomedical and Engineering, Xi’an Jiaotong University, Xi’an, China
Narendra M Patel, Computer Engineering Department, B.V.M Engineering College, Vallabh Vidyanagar, India.
Location: Dynasty Room 2
- T-L5.1 Design and Evaluation of an Electrolarynx with Mandarin Tone-Control Function
Congying Wan, Erqiang Wang, Liang Wu, Supin Wang
Department of Biomedical and Engineering, Xi’an Jiaotong University, Xi’an, China
- T-L5.2 The Study of Image Processing for Retinal Prosthesis Based on Android
Zhou Su^{1,2}, Songping Mai¹, Chun Zhang²
¹Graduate School at Shenzhen, Tsinghua University Shenzhen, Guangdong 518055, China
²Institute of Microelectronics, Tsinghua University, Beijing, 100084, China
- T-L5.3 EEG Signal Processing Based on Proper Orthogonal Decomposition
Ting Zhou, Hui Jiang
College of Physics and Information Engineering, Fuzhou University, Fuzhou, Fujian, China
- T-L5.4 A Combined Destruction-Monitoring Strategy: Rapid Microbubble Destruction within a Focal Region on a Diagnostic Ultrasound Scanner
Shanshan Xu, Hujie Jiang, Zhian Xu
The Key Laboratory of Biomedical Information Engineering of Ministry of Education, Department of Biomedical Engineering, School of Life Science and Technology, Xi’an Jiaotong University, Xi’an, P.R.China
- T-L5.5 Time Delay Estimation for Low SNR Signals with Impulsive Noises Using Fractional Low Order Covariation Sequences
Wenhong Liu
School of Electronics Information, Shanghai Dianji University, Shanghai, China

- T-L5.6 Extraction for Finger Vein Pattern Based on PDE
Fengchun Zhang¹, Junyao Guo², Shuxu Guo¹
¹College of Electronic Science and Engineering, Jilin University, Changchun, Jilin 130012, China
²Department of Electronic Engineering, Tsinghua University, Beijing 100084, China
- T-L5.7 Undersampled MRI Reconstruction Comparison of TGV and TV
Yang Fei¹, Jianhua Luo²
¹School of Biomedical Engineering, Shanghai Jiao Tong University, Shanghai, China
²School of Aeronautics and Astronautics, Shanghai Jiao Tong University, Shanghai, China
- T-L5.8 Accelerating Volume Ray Casting by Empty Space Skipping Used for Computer-Aided Therapy
Yinong Wang¹, Weibei Dou¹, Jean-Marc Constans²
¹Department of Electronic Engineering, Tsinghua University, Beijing, 100084, China
²Unité d'IRM, CHU de Caen, 14033 Caen, France
- T-L5.9 A Real-Time Leg Motion Recognition System by Using Mahalanobis Distance and LS_SVM
Ling Chen^{1,2}, Qingsong Ai^{1,2}, Yan He¹, Quan Liu^{1,2}, Wei Meng^{1,2}
¹School of Information Engineering, Wuhan University of Technology, 122 Luoshi Road, Hongshan District, Wuhan, Hubei, P. R. China, 430070
²Key Lab. of Fiber Optic Sensing Technology and Information Processing, Wuhan University of Technology, 122 Luoshi Road, Hongshan District, Wuhan, Hubei, 430070, China
- T-L5.10 3D Model Reconstruction and Animation from Single View Face Image
Narendra M Patel¹, Mukesh Zaveri²
¹Computer Engineering Department, B.V.M Engineering College, Vallabh Vidyanagar, India
²Computer Engineering Department, SVNIT, Surat, India
- T-L6 Bio-informatics (Papers#:10)**
Chairs: Sid-Ahmed Selouani, Universite de Moncton 218 bvd. J.-D.-Gauthier, Shippagan, E8S 1P6, Canada.
Xiangyang Wang, Shanghai University, China.
Location: Dynasty Room 3
- T-L6.1 Comparing Arabic Rhythm Metrics among Other Languages
Sid-Ahmed Selouani¹, Yousef A. Alotaibi², Lin Pan²
¹Universit éde Moncton 218 bvd. J.-D.-Gauthier, Shippagan, E8S 1P6, Canada
²College of Computer and Information Sciences, King Saud University, Riyadh 11543, Saudi Arabia
- T-L6.2 Motion Vector Recovery Method Based on Kernel Regression
Xuefeng Zhan
Institute of Physics and Communication & Electronics, Jiangxi Normal University, Nanchang, 330027, China

