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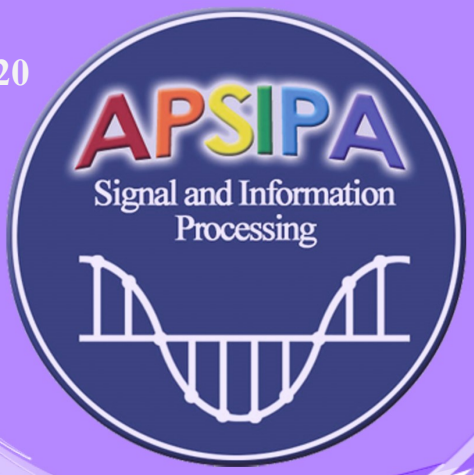

APSIPA
NEWSLETTER
Asia-Pacific Signal and Information Processing Association Newsletter

Message from New Vice Editor-In-Chief

Due to this unexpected situation (COVID19), from the end of last winter, I have communicated with people around me via email and phone while giving lectures online and hoping to take a travel as done before. One morning, I walked on the promenade in front of my house while wearing a mask and reading news on the smartphone. People were rare on the road, and only the sound of passing cars was heard. I stopped gazing at the flowers on the side of the road for a while. I know that there is nothing I do but stay home until this ends, which makes me be humble to look around more than before.

When I returned to work on my desk, I encountered emails from colleagues working for APSIPA long time very sincerely. I am also concerned to see if they are doing well far away, and grateful to hear they are. Participating in the APSIPA conference, I met many good people, who have been leading the APSIPA organization so many years.

On the way, the meetings at the APSIPA conferences provide precious space and time we know each other, and this makes us feel one. We, who used to have meetings while looking their faces with a smile, are now in the midst of sending and receiving news via e-mail and meeting remotely a little bit longer than usual. In difficult times like this, I believe that APSIPA Newsletters will play an important role in delivering the activities of our members to the society.

From this perspective, I would like to express many thanks for entrusting me as a vice EiC. At the same time, we feel that it is very important to share the fact that we are growing and communicating through Newsletters and take a lot of responsibility for it. When I was the IVM-TC chair last year, I wrote a news after organizing major issues brought up in the IVM-TC, which provided me time to reconcile all the things scattered before. In addition, from the news of other members, I could understand several other activities under the APSIPA organization.

In this issue

At the APSIPA ASC 2020 held in Dec. 7-10, 2020, New Zealand, we hope COVID-19 will end and everyone will see each other in a healthy way. We look forward to meeting this society again from the starting point and to drawing a line of continuous union in future. This year, through cooperation with Dr. Wong who is the EiC of newsletters, we will make affectionate effort to make more informative Newsletters. I would also like to thank Prof. Chien Jen-Tzung, the new TC chair of APSIPA Machine Learning and Data Analytics Technical Committee (MLDA TC), to co-edit this issue of the newsletter.

We pray for peace at your home, at school and at work.

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Machine Learning and Data Analytics Technical Committee (MLDA TC)

Prof. Jen-Tzung Chien

National Chiao Tung University (NCTU), Taiwan
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Introduction of MLDA TC

The researches on machine learning, deep learning and data analytics have been rapidly growing in the community of signal and information processing. The submissions related to machine learning have been significantly increased in the past signal processing conferences (APSIPA, ICASSP, INTERSPEECH and EUSIPCO). Owing to the emerging researches in the area of artificial intelligence, this new MLDA TC has been approved by Board of Governor in APSIPA ASC 2019 in Lanzhou, China and established as the eighth technical committee in APSIPA. MLDA TC aims to promote the advancement and exchange of the researches on machine learning and data analytics for signal and information processing in the Asia-Pacific region. The fields of interest include the following research topics

- Learning theory and modeling
- Neural networks and deep learning
- Bayesian learning and modeling
- Sequential learning and decision methods
- Source separation
- Signal detection, pattern recognition and classification
- Tensor and structured matrix methods
- Dictionary learning, subspace and manifold learning
- Semi-supervised and unsupervised learning
- Active and reinforcement learning
- Information-theoretic learning
- Resource efficient machine learning
- Large scale learning
- Machine learning for big data
- Machine learning systems and applications

The MLDA TC contains a variety of members from different regions in Asia-Pacific and the world including China, Japan, USA, Taiwan, Singapore, South Korea, Hong Kong, and Denmark, as listed below. I would like to thank TC members for their commitment and the other technical committees for their support.

