



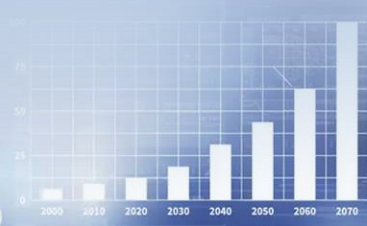
2022 3rd International Symposium on Automation, Information and Computing (ISAIC 2022)

Conference Program

December 9-11, 2022 Online

www.isaic-conf.com

(China Standard Time / Beijing Time, GMT +08:00)



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TABLE OF CONTENTS

Join a Meeting & Test.....	2
Part I Conference Schedule.....	3
Part II Plenary Speeches	5
Plenary Speech 1: Event-triggered Control: Current Developments and Trends	5
Plenary Speech 2: When Artificial Intelligence Meets the Internet of Things: Motivations, Challenges, and Applications.....	6
Plenary Speech 3: The First Conscious Learning Algorithm that Avoids “Deep Learning” Misconduct.....	7
Plenary Speech 4: Orbital Angular Momentum Multiplexing for Optical Communications and Networking	8
Part III Poster Presentations.....	10
Part IV Oral Presentations	12
Oral Session_1 Modeling, Control and Optimization (I).....	12
Oral Session_2 Information Science (I).....	13
Oral Session_3 Machine Learning	14
Oral Session_4 Modeling, Control and Optimization (II).....	16
Oral Session_5 Information Science (II).....	17
Oral Session_6 Modeling, Control and Optimization (III)	18

Join a Meeting & Test

Download the application software: [VooV Meeting](#) (腾讯会议)

- Sign up for VooV Meeting with your email address or mobile number.
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(Note: Please mute your microphone when entering. You can unmute it, appropriately, as needed while you are in the room.)

Meeting for test only:

Time: **December 8, 2022, Thursday**

09:00-12:00 & 19:00-22:00 (Beijing Time, GMT +08:00)

VooV Meeting Room: **[Test Meeting for ISAIC 2022](#)**

VooV Meeting Code: **527-506-531**

Accessing Link: **<https://meeting.tencent.com/dm/W8X5ZB5BChoz>**

Part I Conference Schedule

December 9, 2022, Friday

Time	Plenary Session
	VooV Meeting Code: 560-592-390 Accessing Link: https://meeting.tencent.com/dm/Q7TO6ooLuePQ
09:00-09:10	Welcome Speeches <i>Prof. Guoguang Wen, Beijing Jiaotong University, China</i> <i>Prof. Shiping Wen, University of Technology Sydney, Australia</i> Chair: Prof. Yang Yue, Xi'an Jiaotong University, China
09:10-09:50	Plenary Speech 1 <i>Event-triggered Control: Current Developments and Trends</i> <i>Prof. Yong-Duan Song, Chongqing University, China</i>
09:50-10:30	Plenary Speech 2 <i>When Artificial Intelligence Meets the Internet of Things: Motivations, Challenges, and Applications</i> <i>Prof. Wei Xiang, La Trobe University, Australia</i>
10:30-11:10	Plenary Speech 3 <i>The First Conscious Learning Algorithm that Avoids “Deep Learning” Misconduct</i> <i>Prof. Juyang Weng, Brain-Mind Institute, USA</i>
11:10-11:50	Plenary Speech 4 <i>Orbital Angular Momentum Multiplexing for Optical Communications and Networking</i> <i>Prof. Yang Yue, Xi'an Jiaotong University, China</i>

December 10, 2022, Saturday

Time	Schedule
09:00-12:00	Oral Session 1: Modeling, Control and Optimization (I) VooV Meeting Code: 353-570-325 Accessing Link: https://meeting.tencent.com/dm/qliyxGOq9871
BREAK TIME	
19:00-23:00	Oral Session 2: Information Science (I) VooV Meeting Code: 911-779-245 Accessing Link: https://meeting.tencent.com/dm/K9psRg5EKuf3
	Oral Session 3: Machine Learning VooV Meeting Code: 208-438-508 Accessing Link: https://meeting.tencent.com/dm/6KUQ5XV5NMue

December 11, 2022, Sunday

Time	Schedule
09:00-12:00	Oral Session 4: Modeling, Control and Optimization (II) VooV Meeting Code: 594-713-453 Accessing Link: https://meeting.tencent.com/dm/BBHWeMJQAJWH
BREAK TIME	

19:00-23:00	Oral Session 5: Information Science (II) VooV Meeting Code: 948-239-445 Accessing Link: https://meeting.tencent.com/dm/sPhItqVrfDgZ
	Oral Session 6: Modeling, Control and Optimization (III) VooV Meeting Code: 214-302-732 Accessing Link: https://meeting.tencent.com/dm/qy4xc72FIRmD