- T-L6.3 Research of Pattern Recognition Based on the Local Structure Topological Relationship Modeling
Yinxue Qin, Lin Ma¹, Haifeng Li, Qiuhua Wei
School of Computer Science and Technology, Harbin Institute of Technology, Harbin, China
- T-L6.4 An Improved Two-View Convergent-Style-Based Disparity Estimation Algorithm
Xiaowei Song¹, Lei Yang^{1,2}, Zhong Liu¹
¹School of Electronic Information, Zhongyuan University of Technology, Zhengzhou, 450007, China
²School of Electronic Information Engineering, Tianjin University, Tianjin, 300072, China
- T-L6.5 Multi-polarimetric SAR Image Compression Based on Sparse Representation and Super-Resolution
Yuan Chen, Rong Zhang, Dong Yin
Department of Electronic Engineering and Information Science, University of Science and Technology of China, Hefei 230027, China
- T-L6.6 Example-based Image Upscaling Using Parallel Texture Synthesis
Rugang Zheng, Bin Sheng, Lizhuang Ma
Department of Computer Science and Engineering, sjtu, China
- T-L6.7 An Effective Algorithm for Salt-and-Pepper Noise Removal in Color Images
Jianjun Zhang
Department of Mathematics, Shanghai University, Shanghai 200444, Shanghai, China
- T-L6.8 Local Color Transfer via Color Classification
Xue Yang^{1,2}, Zhuo Su^{1,2}, Dong Wang³
¹National Engineering Research Center of Digital Life, State-Province Joint Laboratory of Digital Home Interactive Applications, School of Information Science & Technology, Sun Yat-sen University, China
²Research Institute of Sun Yat-sen University in Shenzhen, China
³College of Informatics, South China Agricultural University, China
- T-L6.9 A GPU Accelerated Algorithm for Compressive Sensing based Video Super-resolution
Xifei Wu, Hui Xiang
School of Computer Science and Technology, Shandong University, Jinan, 250101, China
- T-L6.10 Image Contrast Enhancement by Contourlet Transform and PCNN
Weitao Zheng, Tian Pu, Jian Cheng, Hu Zheng
School of Electronic Engineering, University of Electronic Science and Technology of China, Chengdu 611731, Chengdu, Sichuan, China

18:30-20:30 Night Banquet

Wednesday, July 18, 2012

08:30-09:00 Industry Forum: Keynote Speech 1

Green Future of Communication Networks: Technology and Practice

Shunqing Zhang, Huawei Technologies Co., Ltd., China

Location: Panorama Room

09:00-09:30 Industry Forum: Keynote Speech 2

The Application of PTN Technology in Building the Backbone Network of Smart City

Wei Zhou, Shanghai Information Network Co., Ltd., China

Location: Panorama Room

09:30-10:00 Industry Forum: Keynote Speech 3

Construction of Smart City: Shanghai Integrated Traffic Information Platform

Yang Zhang, Shanghai Municipal Transportation information Center, China

Location: Panorama Room

10:00-10:15 Coffee Break

10:15-10:45 Industry Forum: Keynote Speech 4

Advance in Programming Tools for High-Performance Chips and Reusable Designs

Ching Ma, Data I/O Corporation, USA

Location: Panorama Room

10:45-11:15 Industry Forum: Keynote Speech 5

Language Resources, the Accelerator of Human Language Technology

Xianfeng Cheng, SpeechOcean Inc., China

Location: Panorama Room

11:15-11:45 Industry Forum: Keynote Speech 6

The Potential Role of Virtual Reality for the Construction of Intelligent Virtual Cities

Zhaoguang Wang, Shanghai Graphic Design Information Co., Ltd, China

Location: Panorama Room

12:00-13:30 Lunch

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

13:30-17:30 Poster Session (12 papers)

W-L1 Image Processing (Papers#:10)

Chairs: Benoit BECKERS, GSU (Urban Systems Engineering) Department, UTC (Compi ègne University of Technology), France

Weiying Pan, Department of Physics, Zhejiang Science and Technology University, Hangzhou, Zhejiang, China