Chair: Jen-Tzung Chien, National Chiao Tung University (Taiwan)
Vice Chair: Zhanyu Ma, Beijing University of Posts and Telecommunications (China)

Members
Jun Du, University of Science and Technology of China (China)
Lei Xie, Northwestern Polytechnical University (China)
Tomoko Matsui, The Institute of Statistical Mathematics (Japan)
Wen-Hsiao Peng, National Chiao Tung University (Taiwan)
Gan Woon Seng, Nanyang Technological University (Singapore)
Man-Wai Mak, The Hong Kong Polytechnic University (Hong Kong)
Zheng-Hua Tan, Aalborg University (Denmark)
Shinji Watanabe, Johns Hopkins University (USA)
Zhijian Ou, Tsinghua University (China)
Konstantin Markov, The University of Aizu (Japan)
Sunwoo Kim, Hanyang University (South Korea)
Chuang Zhang, Beijing University of Posts and Telecommunications (China)
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Xiaoxu Li, Lanzhou University of Technology (China)
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You can find more information about the MLDA TC at http://www.apsipa.org/TC/MLDA.html

Organizing Special Sessions for APSIPA ASC

We have organized one special session in APSIPA ASC 2019 in Lanzhou, China which contained five contributed papers. The abstract of this special session is given below. In addition, there will be the other special session in APSIPA ASC 2020 arranged by MLDA TC. We would like to thank the organizers or TC members who devote their efforts to organize these special sessions.

Machine Learning for Small-sample Data Analysis (Zhanyu Ma and Xiaoxu Li)

Abstract:

Due to the fast progress and widespread applications of machine learning, significant advances in computer vision, natural language processing and speech signal processing have been implemented in recent years, attracting enormous attention from both research communities and industries. Many machine learning methods, especially for deep learning architectures have been proposed, demonstrating breathtaking performance in various tasks thanks to large amount of labeled data samples. Nevertheless, the aforementioned data-hungry machine learning methods fail in real-world applications due to the difficulty of data collection in some special categories or domains. Overfitting, imbalanced data distribution, domain transfer, and zeroshot problems that incur by small samples in the machine learning and deep neural network community should be focused on. To address the aforementioned problems, zero-shot, one-shot, few-shot, small-sample, and fine-grained learning methods and corresponding optimization algorithms play a crucial role and would improve the generalization capability of machine learning models trained with small samples. Therefore, the goal of this special session is to provide theoretical foundations and ground-breaking models in order to overcome the small-sample challenge in machine learning.

APSIPA Summer School 2020

Outline

An important mission of APSIPA is to promote the education on signal and information technologies in the local region, and attract more students to join this promising research area. Therefore, we propose to organize a one-day summer school during APSIPA 2010 ASC in Auckland, New Zealand. This summer school will be a satellite event of the main conference, and just one day after APSIPA ASC 2020, i.e., 11 Dec. 2020. In this summer school, we are going to provide a lecture titled "Data Driven Based Multimedia Technologies" on the five topics; Image and Volumetric Data Restoration, Image and video super-resolution, Intelligent Visual Editing, Bridging Images and Natural Language and Computer Graphics.

The features of APSIPA Summer School 2020 are as follows:

Theme	Data Driven Based Multimedia Technologies
Date	11 Dec. 2020
Venue	The University of Auckland, New Zealand
Speakers	5 scholars who attend APSIPA ASC 2020, especially distinguished lectures in image and video research.
Main audience	Colleague students, young researchers from universities in the local area.
Extra audience	Colleague students from other areas to attend APSIPA ASC 2020
Lecture style	Dealing with basic technology to applications for each session to have AI technology vision to colleague students and young researchers.