Part II Plenary Speeches

Plenary Speech 1: Event-triggered Control: Current Developments and Trends



Speaker: Prof. Yong-Duan Song

IEEE Fellow

Fellow of International Eurasian Academy of Science

Dean, School of Automation, Chongqing University, China

Founding Director, Institute of Smart Engineering, Chongqing University, China

Short Biography: Yong-Duan Song received his Ph.D. degree in electrical and computer engineering from Tennessee Technological University, Cookeville, TN, USA, in 1992. He held a tenured full professor position with North Carolina Agricultural and Technical State University, Greensboro, NC, USA, from 1996 to 2008, and a Langley distinguished professor position with the National Institute of Aerospace, Hampton, VA, USA, from 2005 to 2008. He was one of the six Langley Distinguished Professors with the National Institute of Aerospace (NIA), and the Founding Director of the Center for Cooperative Systems with NIA. He is currently the Dean of the School of Automation, Chongqing University, Chongqing, China, and the Founding Director of the Institute of Smart Engineering, Chongqing University. Dr. Song is a leading researcher in neural networks (NN) based adaptive control, significantly contributing to both NN theory methods and engineering applications. He is very active as associate editors for top IEEE journals, including IEEE Trans. on Neural Networks, IEEE Trans. on Automatic Control, IEEE Trans. Systems, Man, and Cybernetics, IEEE Trans. on Intelligent Transportation Systems, IEEE Trans. on Cognitive and Developmental Systems. He has received numerous research awards from NSF, ONR, AFOSR, DOE etc. As a scientific leader in the field of systems and control, he has been serving on various national and international technical committees. Prof. Song is a leading researcher in neural network adaptive control of nonlinear systems with real-world applications. Prof. Song's contributions can be assessed by his publications (over 200 papers) in prestigious international journals, including IEEE T-NNLS, IEEE T-FS, IEEE T-SMC, IEEE T-Cybernetics, IEEE T-AC, IEEE T-IE and Automatica. He authored/co-authored 10 books in the field of control and artificial intelligence.

Abstract of the speech: Although rich collection of research results on event-triggered control exist, no effort has ever been made in integrating state/output triggering and controller triggering simultaneously with backstepping control design. The primary objective of this talk is to give an overview of the latest developments in this technically important area and introduce a method, using intermittent output signal only, to build a backstepping adaptive event-triggered feedback control for a class of uncertain nonlinear systems. To do so we need to tackle three technical obstacles. Firstly, the nature of the event-triggering makes the transmitted output signal discontinuous, rendering the regular recursive backstepping design method inapplicable as the repetitive differentiation of the virtual controls is literally undefined. Secondly, the effects arisen from event-triggering action must be properly accommodated, but the current compensating method only works for systems in normal form, thus a new method needs to be developed in order to handle non-normal form systems. Thirdly,

as only intermittent output signal is available and at the same time the impacts of certain terms containing unknown parameters (arising from event-triggering) need to be compensated, it is rather challenging to design a suitable state observer. To circumvent these difficulties, we employ the dynamic filtering technique to avoid the differentiation of virtual controls in control design, construct a new compensation scheme to deal with the effects of output-triggering and build a new form of state observer to allow for the development of output feedback control. It is shown that, with the derived adaptive backstepping output-triggered control, all the closed-loop signals are ensured bounded and the control performance in terms of the mean square error is adjustable through properly choosing certain design parameters. The talk also will show the benefits and effectiveness of the proposed scheme via numerical simulation. Finally, potential extension will be discussed.

Plenary Speech 2: When Artificial Intelligence Meets the Internet of Things: Motivations, Challenges, and Applications



Speaker: Prof. Wei Xiang

Cisco Research Chair of AI and IoT and Director of the Cisco-La Trobe Centre for AI and IoT at La Trobe University, Australia

Short Biography: Professor Wei Xiang is Cisco Research Chair of AI and IoT and Director of the Cisco-La Trobe Centre for AI and IoT at La Trobe University. Previously, he was Foundation Chair and Head of Discipline of IoT Engineering at James Cook University, Cairns,