Location: Dynasty Room 1

- W-L1.1 Stereo Matching Using Aggregated Likelihood and Multi-scale Prior
Liang Wang, Tianliang Liu, Xiuchang Zhu
Jiangsu Provincial Key Lab of Image Processing and Image Communication,
Nanjing University of Posts and Telecommunications, Nanjing, 210003, China
- W-L1.2 Application of Hough Transform in Lateral Multi-lens Video Logging Image
Segmentation
Hongtao Hu¹, Zhouli Li²
¹School of Computer Science, Xi'an ShiYou University, Xi'an, China
²School of Electronic Engineering, Xi'an ShiYou University, Xi'an, China
- W-L1.3 Beyond Dominant Plane Assumption: Moving Objects Detection in Severe
Dynamic Scenes with Multi-Classes RANSAC
Xu Zhang, Shengjin Wang, Xiaoqing Ding
Department of Electronic Engineering, Tsinghua University, Beijing, China
- W-L1.4 Handwritten and Machine Printed Text Discrimination Using an Edge
Co-occurrence Matrix
Xiaofeng Zhang^{1,2}, Yue Lu¹
¹Dept. of Computer Science and Technology, East China Normal University,
Shanghai, China
²School of Computer Science and Technology, Nantong University, Nantong,
China
- W-L1.5 The Bi-Group Evolutionary Programming for Image Processing
Liu Fang¹, Yang Biao², Kaigang Li¹
¹School of Electronic Information & Control Engineering, Beijing University
of Technology, Beijing, China
²Department of Automation, North China University of Technology, Beijing,
China
- W-L1.6 Seal Imprint Segmentation Based on Color Feature Classifier
Weiqing Pan¹, Jianying Hu², Mingliang Liu², Xin Qi², Haitao Lang²
¹Department of Physics, Zhejiang Science and Technology University,
Hangzhou, Zhejiang 310023, China
²Department of Physics & Electronics, Beijing University of Chemical
Technology, Beijing 100029, China
- W-L1.7 ROI Perspective Transform Based Road Marking Detection and Recognition
Ziqiong Liu, Shengjin Wang, Xiaoqing Ding
Department of Electronic Engineering, Tsinghua University, Beijing, China
- W-L1.8 A New Method to Detect Surface Defects of Fruits
Huiyang Deng, Ruohui Wang
Department of Electronic Engineering, Tsinghua University, Beijing, China

- W-L1.9 Cerebrovascular Segmentation Based on Region Growing and Level Set Algorithm
Lizhi Xie¹, Mingquan Zhou², Yun Tian², Rongfei Cao²
¹State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China
²College of Information Science and Technology, Beijing Normal University, Beijing, China
- W-L1.10 A Variational Model of Image Restoration Based on First and Second Order Derivatives and Its Split Bregman Algorithm
Shixiu Zheng, Zhenkuan Pan, Guodong Wang, Xu Yan
College of Information Engineering, Qingdao University, Qingdao, China

W-L2 Image Processing (Papers#:10)

Chairs: Kai Tong, Department of Electronic Engineering, Tsinghua University, Beijing, China

Xiao Wu, Southwest Jiaotong University, Chengdu, China

Location: Dynasty Room 2

- W-L2.1 Principal Object Detection towards Product Image Search
Xiao Wu, Lingling Liang, Wenjian Wang, Qiang Peng
Southwest Jiaotong University, Chengdu, China
- W-L2.2 A Fast Algorithm of 4-Point Floating DCT in Image/Video Compression
Kai Tong¹, Yingke Gu², Guolin Li¹, Xiang Xie², Shouhao Liu², Kai Zhao², Zhihua Wang²
¹Department of Electronic Engineering, Tsinghua University, Beijing, China
²Institute of Microelectronics, Tsinghua University, Beijing, China
- W-L2.3 Semantic Classification Based Clothing Image Retrieval
Zhiyuan Lu, Ling Shen, Yule Yuan, Yong Zhao
Key Lab of Integrated Microsystem Science and Engineering Applications, Peking University Shenzhen Graduate School, Shenzhen, China
- W-L2.4 A Sample of Correction for the Model Used Predicating Digital Television Signals in Urban Area
Yixing Li^{1,2}, Qi Zhang¹, Li Gao²
¹The College of Information and Engineering, Communication University of China (CUC), Beijing, China
²Academy of Broadcasting Planning, Beijing, China
- W-L2.5 Fast Template Matching with Partial Skipping Using Sub-template
Qiao Zhang¹, Huijie Gao¹, Zhen Kang²
¹State Key Lab of Multi-spectral Information Processing Technology, Institute for Pattern Recognition and Artificial Intelligence, Huazhong Univ. of Sci. & Tech, Wuhan, China
²School of Mathematic & Computer Science, Wuhan Polytechnic University, Wuhan, China