Organizers

Prof. Woon Seng Gan (NTU): APSIPA BOG member, education VP. In charge of resource allocation, program design, publicity

Prof. Sanghoon Lee (Yonsei University) : APSIPA BOG member, the Vice EiC of the APSIPA Newsletter, speaker invitation, program design, publicity

Speakers:

1. **Shogo Muramatsu**, Niigata University, JAPAN (APSIPA DL)
2. **Jiaying Liu**, Peking University, China (APSIPA IVM TC Member)
3. **Huihui Bai**, Beijing Jiaotong University, China (APSIPA DL)
4. **Jianfei Cai**, Monash University, Australia
5. **Sanghoon Lee**, Yonsei University, Korea (APSIPA BoG)

Program

	Time	Action
Morning Sessions	08:30 - 09:00	Registration
	09:00 - 10:00:	**Lecture 1**
	10:00 - 10:30	Coffee break 1
	10:30- 11:30	**Lecture 2**
	11:30 -12:00	**Lecture 3-1**
Lunch time	12:00 - 13:30	Lunch break
Afternoon Sessions	**13:30 - 14:00**	**Lecture 3-2**
	14:00 - 15:00	**Lecture 4**
	15:00 - 16:00	Coffee break 2
	16:00 - 17:00	**Lecture 5**
	17:00 - 18:00	**Overall Discussion**
Evening Event	18:00 - 20:00	Dinner of speakers

Title and summary:

Lecturer 1: Shogo Muramatsu:

Title : *Sparsity-Aware Image and Volumetric Data Restoration with Convolutional Dictionary Learning*

Summary: In this lecture, sparsity-aware restoration process of images and volumetric data is outlined. First, the purpose and application examples of image and volumetric data restoration are introduced. Then, the relationship between simultaneous equations and signal restoration is illustrated. The following topics are also summarized: Inner products and filtering, linear systems and matrices, filter banks and synthesis dictionaries, sparse modeling and MAP estimation, image generation and prior knowledge. Convolutional dictionary learning is also explained in connection with the design of parametric filter banks. Finally, the nonlinear extension of convolution dictionary is discussed and compared with convolutional neural networks (CNNs).

Bio: Shogo Muramatsu received the B.E., M.E. and Ph.D. degrees from Tokyo Metropolitan University, Tokyo, Japan, in 1993, 1995 and 1998, respectively. From 1997 to 1999, he worked at Tokyo Metropolitan University. In 1999, he joined Niigata University, where he is currently a Professor in the Faculty of Engineering. From 2003 to 2004, he was a Visiting Researcher at the University of Florence, Italy. His research interests include multidimensional signal processing, multi-rate systems, image and volumetric data restoration, video analysis, and embedded vision systems. Prof. Muramatsu is a Senior Member of IEEE and IEICE (Institute of Electronics, Information, and Communication Engineers of Japan) and a Member of APSIPA (Asia-Pacific Signal and Information Processing Association) and ITE (Institute of Image Information and Television Engineers of Japan). He served as an Area Editor of IEICE Transactions of Electronics, Communications and Computer Sciences from 2017 to 2019. He is currently an Associate Editor of the IEEE Transactions on Signal Processing and an APSIPA Distinguished Lecturer.

Lecturer 2: Huihui Bai

Title: *Exploration of image and video super-resolution based on deep learning*

Summary: With the development of various image sensors, there is a strong demand for image and video super-resolution, and the performance improvement of traditional super-resolution methods has encountered bottlenecks. In recent years, deep learning has made breakthroughs in the field of computer vision and image processing, which inspired us to explore the technology of image and video super resolution based on deep learning, in order to further improve the quality of reconstruction. In this report, I will focus on the recent research works of our research group on fast and accurate image and video super-resolution based on deep learning.