Australia. Due to his instrumental leadership in establishing Australia's first accredited Internet of Things Engineering degree program, he was inducted into Percy Foundation's Hall of Fame in October 2018. He is an elected Fellow of the IET in UK and Engineers Australia. He received the TNQ Innovation Award in 2016, and Pearcey Entrepreneurship Award in 2017, and Engineers Australia Cairns Engineer of the Year in 2017. He was a co-recipient of four Best Paper Awards at WiSATS'2019, WCSP'2015, IEEE WCNC'2011, and ICWMC'2009. He has been awarded several prestigious fellowship titles. He was named a Queensland International Fellow (2010-2011) by the Queensland Government of Australia, an Endeavour Research Fellow (2012-2013) by the Commonwealth Government of Australia, a Smart Futures Fellow (2012-2015) by the Queensland Government of Australia, and a JSPS Invitational Fellow jointly by the Australian Academy of Science and Japanese Society for Promotion of Science (2014-2015). He was the Vice Chair of the IEEE Northern Australia Section from 2016-2020. He was an Editor for *IEEE Communications Letters* (2015-2017), and is currently an Associate Editor for *IEEE Communications Surveys & Tutorials*, *IEEE Internet of Things Journal*, *IEEE Access*, and Nature journal of *Scientific Reports*. He has published over 250 peer-reviewed papers including 3 books and 200 journal articles. He has severed in a large number of international conferences in the capacity of General Co-Chair, TPC Co-Chair, Symposium Chair, etc. His research interest includes the Internet of Things, wireless communications, machine learning for IoT data analytics, and computer vision.

Abstract of the speech: Artificial Intelligence of Things (AIoT) is a newly emerging technology that combines IoT and AI technologies to enable decision making and analytics at IoT devices. IoT

enables networks of physical objects that are equipped with sensors, software, and other technologies to exchange data with other devices and systems over the internet, while AI enables data analytics and automated decision making. This talk will start with the motivations of combining AI and IoT technologies as well as the associated challenges. Then Prof. Wei Xiang will talk about his experience in setting up Australia's first accredited IoT Engineering program at James Cook University, as well as Australia's only industry-sponsored research centre that specialises in synergizing between AI and IoT technologies. Before concluding the talk, Prof. Wei Xiang will talk about a wide range of applications and use cases his AIoT Centre has been working on in Australia.

Plenary Speech 3: The First Conscious Learning Algorithm that Avoids “Deep Learning” Misconduct



Speaker: Prof. Juyang Weng

IEEE Life Fellow

Brain-Mind Institute, USA

Short Biography: Prof. Juyang Weng received the BS degree from Fudan University, in 1982, M. Sc. and PhD degrees from the University of Illinois at Urbana-Champaign, in 1985 and 1989, respectively, all in computer science. He is a former faculty member of Department of Computer Science and Engineering, faculty member of the Cognitive Science Program, and faculty member of the Neuroscience Program at Michigan State University, East Lansing. He was a visiting professor at the Computer Science School of Fudan University, Nov. 2003 - March 2014, and did sabbatical research at MIT, at Media Lab Fall 1999 – Spring 2000; and at Department of Brain and Cognitive Science Fall 2006-Spring 2007 and taught BCS9.915/EECS6.887 Computational Cognitive and Neural Development during Spring 2007. Since the work of Cresceptron (ICCV 1993) the first deep learning neural networks, he expanded his research interests in biologically inspired systems to developmental learning, including perception, cognition, behaviors, motivation, machine thinking, and conscious learning models. He has published over 300 research articles on related subjects, including task muddiness, intelligence metrics, brain-mind architectures, emergent Turing machines, autonomous programming for general purposes (APFGP), Post-Selection flaws in “deep learning”, vision, audition, touch, attention, detection, recognition, autonomous navigation, and natural language understanding. He published with T. S. Huang and N. Ahuja a research monograph titled *Motion and Structure from Image Sequences*. He authored a book titled *Natural and Artificial Intelligence: Computational Introduction to Computational Brain-Mind*. Dr. Weng is an Editor-in-Chief of the *International Journal of Humanoid Robotics*, the Editor-in-Chief of the *Brain-Mind Magazine*, and an associate editor of the *IEEE Transactions on Autonomous Mental Development* (now Cognitive and Developmental Systems). With others' support, he initiated the series of *International Conference on Development and Learning* (ICDL), the *IEEE Transactions on Autonomous Mental Development*, the Brain-Mind Institute, and the startup GENISAMA LLC. He was an associate editor of the *IEEE Transactions on Pattern Recognition and Machine Intelligence* and the *IEEE Transactions on Image Processing*.

Abstract of the speech: From a fruit fly to a human, with many animal species in between, do they

share a set of biological mechanisms to regulate the lifelong development of the brains? We have seen very impressive advances in understanding the principles of neuroscience. However, what is still missing is a holistic algorithm that is both broad and deep. By broad, we mean it approximates such mechanisms across a range of species. By deep, we mean that it specifies sufficient details so that the algorithm can be biologically and computationally verified and corrected across a deep hierarchy of scales, from neurotransmitters, to cells, to brain patterns, to behaviors, to intelligence, to consciousness across the time span of a life. This talk outlines such a conscious learning algorithm, the first in the categorically as far as the presenter is aware of, called Developmental Network 3 (DN-3), the generation after Cresceptron, IHDR, DN-1 and DN-2 all of which were not capable of conscious learning till DN-3. A major extension from the predecessor DN-2 to DN-3 is that the model starts from a single cell inside the skull so that brain patterning is fully automatic in a coarse to fine way. This biological model has been supported by computational experiments with real sensory data for vision, audition, natural languages, and planning, to be presented during the talk. This first ever algorithm for conscious learning is free from “deep learning” misconduct.