- W-L2.6 Fast Ground Target Detection Method in Infrared Image Sequences
Hu Zhu¹, Lizhen Deng², Gaihua Wang¹, Gang Zhou¹, Xiaodong Bai¹
¹ National Key Laboratory of Science and Technology on Multi-spectral Information Processing, Institute for Pattern Recognition and Artificial Intelligence, Huazhong University of Science and Technology, Wuhan, China
²College of Electrical & Electronic Engineering, Huazhong University of Science and Technology, Wuhan, China
- W-L2.7 Target Recognition Method Based on Template Matching in Downward-looking Infrared Image
Hu Zhu¹, Lizhen Deng², Gang Zhou¹, Xiaodong Bai¹, Gaihua Wang¹
¹National Key Laboratory of Science and Technology on Multi-spectral Information Processing, Institute for Pattern Recognition and Artificial Intelligence, Huazhong University of Science and Technology, Wuhan, China
²College of Electrical & Electronic Engineering, Huazhong University of Science and Technology, Wuhan, China
- W-L2.8 Design of M-Channel Uniform Linear-Phase Filter Banks with Near-Perfect-Reconstruction Property
Wei Zhong^{1,2}, Xuemei Xie², Guangming Shi², Bin Peng², Qin Zhang¹
¹Key Lab of Media Audio & Video of Ministry of Education, Communication University of China, Beijing, China
²Key Lab of Intelligent Perception and Image Understanding of Ministry of Education, Xidian University, Xi'an, China
- W-L2.9 A DCT-domain Compressed Images Registration Approach
Xiangyu Yu¹, Hengyu Zhao², Tao Zhang³
¹School of Electronic and Information Engineering, South China University of Technology, Guangzhou, China
²School of Journalism and Communication, South China University of Technology, Guangzhou, China
³Department of Physics & Electronic Information Science, Guiyang University, Guiyang, China
- W-L2.10 Image Retrieval Using Accurate Approximated Inverse Document Frequency of Geometry-Preserving Visual Phrases
Fangyuan Wang^{1,2}, Shuwu Zhang¹
¹High-Tech Innovation Center, Institute of Automation, Chinese Academy of Sciences, Beijing, China
²WaSu Media Group Co.Ltd, Hangzhou, China
- W-L3 Language and Speech Processing (Papers#:10)**
Chairs: Yousheng Xia, College of Mathematics and Computer Science, Fuzhou University, Fuzhou, China
Rui Wang, Shanghai University, China.
Location: Dynasty Room 3

- W-L3.1 Temporal Alignment Algorithm for Electropalatographic and Acoustic Signals in Long Utterances
Yinghao Li¹, Xiaosheng Pan²
¹Foreign Languages College, Yanbian University, Yanji, China
²College of Information, Mechanical and Electrical Engineering, Shanghai Normal University, Shanghai, China
- W-L3.2 Selection of Negative Pool for PR-SVM in Language Recognition
Weiwei Liu, Weiqiang Zhang, Jia Liu
Tsinghua National Laboratory for Information Science and Technology, Department of Electronic Engineering, Tsinghua University, Beijing, China
- W-L3.3 Label Transform Based Cross-Language Speaker Adaptation in Bilingual (Mandarin-English) TTS
Yongjin So, Jia Jia, Yongxin Wang, Lianhong Cai
Key Laboratory of Pervasive Computing, Ministry of Education, Tsinghua National Laboratory for Information Science and Technology (TNList), Department of Computer Science and Technology, Tsinghua University, Beijing, China
- W-L3.4 A Dynamic Gap Dimension Reduction Approach for High Order N-GRAM Phonotactic Language Recognition
Weiwei Liu, Weiqiang Zhang, Jia Liu
Tsinghua National Laboratory for Information Science and Technology, Department of Electronic Engineering, Tsinghua University, Beijing, China
- W-L3.5 Speaking Rate Estimation for Multi-Speakers
Yong Wu, Qianhua He, Yanxiong Li
School of Electronic and Information Engineering, South China University of Technology, Guangzhou, China
- W-L3.6 Fast Speech Enhancement Using A Novel Noise Constrained Least Square Estimation
Yousheng Xia
College of Mathematics and Computer Science, Fuzhou University, Fuzhou, China
- W-L3.7 Fast Multi-Channel Colored Noise Reduction Algorithm Using A Novel Statistical Data Fusion Estimation
Yousheng Xia
College of Mathematics and Computer Science, Fuzhou University, Fuzhou, China
- W-L3.8 Research on Voice Activity Detection in Burst and Partial Duration Noisy Environment
Chunyi Guo¹, Runzhi Li², Ming Fan¹, Kejun Liu³
¹School of Information Engineering, Zhengzhou University, Zhengzhou, Henan, China
²Henan Provincial Key Lab on Information Network, Zhengzhou University, Zhengzhou, China
³Institute of Naval Equipment, Beijing, China