Bio: Huihui Bai received her B.S. degree and her Ph.D. degree from Beijing Jiaotong University in 2001 and 2008, respectively. She is currently a professor in Institute of Information Science in Beijing Jiaotong University. Her research interests are image/video processing, image/ video coding and transmission. She has published over 80 journal and conference publications, one U.S. granted patent, one Australian innovation patent, 8 national invention patents. She has hosted many scientific research projects, such as Natural Science Foundation of China, Natural Science Foundation of Beijing and Natural Science Foundation of Jiangsu. Furthermore, she received Beijing science and technology achievement award (first class, second author), Shanxi science and technology achievement award (third class, fourth author) and Shanxi higher education science and technology achievement award (first class, fourth author). Additionally, she was selected as one of Beijing higher education young elite teacher project, star track of MSRA and creative fund from CCF and Tencent.

Lecturer 3: Jiaying Liu

Title : *Intelligent Visual Editing*

Summary: Intelligent image/video editing is a fundamental topic in image processing which has witnessed rapid progress in the last two decades. Due to various degradations in the image and video capturing, transmission and storage, image and video include many undesirable effects, such as low resolution, low light condition, rain streak and rain drop occlusions. The recovery of these degradations is ill-posed. With the wealth of statistic-based methods and learning-based methods, this problem can be unified into the cross-domain transfer, which cover more tasks, such as image stylization. In this talk, I will discuss recent progresses of visual editing. This talk covers both traditional statistics based and deep-learning based methods, and contains both biological-driven model, i.e. Retinex model, and data-driven model.

Bio: Jiaying Liu is currently an Associate Professor with the Wangxuan Institute of Computer Technology, Peking University. She received the Ph.D. degree (Hons.) in computer science from Peking University, Beijing China, 2010. She has authored over 100 technical articles in refereed journals and proceedings, and holds 42 granted patents. Her current research interests include multimedia signal processing, compression, and computer vision. Dr. Liu is a Senior Member of IEEE, CSIG and CCF. She was a Visiting Scholar with the University of Southern California, Los Angeles, from 2007 to 2008. She was a Visiting Researcher with the Microsoft Research Asia in 2015 supported by the Star Track Young Faculties Award. She has served as a member of Membership Services Committee in IEEE Signal Processing Society, a

member of Multimedia Systems & Applications (MSA) Technical Committee, Visual Signal Processing and Communications (VSPC) Technical Committee in IEEE Circuits and Systems Society, a member of the Image, Video, and Multimedia (IVM) Technical Committee in APSIPA. She has also served as the Associate Editor of IEEE Trans. on Image Processing, and Elsevier JVCI, the Technical Program Chair of IEEE VCIP-2019/ACM ICMR-2021, the Publicity Chair of IEEE ICME-2020/ICIP-2019, and the Area Chair of CVPR-2021/ECCV-2020/ICCV-2019. She was the APSIPA Distinguished Lecturer (2016-2017). In addition, Dr. Liu also devotes herself to teaching. She has run MOOC Programming Courses via Coursera/edX/ChineseMOOCs, which have been enrolled by more than 60 thousand students. She is also the organizer of the first Chinese MOOC Specialization in Computer Science. She is the youngest recipient of Peking University Outstanding Teaching Award.

Lecturer 4: Jianfei Cai

Title : *Bridging Images and Natural Language with Deep Learning*

Summary: As human beings, we can use our vision capabilities and language to perceive the world around us and to communicate with each other. While it seems to be easy for human beings to accomplish a wide variety of tasks that combine the two modalities, it is quite challenging for machines because it requires the model to understand both images and language, especially how they relate to each other. In this talk, I will discuss a series of our recent works to bridge images and natural language with deep learning, and to reduce the gap between the two modalities, including image captioning, scene graph based image captioning, cross-modal retrieval, etc. I will also touch the future directions along this line.