Plenary Speech 4: Orbital Angular Momentum Multiplexing for Optical Communications and Networking



Speaker: Prof. Yang Yue

School of Information and Communications Engineering, Xi'an Jiaotong University, China

Short Biography: Yang Yue received the B.S. and M.S. degrees in electrical engineering and optics from Nankai University, China, in 2004 and 2007, respectively. He received the Ph.D. degree in electrical engineering from the University of Southern California, USA, in 2012.

He is a Professor with the School of Information and Communications Engineering, Xi'an Jiaotong University, China. Dr. Yue's current research interest is intelligent photonics, including optical communications, optical perception, and optical chip. He has published over 200 journal papers (including Science) and conference proceedings with >10,000 citations, five edited books, two book chapters, >50 issued or pending patents, >200 invited presentations (including 2 tutorial, >40 plenary and >50 keynote talks). Dr. Yue is a Senior Member of IEEE, Optica and SPIE. He is an Associate Editor for IEEE Access and Frontiers in Physics, Editor Board Member for four other scientific journals, Guest Editor for >10 journal special issues. He also served as Chair or Committee Member for >100 international conferences, Reviewer for >60 prestigious journals.

Abstract of the speech: Optical communications, as the backbone of today's telecommunications infrastructure, supports voice, video and data transmission through global networks. One critical issue in its research is the challenge of meeting the needs of increasing the data capacity. This talk presents high-speed fiber and free-space optical communications and networking using orbital-angular-momentum multiplexing. First, the basics of orbital angular momentum (OAM) and its traditional applications will be introduced. As another newly explored dimension, spatial division multiplexing (SDM) has been demonstrated with great potential to tremendously increase the data

capacity. The building blocks of OAM-based SDM system will be discussed. Next, we will discuss the potential of using orbital-angular-momentum (OAM) modes for spatial multiplexing in a ring fiber. Several types of ring-core optical fibers for OAM modes will be presented, including multi-core ring fiber supporting thousands of OAM modes, coupled ring-core fiber with large negative dispersion, non-zero dispersion-shifted ring fiber to balance the chromatic dispersion and nonlinearity. Moreover, we will show mode-division and wavelength-division multiplexing of OAM modes with 1.6-Tb/s data capacity through 1.1-km of ring-core fiber. Finally, we will review wavefront-phase-tailoring methods to reconfigurably manipulate and perform different networking functions on multiplexed OAM beams. Specifically, the optical functions of add/drop multiplexing, selective switching and multicasting are reported for OAM beams.

Part III Poster Presentations

Presentation Link: <https://www.isaic-conf.com/#/listofeposters>

Paper ID	Paper Title & Presenter
ISAIC-MS-2561	Research on Image Correction Technology Applied to Digital Image Digitalization Process <i>Xue Lv, Chongqing Hailian Vocational Technical College</i>
ISAIC-MS-2535	A Narrative Study of Pixar Animation’s Influence on the Study Major Selection of a Student with Phocomelia <i>Fei Chieh Ting & Mengping Tsuei, National Taipei University of Education</i>
ISAIC-MS-2541	The Time-Varying of Topological Characteristics: Analysis Based on The Temporal Network on Public Bikes <i>Li-Na Wang, Inner Mongolia University of Technology</i>
ISAIC-MS-2592	Optimization of Virus Propagation Model in Multi Hop Cellular Hybrid Network Based on Network Attack <i>Fang Wu, Nantong Institute of Technology</i>
ISAIC-MS-2606	An Auto-paired Two-dimensional DOA Estimation Method for Two Uniform Linear Arrays <i>Jun Luo, Xinyu University</i>
ISAIC-MS-2641	Water Body Extraction for the Landsat TM Imagery of Hulun Lake <i>Rong Xu, Chongqing Three Gorges University</i>
ISAIC-MS-2439	Numerical Study of Stochastic Disturbances on The Behavior of Solutions of Lorentz System <i>Vladimir V. Nefedov, Lomonosov Moscow State University, Russia</i>
ISAIC-MS-2587	Analysis of Service-Oriented Infomobility System and Architecture Model <i>Ekaterina Gospodinova & Stanoslav Simeonov, “Prof. Dr Assen Zlatarov” University, Burgas, Bulgaria</i>
ISAIC-MS-2599	Analyze and Evaluate the Efficiency of The Tree-Based Process Scheduler <i>Ngo Hai Anh, Institute of Information Technology, Vietnam Academy of Science and Technology, Viet Nam</i>
ISAIC-MS-2591	Research on Improved Conv-TasNet of Speech Enhancement for Non-stationary and Low SNR Noise during Aircraft Operating <i>Wen-xuan Hong, Civil Aviation Flight University of China</i>
ISAIC-MS-2653	Low cost system for mobility recovery and gait analysis based on Inertial Navigation and Virtual Reality techniques <i>Wilver Aucchuasi, Universidad Privada del Norte, Perú</i>
ISAIC-MS-2654	Methodology for learning programming languages through the use of virtual reality resources <i>Wilver Aucchuasi, Universidad Privada del Norte, Perú</i>
ISAIC-MS-2655	Methodology for the management of high performance teams in the development of computer applications, using emerging technologies <i>Wilver Aucchuasi, Universidad Privada del Norte, Perú</i>