- W-L3.9 Special Estimation Algorithm of AR Model
 Haiyan Wu, Xiaoqun Zhao, Xiaolei Han
 School of Electronics and Information, Tongji University, Shanghai, China
 Laboratory of Modern Acoustics of MOE, Nanjing University, Nanjing, China
- W-L3.10 Total Variability Factors Combination for Speaker Verification
 Jin Li, Wu Guo, Lirong Dai
 University of Science and Technology of China, Hefei, China
- W-P1 Language and Speech Processing (Papers#:4)**
Computer Graphic and Virtual Reality (Papers#:8)
Chairs: Xuzhi Wang, Shanghai University, China.
 Liang Liu, Shanghai University, China.
Location: Dynasty Room
- W-P1.1 A Hybrid Method to Segment Words
 Yubiao Dai, Xueli Ren
 Department of Computer Science and Engineering, QuJing Normal University,
 Qujing, China
- W-P1.2 Syntactic Structure Feature Analysis and Classification Method Research
 Wenlian Zhan, Zhulin Shen
 School of Foreign Languages, Hunan International Economics University,
 Changsha, China
- W-P1.3 Features for Phoneme Independent Speaker Identification
 Jianglin Wang, An Ji, Michael T. Johnson
 Speech and Signal Processing Laboratory, Department of Electrical and
 Computer Engineering, Marquette University, Milwaukee, USA
- W-P1.4 Multichannel Speech Recognition using Distributed Microphone Signal Fusion
 Strategies
 Marek B. Trawicki¹, Michael T. Johnson¹, An Ji¹, Tomasz S.Osiejuk²
¹Department of Electrical and Computer Engineering, Speech and Signal
 Processing Laboratory, Marquette University, Milwaukee, USA
²Department of Behavioural Ecology, Adam Mickiewicz University, Poznań,
 Poland
- W-P1.5 Realization of Flood Simulation Visualization Based on OpenGL
 Xinxin Li, Wanggen Wan, Li Li, Ximin Zhang, Chao Gan, Xiaoqing Yu
 School of Communication and Information Engineering, Shanghai University,
 Shanghai, P.R.China
 Institute of Smart City, Shanghai University, China
 Shanghai HanPan Information S&T Ltd, Shanghai, China

- W-P1.6 Using OpenSceneGraph to Simulate the Dynamic Flooding Effect
Xinxin Li, Wanggen Wan, Li Li, Ximin Zhang, Chao Gan, Xiaoqing Yu
School of Communication and Information Engineering, Shanghai University,
Shanghai, P.R.China
Institute of Smart City, Shanghai University, China
Shanghai HanPan Information S&T Ltd, Shanghai, China
- W-P1.7 A Pathfinding Algorithm in Real-time Strategy Game Based on Unity3D
Jie Hu, Wanggen Wan, Xiaoqing Yu
School of Communication and Information Engineering, Shanghai University,
Shanghai, P.R.China
Institute of Smart City, Shanghai University, China
Shanghai HanPan Information S&T Ltd, Shanghai, China
- W-P1.8 A Segmentation Progressive Mesh Compression Method
Haifeng Yu, Junli Chen, Wanggen Wan, Rui Wang, Xiaoqing Yu
School of Communication and Information Engineering, Shanghai University,
Shanghai, P.R.China
Institute of Smart City, Shanghai University, China
Shanghai HanPan Information S&T Ltd, Shanghai, China
- W-P1.9 Virtual Reality Platform for Smart City Based on Sensor Network and OSG
Engine
Jie Hu, Wanggen Wan, Rui Wang, Xiaoqing Yu
School of Communication and Information Engineering, Shanghai University,
Shanghai, P.R.China
Institute of Smart City, Shanghai University, China
Shanghai HanPan Information S&T Ltd, Shanghai, China
- W-P1.10 The Management of Dual Threads in Large Scale City Roaming Based on OSG
Ximin Zhang^{1,2,3,4}, Wanggen Wan^{1,4}, Feng Guo^{1,3,4}, Xueli Zhou^{1,3,4}, Xiaoqing Yu¹
¹School of Communication and Information Engineering, Shanghai University,
Shanghai, China
²Department of Physics, Henan Institute of Education, Zhengzhou, China
³Shanghai HanPan Information S&T Ltd, Shanghai, China
⁴Institute of Smart City, Shanghai University, Shanghai, China
- W-P1.11 The 3D Holographic Projection Technology Based on Three- dimensional
Computer Graphics
Weiyang Li
Department of Digital Media Arts, Shanghai JianQiao College, Shanghai, China
- W-P1.12 Virtual Campus Construction on The Web Services
Peiyang Fan
Network Center, Shanghai Jianqiao College, Shanghai, China