Bio: Jianfei is a Professor at Faculty of IT, Monash University, where he currently serves as the Head for the Data Science & AI Department. Before that, he was a full professor, a cluster deputy director of Data Science & AI Research center (DSAIR), Head of Visual and Interactive Computing Division and Head of Computer Communications Division in Nanyang Technological University (NTU). His major research interests include visual computing, computer vision, and multimedia networking. He has published more than 200 technical papers in international conferences and journals. He is a co-recipient of paper awards in ACCV, ICCM, IEEE ICIP and MMSP. He has served as an Associate Editor for IEEE T-IP, T-MM, T-CSVT and Visual Computer as well as serving as Area Chair for ICCV, ECCV, ACM Multimedia, ICME and ICIP. He was the Chair of IEEE CAS VSPC-TC during 2016-2018. He had also served as the leading TPC Chair for IEEE ICME 2012.

Lecturer 5: Sanghoon Lee

Title: *Graphics up to the Face Reconstruction and Beyond*

Summary: In this talk, I will introduce the fundamental background of graphics needed to understand advance applications based on rendering, rasterization, texturing, lighting and modeling. From this background, I will extend to the main techniques of face reconstruction and further research topics such as animation. First, I will introduce traditional optimization approaches for reconstructing 3D face from an image. For this optimization, I will introduce several standard objective functions and constraints in terms of reduction of sparse landmark errors, analysis-by-synthesis errors and photometric errors for higher

visual quality of 3D face via shape from shading. Recently, deep neural networks have been widely used and demonstrated excellent performance over legacy techniques. As an extension of this trend, the recent technologies will be presented on how to apply traditional techniques for the 3D modeling by means of regression of 3D coefficients, generation of dense correspondence map and weakly-/un-supervised training. Finally, the further technology trend will be discussed.

Bio: Sanghoon Lee received the B.S. degree from Yonsei University, Seoul, South Korea, in 1989, the M.S. degree from the Korea Advanced Institute of Science and Technology, South Korea, in 1991, and the Ph.D. degree from The University of Texas at Austin, TX, USA, in 2000. From 1991 to 1996, he was with Korea Telecom, South Korea. From 1999 to 2002, he was with Lucent Technologies, NJ, USA. In 2003, he joined the EE Department, Yonsei University, as a Faculty Member, where he is currently a Full Professor. His current research interests include image/video processing, computer vision and graphics. Dr. Lee received the 2015 Yonsei Academic Award from Yonsei University, the 2012 Special Service Award from the IEEE Broadcast Technology Society, and the 2013 Special Service Award from the IEEE Signal Processing Society. He was the General Chair of the 2013 IEEE IVMSP Workshop, and has been served as steering committees for IEEE and APISPA conferences. He has been serving as the Chair of the IEEE P3333.1 Quality Assessment Working Group since 2011. He was the IVM Technical Committee Chair of APSIPA from 2018 to 2019, and is a Board of Governors Member of APSIPA in 2020. He was the IEEE IVMSP Technical Committee from 2014 to 2019, and has been the IEEE MMSP Technical Committee from 2016. He also served as an Editor of the JOURNAL OF COMMUNICATIONS AND NETWORKS from 2009 to 2015 and a special issue Guest Editor of the IEEE TRANSACTIONS ON IMAGE PROCESSING in 2013. He was an Associate Editor of the IEEE TRANSACTIONS ON IMAGE PROCESSING from 2010 to 2014. He served as an Associate Editor from 2014 to 2018, and currently a Senior Area Editor of the IEEE SIGNAL PROCESSING LETTERS.

Latest Articles from APSIPA Transactions on Signal and Information Processing (ATSIP)

- **An Overview of Coding Tools in AV1: the First Video Codec from the Alliance for Open Media**
  - Yue Chen, Debargha Mukherjee, Jingning Han, Adrian Grange, Yaowu Xu, Sarah Parker, Cheng Chen, Hui Su, Urvang Joshi, Ching-Han Chiang, Yunqing Wang, Paul Wilkins, Jim Bankoski, Luc Trudeau, Nathan Egge, Jean-Marc Valin, Thomas Davies, Steinar Midtskogen, Andrey Norkin, Peter de Rivaz, Zoe Liu
  - DOI: https://doi.org/10.1017/ATSIP.2020.2
  - Published online: 24 February 2020, e6