ISAIC-MS-2656	Method to improve recovery through rehabilitation techniques using Virtual Reality with motor imaging techniques <i>Wilver Auccahuasi, Universidad Privada del Norte, Perú</i>
ISAIC-MS-2657	Low-cost system for interoperability between outpatient medical devices with medical records <i>Wilver Auccahuasi, Universidad Privada del Norte, Perú</i>
ISAIC-MS-2658	Method for processing high-resolution satellite images, based on multi-GPU programming <i>Wilver Auccahuasi, Universidad Privada del Norte, Perú</i>

Part IV Oral Presentations

Online Live Presentation

- Online live presentations will be conducted via [VooV Meeting](#).
- The duration of each invited speech is 25 minutes, including 1-3 minutes of Q&A.
- The duration of each regular oral presentation is 15 minutes, including 1-3 minutes of Q&A.
- All presenters are requested to reach the Online Session Room prior to the schedule time and complete their presentation on time.
- All presentation times are shown in China Standard Time/Beijing Time (GMT +8:00).
- If a presenter cannot show up on time or have problem with internet connect, the session chair has the right to rearrange his/her presentation, and let the next presentation start.

Pre-recorded Video Presentation

- A pre-recorded video file (in .MP4 format) is required and the length of each video is 15 minutes. Please make the video record and send it to the Organizing Committee in advance.
- Videos will be played at the end of each session by the Organizing Committee.
- The audience may contact the presenter directly via email for questions and discussions after viewing the video.

Oral Session_1 Modeling, Control and Optimization (I)

Time: **December 10, 2022, Saturday, 09:00--**

VooV Meeting Code: **353-570-325**

Accessing Link: <https://meeting.tencent.com/dm/qliyxGOq9871>

Session Chairs: **Dr. Kunpeng Zhang, East China Jiaotong University and Nanjing University of Aeronautics and Astronautics, China**

Time	Paper ID	Paper Title & Presenter
09:00-09:15	ISAIC-MS-2622	Computational modelling of cell components at the mesoscopic scale <i>Yue Du, Nankai University, China</i>
09:15-09:30	ISAIC-MS-2624	Multiple-model-based diagnosis of multiple faults with high-speed trains applications using second-level adaptation <i>Kunpeng Zhang, East China Jiaotong University and Nanjing University of Aeronautics and Astronautics, China</i>
09:30-09:45	ISAIC-MS-2571	Spinodal decomposition and shape anisotropy in Alnico 8 alloys <i>Sajjad Ur Rehman, Jiangxi University of Science and Technology, China</i>
09:45-10:00	ISAIC-MS-2594	ORKA: Tracking moving and deforming objects over multiple measurements <i>Florian Bossmann, Harbin Institute of Technology, China</i>

10:00-10:15	ISAIC-MS-2450	Research on the construction and development mode of high-quality inland "smart port" in China <i>Zilai Cheng, China Waterborne Transport Research Institute, China</i>
10:15-10:30	ISAIC-MS-2479	Line structured light measurement system, method and experiments for rail profile <i>Shubin Zhang, Tianjin University, China</i>
10:30-10:45	Short Break	
10:45-11:00	ISAIC-MS-2480	Design of intestinal modular robot and dynamics analysis of its docking mechanism <i>Dasheng Liu, Shanghai Jiao Tong University, China</i>
11:00-11:15	ISAIC-MS-2537	Quality control system in cigarette manufacturing based on employee portrait <i>Qiyang Li, Inspur Industrial Internet Co., Ltd., Beijing, China</i>
11:15-11:30	ISAIC-MS-2562	Analysis of extreme temperature and drought information of Kunming <i>Zhanpeng Zhu, Dali University, China</i>
11:30-11:45	ISAIC-MS-2564	Decreased connectivity in left frontal orbital cortex after sleep deprivation <i>Aoke Zheng, Xi'an Internatioanl Studies University, China</i>
11:45-12:00	ISAIC-MS-2579	Hybrid control based on backstepping sliding mode control for flow modulation of electric fuel pump <i>Han Zhang, Nanjing University of Aeronautics and Astronautics, China</i>
12:00-12:15	ISAIC-MS-2597	Emission spectrum analysis of magnetic field controlled plasma one-dimension jet array <i>Changquan Wang, Beijing Vocational College of Labour and Social Security, China</i>
12:15-12:30	ISAIC-MS-2629	Research on financial management model and countermeasures of hospitals under B2C e-commerce environment <i>Chuqing Feng, Shandong Normal University, China</i>
12:30-12:45	ISAIC-MS-2668	Green Economic Efficiency Evaluation Based on GMM Model <i>Haohui Wang, Southwestern University of Finance and Economics, China</i>