15:30-15:45 Coffee Break

15:45-17:45 Oral Session (31 papers in 3 rooms)

W-L4 Audio and Music Processing (Papers#:3)

Image Processing (Papers#:7)

Chairs: Gang Xu, North China Electric Power University, Beijing, China.

Xiuli Ma, Shanghai University, China.

Location: Dynasty Room 1

- W-L4.1 Human Detection and Tracking Using Apparent Features under Multi- cameras with Non-overlapping
Lu Tian, Shengjin Wang, Xiaoqing Ding
Department of Electronic Engineering, Tsinghua University, Beijing, China
- W-L4.2 An Improved Adaptive Rood Pattern Search Algorithm Based on Temporal and Spatial Correlation
Chunchun Chen, Junming Shan, Eryan Yang
School of Communication and Information Engineering, Shanghai University, Shanghai, China
- W-L4.3 An Efficient Region-Adaptive Stereo Matching Algorithm
Lin Chen, Mingang Chen, Xiao Lin, Lizhuang Ma
Department of Computer Science and Engineering, Shanghai Jiaotong University, Shanghai, P.R. China
- W-L4.4 Moving Target Tracking based on Adaptive Background Subtraction and Improved Camshift Algorithm
Gang Xu, Dong Zhao, Qi Zhou, Ding Huang
North China Electric Power University, Beijing, China
- W-L4.5 Research on LED Screen Brightness Detection Algorithm
Yunfeng Xu, Yan Zhang
College of Information Science and Engineering, Hebei University of Science and Technology, Shi Jia Zhuang, China
- W-L4.6 Separation and Extracting the Interference Structures of Moving Acoustic Sources with A Single Vector Hydrophone
Wangsheng Lin, Guolong Liang, Jin Fu, Guangpu Zhang
Science and Technology on Underwater Acoustic Laboratory, Harbin Engineering University, Harbin, China
- W-L4.7 Human Motion Segmentation Based on Low-Rank Representation
Xiangyang Wang, Chao Gan, Ying Wang
School of Communication & Information Engineering, Shanghai University, Shanghai, China
Institute of Smart City, Shanghai University, Shanghai, China
Shanghai HanPan Information S&T Ltd, Shanghai, China

