

CONFERENCE PROGRAM

ICMIP 2022

The 7th International Conference on MULTIMEDIA AND IMAGE PROCESSING

Virtual Conference

January 14-16, 2022

Beijing Time (GMT +8:00)

Sponsored by



天津职业技术师范大学
TIANJIN UNIVERSITY OF TECHNOLOGY AND EDUCATION

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1 WELCOME MESSAGE

“ Dear colleagues and friends,

On behalf of the conference organizing committees, we are delighted to welcome you to the virtual conference of the 7th International Conference on Multimedia and Image Processing (ICMIP 2022), to be held from January 14-16, 2022.

The objective of the conference is to provide a premium platform to bring together researchers, scientists, engineers, academics and graduate students to share up-to-date research results. We are confident that during this time you will get the theoretical grounding, practical knowledge, and personal contacts that will help you build a long term, profitable and sustainable communication among researchers and practitioners in the related scientific areas.

This year's program is composed of 4 oral sessions, and 4 keynote speeches delivered respectively by *Prof. Shahram Latifi* (FIEEE, University of Nevada), *Prof. Changsheng Xu* (FIEEE, Chinese Academy of Sciences), *Prof. Hiroyuki Kudo* (University of Tsukuba), & *Prof. Zheli Liu* (Nankai University). We would like to express our gratitude to all the speakers in this conference. Special thanks to all of our committee members, all the reviewers, and the attendees for your active participation. We hope the conferences will be proved to be intellectually stimulating to us all.

Finally, we wish you a very successful conference!

Yours Sincerely,

Conference Organizing Committee-ICMIP 2022

”

2 MEETING AGENDA

Essential Information

Please make sure you are aware of the following details before the conference.



Meeting ID

Room A: 986 1799 7698

<https://zoom.us/j/98617997698>

Room B: 973 4517 2118

<https://zoom.us/j/97345172118>

Room will be open 30 mins in advance.



Test Session

Check details of the testing time on **Friday, Jan 14**, and please make sure to show up on time.



Name Setting

Keynote Speaker: Keynote-Name

Committee: Position-Name

Author: Paper ID-Name

Listener: Listener-Name



Time Zone

**GMT +8:00
Beijing Time**

Please be aware of time difference between this and your region/country.

2 MEETING AGENDA

Room A: 986 1799 7698

Meeting Link: <https://zoom.us/j/98617997698>

Friday

14.01.2022.

Zoom Test Sessions

| 13:00-14:00 | 14:00-15:00 | 15:00-16:00 | 16:00-17:00 | 17:00-17:30 | 17:30-18:00 |
|--------------------|-------------|-------------|-------------|---------------------|--|
| CS0001 | CS0018 | CS0033 | CS0043 | Keynote Speakers | [Waiting Time] for all participants who are unavailable at allocated time. |
| CS0002 | CS0020 | CS0034 | CS0044 | | |
| CS0003 | CS0021 | CS0035 | CS0045 | | |
| CS0008 | CS0025 | CS0036-A | CS0048 | | |
| CS0009 | CS0026 | CS0037-A | CS2001 | | |
| CS0010 & CS0012 | CS0027 | CS0038 | CS2002 | | |
| CS0013 | CS0029 | CS0039 | CS2004 | | |
| CS0014 | CS0030 | CS0040 | CS2005-A | | |
| CS0015 & CS0017 | CS0031 | CS0041 | | | |
| CS0016 | CS0032 | CS0042 | | | |

Pre-test for Formal Session

- We will test screen sharing, audio, video, and how to “Raise Hand” in Zoom. Please get your presentation slides and computer equipment prepared beforehand.
- All the presenters are required to join the Zoom test sessions on **Jan. 14**, to ensure the meeting next day run smoothly.
- It may only take you 3min to complete the test session, then free to leave.

- Please note that times provided in the program are according to Beijing Time (GMT +8:00).

2 MEETING AGENDA

Room A: 986 1799 7698

Meeting Link: <https://zoom.us/j/98617997698>

Saturday

15.01.2022.

| TIME | ACTIVITY | PRESENTER |
|-------------|--|--|
| Host: TBA | | |
| 09:00-09:10 | Opening Remarks | <i>Conference Chair - Prof. Bing Yan</i> Tianjin University of Technology and Education |
| 09:10-09:55 | Keynote Speech I "Past, Present and Future of Facial Recognition" | Prof. Shahram Latifi Fellow of IEEE, Professor, University of Nevada |
| 09:55-10:40 | Keynote Speech II "Connecting Isolated Social Multimedia Big Data" | Prof. Changsheng Xu Fellow of IEEE & IAPR, Chinese Academy of Sciences |
| 10:40-11:00 | Group Photo / Break Time | |
| 11:00-11:45 | Keynote Speech III "Deep Learning in Tomographic Image Reconstruction" | Prof. Hiroyuki Kudo University of Tsukuba |
| 11:45-12:30 | Keynote Speech IV "Oblivious Random Oracle and its Applications" | Prof. Zheli Liu Nankai University |
| 12:30-13:30 | Break Time | |
| 13:30-16:15 | Session 1: Medical Image and Signal Processing | CS0031 CS0015 CS0016 CS0030 CS2001 CS2002 CS0035 CS0037-A CS0040 CS0025 CS0017 |

- Please note that times provided in the program are according to Beijing Time (GMT +8:00).
- Each keynote talk includes a 5-minute Q&A session.