Oral Session_2 Information Science (I)

Time: December 10, 2022, Saturday, 19:00--

VooV Meeting Code: [911-779-245](https://meeting.tencent.com/join/311-779-245)

Accessing Link: <https://meeting.tencent.com/dm/K9psRg5EKuf3>

Session Chair: **Prof. Wolfgang Orthuber, Kiel University, University Hospital Schleswig-Holstein, Germany**

Time	Paper ID	Paper Title & Presenter
19:00-19:25	ISAIC-MS-2522 (Invited Talk)	Precisely Comparable and Searchable Digital Information <i>Wolfgang Orthuber, Kiel University, University Hospital Schleswig-Holstein, Germany</i>

19:25-19:50	ISAIC-MS-2638 (Invited Talk)	Combining embedding and explicability: A new challenging and efficient approach for graphs and words synthetical description <i>Jean-Charles Lamirel, University of Strasbourg, France & University of Dalian, China</i>
19:50-20:05	ISAIC-MS-2628	A Microscope Image Auto-Focus Method based on Colorful-Gradient <i>Cheng-Kuan Lin, National Yang Ming Chiao Tung University</i>
20:05-20:20	ISAIC-MS-2601	Virtual Reality Technology Enhances the Healing Effect of Immersive Natural Scenes <i>Hanfu He, Tongji University, China</i>
20:20-20:35	ISAIC-MS-2555	Computing Implementation of Globular Cluster Simulation for CSST <i>Zhongmu Li, Dali University, China</i>
20:35-20:50	Short Break	
20:50-21:05	ISAIC-MS-2558	Application of wavelet analysis to correlation between sunspot activity and precipitation in Yunnan Province <i>Siyuan Du, Dali University, China</i>
21:05-21:20	ISAIC-MS-2578	Reliability analysis of LCCC leaded solder joints under thermal cyclic loading conditions <i>Yukun Zhang, Beijing Institute of Space Mechanics & Electricity, China</i>
21:20-21:35	ISAIC-MS-2477	Graphic-analytical method for detecting the relay protection false tripping zones <i>Pavel Pinchukov & Svetlana Makasheva, Far Eastern State Transport University, Russia</i>
21:35-21:50	ISAIC-MS-2485	Learning algorithms for cervical cancer detection <i>Elena Acevedo, Instituto Politecnico Nacional, Mexico</i>
21:50-22:05	ISAIC-MC-2582	Information dissemination and perception by social media users: Urban planning conflicts <i>Maria Pilgun, Russian State Social University, Russia</i>
22:05-22:30	ISAIC-MS-2665 (Invited Talk)	Understanding the use of Online Learning Platforms <i>Chei Sian Lee, Nanyang Technological University, Singapore</i>

Oral Session_3 Machine Learning

Time: **December 10, 2022, Saturday, 19:00--**

VooV Meeting Code: **208-438-508**

Accessing Link: <https://meeting.tencent.com/dm/6KUQ5XV5NMue>

Session Chair: **Prof. Julius Schöning, Osnabrück University of Applied Sciences, Germany**

Time	Paper ID	Paper Title & Presenter
19:00-19:25	ISAIC-MS-2451 (Invited Talk)	Tensor decomposition based unsupervised feature extraction with optimized standard deviation applied to identification of differential gene expression, DNA methylation and histone modification <i>Y-h. Taguchi, Chuo University, Japan</i>
19:25-19:50	ISAIC-MS-2529 (Invited Talk)	How to Develop a Murderer AI in Self-Driving Cars? <i>Gabor Kiss, Óbuda University, Hungary</i>