- W-L4.8 Noise Removal of Audio Clips for Fingerprint Matching
Yunhui Wang, Xiaoqing Yu, Wengen Wang, Wanggen Wan, Ram Swaminathan
School of Communication and Information Engineering, Shanghai University, Shanghai, China
Institute of Smart City, Shanghai University, Shanghai, China
Shanghai HanPan Information S&T Ltd, Shanghai, China
- W-L4.9 Compressed Sensing in Audio Signals and It's Reconstruction Algorithm
Shuai Yu, Rui Wang, Wanggen Wan, Linfeng Du, Xiaoqing Yu
School of Communication and Information Engineering, Shanghai University, Shanghai, China
Institute of Smart City, Shanghai University, Shanghai, China
Shanghai HanPan Information S&T Ltd, Shanghai, China
- W-L4.10 3D Reconstruction and Interaction for Smart City based on World Wind
Rui Wang, Linbo Jin, Ren Xiao, Shuilin Guo, Shuying Li
School of Communication and Information Engineering, Shanghai University, Shanghai, China
- W-L5 Computer Graphic and Virtual Reality (Papers#:8)**
Audio and Music Processing (Papers#:2)
Chairs: Mengyao Zhu, Shanghai University, China.
Qiuyu Zhu, Shanghai University, China.
Location: Dynasty Room 2
- W-L5.1 Design and Implementation of Lunar Surface Inspection Simulation and Validation System
Qunshan Shi^{1,2}, Qing Xu¹, Chaozhen Lan¹, Guangjie Gu³, Ke Ma⁴
¹Zhengzhou Institute of Surveying and Mapping, Zhengzhou, China
²Science and Technology on Aerospace Flight Dynamics Laboratory, Beijing, China
³65015 Troops, Dalian, Liaoning, China
⁴69027 Troops, Xinjiang, Urumqi, China
- W-L5.2 Star Skeleton for Human Behavior Recognition
Fan Zhang, Li Guo, Haixian Lu, Shu Gui, Jinkui Li
Department of Electronic Science and Technology, University of Science and Technology of China, Hefei, China
- W-L5.3 Ship Motion Modeling and Simulation in Ship Handling Simulator
Xiufeng Zhang, Yicheng Jin, Yong Yin, Hongxiang Ren, Xiuwen Liu
Navigation College, Dalian Maritime University, Dalian, China
- W-L5.4 Study on Spatial Interpolation Method and Its Application
Hua Xu¹, Qiang Wu², Hongzhuan Lei², Shiyong Li²
¹Beijing Institute of Petrochemical Technology, Beijing, China
²China University of Mining and Technology, Beijing, China

- W-L5.5 Multi-view Stereoscopic Angle Model and It's Application
Hao Cheng, Ping An, Hejian Li, Zhijiang Zhang, Zhaoyang Zhang
School of Communication and Information Engineering, Shanghai University,
Shanghai, China
- W-L5.6 A Dynamical Loading of Large Scale 3D City Based on OSG
Ximin Zhang^{1, 2, 3, 4}, Wanggen Wan^{1, 4}, Feng Guo^{1, 3, 4}, Xueli Zhou^{1, 3, 4}, Xiaoqing Yu¹
¹School of Communication and Information Engineering, Shanghai University,
Shanghai, China
²Department of Physics, Henan Institute of Education, Zhengzhou, China
³Shanghai HanPan Information S&T Ltd, Shanghai, China
⁴Institute of Smart City, Shanghai University, Shanghai, China
- W-L5.7 Reconstructing Curve on the Surface with Extreme Learning Machines
Zhenghua Zhou^{1, 2}, Wanggen Wan¹, Xueli Zhou¹
¹School of Communication and Information Engineering, Shanghai University,
Shanghai 200072, China
²Department of information and mathematics Sciences, China Jiliang
University, Hangzhou 310018, China
- W-L5.8 3D Visualization for Heart Model from Point Clouds
Jinbo Li^{1, 2, 3}, Xiuli Ma^{1, 2, 3}, Yangyang Jia^{1, 2, 3}, Xueli Zhou^{1, 2, 3}
¹School of Communication and Information, Shanghai University, Shanghai,
China
²Institute of Smart City, Shanghai University, Shanghai, China
³Shanghai HanPan Information S&T Ltd, Shanghai, China
- W-L5.9 An Efficient Cutting Method for 3D Endocardial Geometric Model
Xueli Zhou^{1, 2, 3, 4}, Wanggen Wan^{1, 4}, Yanan Wang^{1, 3, 4}, Jinbo Li^{1, 3, 4}, Yangyang Jia^{1, 3, 4}
¹School of Communication and Information Engineering, Shanghai University,
Shanghai, 200072, China
²School of Physics and Electronic Engineering, Changshu Institute of
Technology, Changshu, 215500, China
³Shanghai HanPan Information S&T Ltd, Shanghai, China
⁴Institute of Smart City, Shanghai University, China
- W-L5.10 Audio Fingerprint Based on Spectral Flux for Audio Retrieval
Wengen Wang, Xiaoqing Yu, YunHui Wang, Ram Swaminathan
¹Shool of Communication and Information Engineering, Shanghai University,
Shanghai, China
²Institute of Smart City, Shanghai University, Shanghai, China
³Shanghai HanPan Information S&T Ltd, Shanghai, China
- W-L6 Language and Speech Processing (Papers#:7)**
Multimedia SOC Design (Papers#:4)
Chairs: Xiangyang Wang, Shanghai University, China.
 Rui Wang, Shanghai University, China.
Location: Dynasty Room 3