- **Fully-automatic inverse tone mapping algorithm based on dynamic mid-level tone mapping**
  - Gonzalo Luzardo, Jan Aelterman, Hiep Luong, Sven Rousseaux, Daniel Ochoa, Wilfried Philips
  - DOI: https://doi.org/10.1017/ATSIP.2020.5
  - Published online: 24 February 2020, e7

- **A two-stage approach for passive sound source localization based on the SRP-PHAT algorithm**
  - M.A. Awad-Alla, Ahmed Hamdy, Farid A. Tolbah, Moatasem A. Shahin, M.A. Abdelaziz
  - DOI: https://doi.org/10.1017/ATSIP.2020.6
  - Published online: 26 February 2020, e8

- **Theoretical analysis of skip connections and batch normalization from generalization and optimization perspectives**
  - Yasutaka Furusho, Kazushi Ikeda
  - DOI: https://doi.org/10.1017/ATSIP.2020.7
  - Published online: 27 February 2020, e9

(continue)

- **Multiple feature regularized kernel for hyperspectral imagery classification**
  - Xu Yan, Peng Jiangtao, Du Qian
  - DOI: https://doi.org/10.1017/ATSIP.2020.8
  - Published online: 26 March 2020, e10

- **Vision and language: from visual perception to content creation**
  - Tao Mei, Wei Zhang, Ting Yao
  - DOI: https://doi.org/10.1017/ATSIP.2020.10
  - Published online: 30 March 2020, e11

- **Color-gamut mapping in the non-uniform CIE-1931 space with perceptual hue fidelity constraints for SMPTE ST.2094-40 standard**
  - Chang Su, Li Tao, Yeong Taeg Kim
  - DOI: https://doi.org/10.1017/ATSIP.2020.11
  - Published online: 31 March 2020, e12

- **An overview of ongoing point cloud compression standardization activities: video-based (V-PCC) and geometry-based (G-PCC)**
  - D. Graziosi, O. Nakagami, S. Kuma, A. Zaghetto, T. Suzuki, A. Tabatabai
  - DOI: https://doi.org/10.1017/ATSIP.2020.12
  - Published online: 03 April 2020, e13

Most Read Articles from ATSIP

https://www.cambridge.org/core/journals/apsipa-transactions-on-signal-and-information-processing/most-read

- **An overview of channel coding for 5G NR cellular communications**
  - Jung Hyun Bae, Ahmed Abotabl, Hsien-Ping Lin, Kee-Bong Song, Jungwon Lee
  - DOI: https://doi.org/10.1017/ATSIP.2019.10
  - Published online: 24 June 2019, e17

- **A tutorial survey of architectures, algorithms and applications for deep learning**
  - Li Deng
  - DOI: https://doi.org/10.1017/atsip.2013.9
  - Published online: 22 January 2014, e2

- **Use cases and challenges in telecom big data analytics**
  - Chung-Min Chen
  - DOI: https://doi.org/10.1017/ATSIP.2016.20
  - Published online: 12 December 2016, e19

Most Cited Articles from ATSIP for the Last 3 Years

https://www.cambridge.org/core/journals/apsipa-transactions-on-signal-and-information-processing/most-cited

- **Grayscale-based block scrambling image encryption using YCbCr color space for encryption-then-compression systems**
  - Warit Sirichotedumrong, Hitoshi Kiya
  - DOI: https://doi.org/10.1017/ATSIP.2018.33
  - Published online: 01 February 2019, e7

- **Select Automatic exposure compensation using an image segmentation method for single-image-based multi-exposure fusion**
  - Yuma Kinoshita, Hitoshi Kiya
  - DOI: https://doi.org/10.1017/ATSIP.2018.26
  - Published online: 02 January 2019, e22

- **Global and local uncertainty principles for signals on graphs**
  - Nathanael Perraudin, Benjamin Ricaud, David I Shuman, Pierre Vandergheynst
  - DOI: https://doi.org/10.1017/ATSIP.2012.2
  - Published online: 02 April 2018, e3

APSIPA Membership

Membership Benefits:

- Links to highly qualified people within the organization to develop research, technology, teaching, and career
- Discount fee on APSIPA conferences
- Reduced subscription fee for APSIPA journals
- Access to information about the international activities in signal and information processing such as conferences, continuing education, short courses, seminars, distinguished lecture series, student internships, scholarships, job listings, publication venues, and mentorships

To motivate APSIPA members to participate in APSIPA conferences, the registration for the 11th APSIPA conference implies an automatic renewal of APSIPA membership up to the end of December 2020.