19:50-20:15	ISAIC-MS-2646 (Invited Talk)	Trust in AI-based Systems - How HCI Will Improve the Adoption of AI <i>Julius Schöning, Osnabrück University of Applied Sciences, Germany</i>
20:15-20:30	ISAIC-MS-2556	Application of LSTM Machine Learning to Prediction Precipitation in Beijing Area <i>Jincheng Yuan, Dali University, China</i>
20:30-20:45	ISAIC-MS-2557	Application of Machine Learning Method in Jinan Temperature Prediction <i>Mingzhao Liu, Dali University, China</i>
20:45-21:00	ISAIC-MS-2596	Estimation of Construction Project Cost Based on GA-BPNN <i>Chunhui Yang, Dalian Maritime University, China</i>
21:00-21:15	ISAIC-MS-2634	IoT and Artificial Intelligence for Fault Classification in High Efficiency Motors <i>Carlos Guerrero, Universidad Politécnica Salesiana, Ecuador</i>
21:15-21:30	ISAIC-MS-2612	An accuracy comparison of the Joint and Sequential Approaches for End-to-End Related Named Entities Extraction in the Texts of Russian-Language Reviews Based on Neural Networks <i>Anton Selivanov, NRC «Kurchatov Institute», Russia</i>
21:30-21:55	ISAIC-MS-2487 (Invited Talk)	Artificial Intelligence and Digital Assessment: Practice, Promise and Problem Solving <i>Denise Whitelock, The Open University, UK</i>
21:55-22:10	ISAIC-MS-2663 (Invited Talk)	On "Deep Learning" Misconduct <i>Juyang Weng, Brain-Mind Institute, USA</i>
Video Section		
22:10-22:25	ISAIC-MS-2647 (Video/Invited)	Data Standardization in Precision Oncology <i>Taxiarchis Botsis, Johns Hopkins University, USA</i>
22:25-22:40	ISAIC-MS-2553 (Video)	Nonnegative Matrix Factorization with Combined Kernels for Small Data Representation <i>Liyang Hu, Fujian Normal University, China</i>
22:40-22:55	ISAIC-MS-2585 (Video)	Semi-Autogenous Grinding Mill (SAG) Overload Forecasting using Gram penalized matrices in a CNN <i>Rodrigo Hermosilla, Universidad Técnica Federico Santa María, Chile</i>
22:55-23:10	ISAIC-MS-2598 (Video)	Neural Network Interpretation of Bayesian Logical-Probabilistic Fuzzy Inference Model <i>Dmitry P. Burakov, Emperor Alexander I St. Petersburg State Transport University, Russia</i>

Oral Session_4 Modeling, Control and Optimization (II)

Time: December 11, 2022, Sunday, 09:00--

VooV Meeting Code: [594-713-453](#)

Accessing Link: <https://meeting.tencent.com/dm/BBHWeMJQAJWH>

Time	Paper ID	Paper Title & Presenter
09:00-09:15	ISAIC-MS-2440 (Video/Invited)	Electrostatic Parallel Plate MEMS: Non-Linear Elliptic Model with Fringing Field <i>Mario Versaci, "Mediterranea" University, Italy</i>
09:15-09:30	ISAIC-MS-2504 (Video)	Investigation Of The Position Of Anchorage On Inland Waterways From The Aspect Of The Influence Of Wind And Waves <i>Danijela Pjevcevic, University of Belgrade, Serbia</i>
09:30-09:45	ISAIC-MS-2516 (Video)	Curve fitting: A method of joining piecewise functions to produce models of complex data <i>Stefan Orszulik, Formerly at: De La Rue Currency, UK</i>
09:45-10:00	ISAIC-MS-2604 (Video)	Enabling Token Economy by smart contract based cross-chain technology <i>Shingo Fujimoto, FUJITSU Limited, Japan</i>
10:00-10:15	ISAIC-MS-2474 (Video)	3D transient CFD modelling of a museum showcase with environmental air exchange <i>Na He, Chongqing China Three Gorges Museum, China</i>
10:15-10:30	ISAIC-MS-2607 (Video)	Multi-stage Path Planning Strategy for Intelligent Cleaning Robot <i>Xingxing Cheng, Onewo Space-Tech Service Co., Ltd., China</i>
10:30-10:45	ISAIC-MS-2602 (Video)	Robust Optimization for Climatological Emergency Evacuation <i>Yasmany Fernández-Fernández, State Polytechnic University of Carchi, Ecuador</i>
10:45-11:00	ISAIC-MS-2615 (Video)	Application of a model based on demand forecasting, ABC classification and EOQ in a gastronomic SME to improve inventory turnover: Case study in Peru <i>Bryan Anthony Cuba Paz & Piero Enrique Bazan Cabezas, Universidad de Lima, Peru</i>
11:00-11:15	ISAIC-MS-2616 (Video)	Production Process Improvement Model Using TPM, Standardized Work and 5S Tools to Reduce Waste in the Metallurgical Sector <i>Javier Pui Lung Wu Gamarra & José Enrique Sandoval Tirado, Universidad de Lima, Peru</i>
11:15-11:30	ISAIC-MS-2617 (Video)	Process improvement proposal for the distribution management to reduce lead time using 5S, SMED and Autonomous Maintenance in a plastic company <i>Ximena Fernanda Espiritu Gonzales & Maria Alejandra Alamo Matos, Universidad de Lima, Peru</i>