- W-L6.1 Exploiting Language Cluster Information for Language Pair Identification
Bing Jiang, Yan Song, Lirong Dai
Dept. of EEIS, University of Science and Technology of China, Hefei, China
- W-L6.2 An Efficient Layer-Wised Beam Pruning Algorithm for Large Vocabulary Continuous Speech Recognition System
Xie Chen, Yuxiang Shan, Xin Zhang, Jia Liu
Tsinghua National Laboratory for Information Science and Technology, Department of Electronic Engineering, Tsinghua University, Beijing, China
- W-L6.3 Dual-microphone Based Binary Mask Estimation for Robust Speaker Verification
Yali Zhao, Zhonghua Fu, Lei Xie, Jian Zhang, Yanning Zhang
Shaanxi Provincial Key Laboratory of Speech and Image Information Processing, School of Computer Science, Northwestern Polytechnical University, Xi'an, China
- W-L6.4 Integrated Tone Evaluation in Mandarin CALL Systems Using Competing Model Based Approach
Yang Qu¹, Yue Lu¹, Patrick S P Wang^{1,2}, Xin He³
¹Department of Computer Science and Technology, East China Normal University, Shanghai, China
²College of Computer and Information Science, Northeastern University, Boston, USA
³Motorola China Research Center, Shanghai, China
- W-L6.5 Improved Spoken Term Detection by Template-based Confidence Measure
Shan Su, Wu Guo, Yong Xu, Lirong Dai
University of Science and Technology of China, Hefei, China
- W-L6.6 Spoken Term Detection for OOV Terms Based on Phone Fragment
Yong Xu, Wu Guo, Shan Su, Lirong Dai
University of Science and Technology of China, Hefei, China
- W-L6.7 Ancient Chinese Musical Score Translation via Instance-based Learning
Yelei Ding, Rongfeng Li, Wenxin Li
Department of Computer Science, Peking University, Beijing, China
- W-L6.8 A More Efficient Triangle Rasterization Algorithm Implemented in FPGA
Xuzhi Wang¹, Feng Guo^{1,2}, Mengyao Zhu¹
¹School of Communication and Information Engineering, Shanghai University, Shanghai 200072, China
²School of Informatics, Linyi University, Linyi 276000, China
- W-L6.9 Fast Frequent Itemsets Generation and Support Calculation with FPGAs
Shipeng Xu, Mengyao Zhu, Chaoqiong Tu
School of Communication and Information Engineering, Shanghai University, Shanghai, China
Institute of Smart City, Shanghai University, Shanghai, China
Shanghai HanPan Information Technology Ltd, Shanghai, China

- W-L6.10 Research of Graphics Acceleration Based on Embedded System
Feng Guo^{1,2,3,4}, Wanggen Wan^{1,4}, Wenzhen Zhang^{1,3,4}, Xiang Feng^{1,3,4}
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- W-L6.11 Adaptive Algorithm for Time Delay Estimation in the Indoor Reverberant Environment
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| Y Biao | T-L2.3 | 39 | | W-L6.1 | 58 | Z Q Liu | W-L1.7 | 49 |
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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.



Hua Ting Hotel

Hua Ting Hotel & Towers is a five three-star hotel, located in the heart of the city's booming commercial centre, Xu Jia Hui. 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.

The Hua Ting Hotel & Towers comprises 1008 rooms and 56 suites. The hotel has the best exhibition, meeting and conference facilities in town including a grand ballroom that seat 1500 with simultaneous translation service available. The hotel also provides a fully equipped 24 hours Business Center.



Chinese Address Cards

Hua Ting Hotel

Address: 1200 Caoxi Road North, Xuhui Area, Shanghai, China

Tel: 86-21-64391000

华亭宾馆

地址: 上海市徐汇区曹溪北路 1200 号

电话: 86-21-64391000

Hua Ting Guest House

Address: 2525 Zhongshan West Road, Xuhui Area, Shanghai, China

Tel: 86-21-64391818

南华亭宾馆

地址: 上海市徐汇区中山西路 2525 号

电话: 86-21-64391818

Han Ting Hotel

Address: 2277 Zhong Shan West Road, Xuhui District, Shanghai, China

Tel: 86-21-61675589

汉庭连锁宾馆

地址: 上海市徐汇区中山西路 2277 号

电话: 86-21-61675589