2 MEETING AGENDA

Room A: 986 1799 7698

Meeting Link: <https://zoom.us/j/98617997698>

Sunday

16.01.2022.

| TIME | ACTIVITY | PRESENTER |
|-------------|---|--|
| 09:30-12:00 | Session 2: Intelligent Image Analysis and Processing | CS2004 CS0034 CS0041 CS0033 CS0043 CS0009 CS0018 CS0045 CS0021 CS0003 |
| 12:00-13:00 | | Session Group Photo / Break Time |
| 13:00-15:30 | Session 3: Intelligent Computing and Information Engineering | CS0008 CS0013 CS0014 CS0026 CS0036-A CS0027 CS0038 CS0039 CS0042 CS0032 |
| 15:30-15:45 | | Session Group Photo / Break Time |
| 15:45-18:00 | Session 4: Communication and Information Network | CS0012 CS0002 CS2005-A CS0029 CS0048 CS0044 CS0001 CS0010 CS0020 |

- Please note that times provided in the program are according to Beijing Time (GMT +8:00).
- Each oral presentation includes a 3-minute Q&A session.
- Session Group Photo: a picture captured at the end of each session.

“Past, Present and Future of Facial Recognition”



Prof. Shahram Latifi

Fellow of IEEE

University of Nevada

09:10-09:55

Abstract: In recent years, there has been much progress in the area of Facial Recognition (FR) that address the shortcomings in conventional FR systems. Spoofing using a high resolution image, high false negative rates due to partial occlusion of the face (ex. mask), and high positive rates due to similarity of subjects are among such shortcomings. Aided by advancements in AI and image acquisition technology (i.e. high resolution 2D/3D) cameras, researchers have been able to push the quality of the facial recognition systems to an impressive new level. Despite the progress, there are still challenging issues lingering around ranging from technology matters (ex. real-time standoff detection) to policy concerns (ex. privacy and ethics). In this talk, I will address the progress in facial recognition and present the state of the art technologies developed by the world software giants such as Google, Facebook, Microsoft and Baidu in FR. Amid the growing concerns about misuse of FR by governments and other public entities, companies have started to move away from broad identification toward more restrictive forms of personal identification. At the end, I will focus on the trade-offs of restrictive FR and the need for including control, privacy and transparency in future systems.

Bio: Shahram Latifi, an IEEE Fellow, received the Master of Science Degree in Electrical Engineering from Fanni, Teheran University, Iran in 1980. He received the Master of Science and the PhD degrees both in Electrical and Computer Engineering from Louisiana State University, Baton Rouge, in 1986 and 1989, respectively. He is currently a Professor of Electrical Engineering at the University of Nevada, Las Vegas. Dr. Latifi is the director of the Center for Information and Communication Technology (CICT) at UNLV. He has designed and taught graduate courses on Bio-Surveillance, Image Processing, Computer Networks, Fault Tolerant Computing, and Data Compression in the past twenty years. He has given seminars on the aforementioned topics all over the world. He has authored over 200 technical articles in the areas of image processing, biosurveillance, biometrics, document analysis, computer networks, fault tolerant computing, parallel processing, and data compression. His research has been funded by NSF, NASA, DOE, Boeing, Lockheed and Cray Inc. Dr. Latifi was an Associate Editor of the IEEE Transactions on Computers (1999-2006) and Co-founder and General Chair of the IEEE Int'l Conf. on Information Technology. He is also a Registered Professional Engineer in the State of Nevada.



Prof. Changsheng Xu

Fellow of IEEE & IAPR

Institute of Automation,
Chinese Academy of Sciences

09:55-10:40

“Connecting Isolated Social Multimedia Big Data”

Abstract: The explosion of social media has led to various Online Social Networking (OSN) services. Today's typical netizens are using a multitude of OSN services. Exploring the user-contributed cross-OSN heterogeneous data is critical to connect between the separated data islands and facilitate value mining from big social multimedia. From the perspective of data fusion, understanding the association among cross-OSN data is fundamental to advanced social media analysis and applications. From the perspective of user modeling, exploiting the available user data on different OSNs contributes to an integrated online user profile and thus improved customized social media services. This talk will introduce a user-centric research paradigm for cross-OSN mining and applications and some pilot works along two basic tasks: (1) From users: cross-OSN association mining and (2) For users: cross-OSN user modeling.