You may join as:

- Student Membership: Student members are those who are enrolled full time in universities, institutes, or any accredited degree
- Full Membership: Full members are individuals interested in being part of the APSIPA mission to excel signal and information processing field. They are eligible to vote, hold positions in APSIPA association, and contribute to serve as editorial board and program committee members in APSIPA journals and conferences
- **Life Membership**: Full members may choose to subscribe as life members pending on paying the discount fee of life membership. Early-bird registration fee is available for life members at all times when registering for APSIPA ASC

Type of membership	Fees in US$	Fees in HK$
Student Membership	10 (per annual)	78 (per annual)
Full Membership	30 (per annual)	234 (per annual)
Life Membership	300 (a one-off fee)	2340 (a one-off fee)

Act Today! Join us at: http://www.apsipa.org/reg.asp

Local Chapters

Call for Establishing APSIPA Local Chapters

APSIPA starts Local Chapter system from the beginning of 2020. If you are interested in establishing a local chapter in your region, please see the guideline and submit the application form to APSIPA Head quarter and VP Membership Relations and Development.Membership Benefits:

APSIPA Local Chapters

APSIPA spans more than 20 countries in Asia-Pacific region, but local Chapters serve APSIPA members by holding meetings at the local level. If you're interested in connecting with professionals, academics and students in your region, getting involved locally provides exciting opportunities for networking, research, and project collaboration with others.

Chapters are constituted by a minimum of ten active members, and are established by application to APSIPA.

APSIPA offers unique benefits to individual groups, including industry, students and young professionals, and women in APSIPA, and numerous specialized events throughout the year.

For more details, please see the guideline of APSIPA Local Chapters. If you want to establish a local chapter in your region, please fulfill the application form and submit it to APSIPA Headquarter and VP Membership Relations and Development.

APSIPA Chapter Operation Manual

APSIPA Chapter Application Form

12th Asia Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC)

DECEMBER 7-10, 2020, AUCKLAND, NEW ZEALAND
WWW.APSIPA2020.ORG

Empowering societies with new generation AI & deep machine Learning

APSIPA ASC 2020 (www.apsipa2020.org) is the 12th annual conference organised by Asia-Pacific Signal and Information Processing Association (APSIPA), which will be held on December 7 – 10, 2020, Auckland, New Zealand. Founded in 2009, APSIPA organisation (www.apsipa.org) aims to promote research and education in signal processing, information technology, and communications. The annual conferences have been held previously in Lanzhou, China (2019),Hawaii, USA (2018), Kuala Lumpur, Malaysia (2017), Jeju, Korea (2016), Hong Kong, China(2015), Siem Reap, Cambodia (2014), Kaohsiung, China (2013), Los Angeles, USA (2012), Xi'an, China (2011), Singapore (2010), and Sapporo, Japan (2009). APSIPA is interested in all aspects of signal and information processing theories, algorithms, securities, implementations, and applications. Call for Special Sessions – APSIPA ASC 2020 program augments the main program with selected special sessions. Please refer to the conference web page for information about the proposals and submissions of the special sessions. Call for Tutorials – Organising tutorials at APSIPA ASC 2020 is one of APSIPA organisation strategies to proliferate and ease learning in core subjects and new topics in evolving research branches. Therefore, the tutorials should be addressed to attract a wide audience. Applicants interested in presenting tutorials may discuss their proposals with one of the tutorial chairs for more information. Call for Exhibitors and Sponsors – APSIPA ASC 2020 organisers encourage exhibitors, publishers, and companies to showcase their products during the conference period. Please refer to the conference web page for full information. All accepted papers are expected to be included in IEEE Xplore and indexed by EI, like all previous years.