Bio: Changsheng Xu, is a distinguished professor of Institute of Automation, Chinese Academy of Sciences. His research interests include multimedia content analysis/indexing/retrieval, pattern recognition and computer vision. He has hold 50 granted/pending patents and published over 300 refereed research papers including 100+ IEEE/ACM Trans. papers in these areas. Prof. Xu is Editor-in-Chief of Multimedia Systems. He serves/served Associate Editor of IEEE Trans. on Multimedia and ACM Trans. on Multimedia Computing, Communications and Applications. He received the Best Paper Awards of ACM Multimedia 2016 and 2016 ACM Trans. on Multimedia Computing, Communications and Applications. He served as Program Chair of ACM Multimedia 2009. He has served as associate editor, guest editor, general chair, program chair, area/track chair, special session organizer, session chair and TPC member for over 20 IEEE and ACM prestigious multimedia journals, conferences and workshops. He is an ACM Distinguished Scientist, IEEE Fellow, and IAPR Fellow.



Prof. Hiroyuki Kudo

University of Tsukuba

11:00-11:45

“Deep Learning in Tomographic Image Reconstruction”

Abstract: Image reconstruction in CT, MRI, and PET has been performed by using a class of analytical reconstruction methods such as Filtered BackProjection (FBP) for a very long time up to 2000. In this talk, we will introduce our two example studies on the DL reconstruction as well as explaining its principles for unfamiliar audience. Our first study concerns reconstructing higher-quality images from sparse-view or low-dose CT projection data. The explanation is constructed as follows. First, we explain the standard approach to use DL for the CT reconstruction. Next, we explain our original approach (called CSDL-net) which combines DL and CS in a successful way to achieve much higher image quality compared to the case where CS or DL is used alone. We show typical examples which demonstrate that CSDL-net achieves a dramatic improvement on image quality. Our second study concerns how to use DL to image reconstruction in PET/SPECT. We have developed a DL-based method which corrects the degradations. The proposed method inputs a PET/SPECT degraded image reconstructed by FBP method with (or without) a CT/MRI image corresponding to the same transaxial slice into U-Net. As an output of network, an improved image with correction is obtained. We show typical examples which demonstrate that the proposed method with the PET/SPECT plus CT/MRI input works well. In the final part of this talk, we will explain our opinion about what is the main advantage of the DL approach, what problems exist in the DL approach at the current stage, and our expectation on the future direction.

Bio: In March 1990, Hiroyuki Kudo received his doctoral degree in electrical and communication engineering from the Tohoku University, Japan. Since then, he has worked at the Tohoku University for 2 years, and then at the University of Tsukuba for 28 years. Currently, he is a Professor at Faculty of Engineering, Information and Systems, the University of Tsukuba, Japan. His scientific interests include medical image analysis, image reconstruction for medical tomography devices such as Computed Tomography (CT) and Positron Emission Tomography (PET), and computer-aided-diagnosis. In particular, he spent a long time of his research career to develop advanced image reconstruction methods in tomography. Most of his research results have been published in top journals in this research field such as Physics in Medicine and Biology and IEEE Transactions on Medical Imaging. [More](#)



Prof. Zheli Liu

Nankai University

11:45-12:30

“Oblivious Random Oracle and its Applications”

Abstract: Encryption alone may not be secure enough because an untrusted server can gain sensitive information from user’s access pattern. Oblivious random access machine (ORAM) is the solution to protect access pattern in memory or encrypted cloud storage. In this talk, we will take symmetric search operation as an example and introduce the concept of access pattern, review the typical ORAM models and introduce our work about how to use it to protect the search pattern in the keyword search over ciphertexts.

Bio: Zheli Liu is vice dean of College of Computer Science, vice dean of College of Cyber Science, Nankai University, now. His current research interests include applied cryptography and data privacy protection. He has published more than 50 papers in well-known journals or top conferences, including Usenix Security, VLDB, IEEE TDSC, IEEE TKDE, IEEE TIFS, IEEE TC, IEEE TSC, IEEE INFOCOM and so on. The Google Scholar citations have been over 3400 and eight papers have been the Top 1% highly cited papers.

He was the chairs of several international conferences, including SPNCE 2021, SOCIALSEC 2020, SPNCE 2019, ICA3PP 2018, CSE2017, SPNCE2016, BWCCA2015, EIDWT2013, etc. He is the Associate editor of Springer Cybersecurity, HCIS, and has served as guest editors for many well-known journals, including Springer MoNET, Elsevier JNCA, etc.

4 CONFERENCE COMMITTEE 2022

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4 CONFERENCE COMMITTEE 2022

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If you have any questions, please feel free to contact us any time.



ICMIP 2022

E-mail: icmip2016@vip.163.com

Tel: +86-1309633337

Web: www.icmip.org