The technical program includes, but not limited to, the following areas

- Signal Processing Systems: Design and Implementation
- Signal and Information Processing Theory and Methods
- Speech, Language, and Audio
- Biomedical Signal Processing and Systems
- Image, Video, and Multimedia
- Multimedia Security and Forensics
- Wireless Communications and Networking
- Signal and Information Processing in Education
- Medical Signal Acquisition, Analysis and Processing
- Internet of Things Technology
- Data Analytics and Machine Learning
- Deep Learning: Algorithms, Implementations, and applications
- Human Biometrics and Security Systems
- Renewable Energy, Sustainability and the Environment
- AI and Smart Grids
- AI and Power Systems
- Wireless Power Transfer
- Autonomous Intelligent Self-Driving Cars
- Smart Materials and Sensors
- Signals and Control Systems

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- APSIPA Transaction on Signal and Information Processing: http://journals.cambridge.org/sip
- Paper Submission to APSIPA Transaction on Signal and Information Processing: http://mc.manuscriptcentral.com/apsipa
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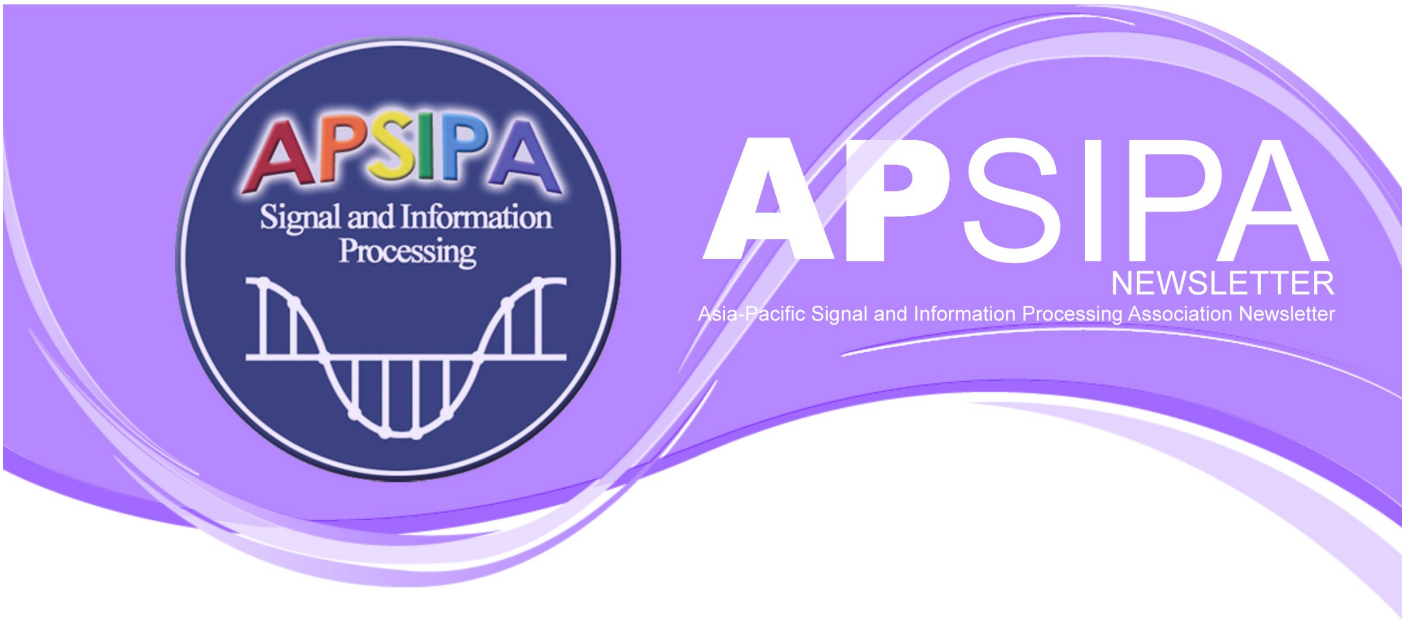

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