11:30-11:45	ISAIC-MS-2618 (Video)	Proposal To Improve Storage Management to Reduce Stock-Outs Through the Use of The Reorder Point, Safety Stock And 5s in the Plastics Sector <i>Cesar Alen Seminario Cerna & Cristhofer Holmer Valdivia Vargas, Universidad de Lima, Peru</i>
11:45-12:00	ISAIC-MS-2625 (Video)	Multivariate Analysis For Main Quality Variable Control In Industry 4.0 <i>Jorge Moreira de Souza, FITec - Fundação para Inovações Tecnológicas, Brazil</i>
12:00-12:15	ISAIC-MS-2502 (Video)	Compact Object Extraction in Noisy Images <i>Vladimir Volkov, Saint-Petersburg State Electrotechnical University, Russia</i>
12:15-12:30	ISAIC-MS-2454 (Video)	Geometric modeling of the surface <i>Vyacheslav Nikolaevich Poyarkov, Plant of semiconductor devices Bolhov, Russia</i>
12:30-12:45	ISAIC-MS-2627 (Video)	Dynamics of a Delayed Interactive Model Applied to Information Dissemination in Social Networks <i>Fei Liu, Hengshui University, China</i>

Oral Session_5 Information Science (II)

Time: December 11, 2022, Sunday, 19:00--

VooV Meeting Code: [948-239-445](#)

Accessing Link: <https://meeting.tencent.com/dm/sPhItqVrfDgZ>

Time	Paper ID	Paper Title & Presenter
19:00-19:15	ISAIC-MS-2501 (Video/Invited)	Emerging trends in learning from sequential data <i>Vishnu S. Pendyala, San Jose State University, USA</i>
19:15-19:30	ISAIC-MS-2608 (Video)	MedCC: Interpreting Medical Images Using Clinically Significant Concepts and Descriptions <i>Xuwen Wang, Institute of Medical Information and Library, Chinese Academy of Medical Sciences and Peking Union Medical College, China</i>
19:30-19:45	ISAIC-MS-2475 (Video)	Depth Map Estimation of Focus Objects Using Vision Transformer <i>Park Chae Rim, Korea Maritime and Ocean University, Korea</i>
19:45-20:00	ISAIC-MS-2515 (Video)	A vertex degree-based GRASP approach for the minimum independent dominating set problem <i>André Eduardo Alessi, Federal University of Technology – Paraná, Brazil</i>
20:00-20:15	ISAIC-MS-2609 (Video)	The algorithm of initial processing of the manuscript image <i>Turakulov Shoxrux Khudayarovich, Tashkent University of Information Technologies, Uzbekistan</i>
20:15-20:30	ISAIC-MS-2633 (Video)	Students' Perception About Online Social-Media in Higher Education. An Empirical Study <i>Daniel Chis, University POLITEHNICA Bucharest, Romania</i>

20:30-20:45	ISAIC-MS-2643 (Video)	Computer modeling of the equilibrium position magnetization precession in the ferrite plate <i>Vladimir S. Vlasov, Syktyvkar State University, Russia</i>
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Oral Session_6 Modeling, Control and Optimization (III)

Time: **December 11, 2022, Sunday, 19:00--**

VooV Meeting Code: **214-302-732**

Accessing Link: <https://meeting.tencent.com/dm/qy4xc72FIRmD>

Session Chair: **Dr. Ziyu Sheng, University of Technology Sydney, Australia**

Time	Paper ID	Paper Title & Presenter
19:00-19:25	ISAIC-MS-2511 (Invited)	Gradient Estimates for weak solutions of Elliptic PDE's <i>Giuseppe Di Fazio, University of Catania, Italy</i>
19:25-19:50	ISAIC-MS-2514 (Invited)	Recent Advances of service quality studies in multimedia communications <i>Tatsuya Yamazaki, Niigata University, Japan</i>
19:50-20:15	ISAIC-MS-2468 (Invited)	Optimisation and decision making support towards environmentally friendly traveling in cities <i>Grzegorz Sierpiński, Silesian University of Technology, Poland</i>
20:15-20:30	ISAIC-MS-2573	Sustaining and supporting a Creative School <i>Jenny Siung, Chester Beatty, Ireland</i>
20:30-20:45	ISAIC-MS-2531	Research on the application of 3D digital model in the conservation of digital cultural relics——The example of a bronze Yatim Father B beast-faced wine container <i>Zixu Su, Nanjing Normal University, China</i>
20:45-21:00	Short Break	
21:00-21:15	ISAIC-MS-2580 (Invited)	On detection and classification of state changes in physical processes by signal processing techniques <i>Dorel Aiordachioaie, Dunarea de Jos University of Galati, Romania</i>
21:15-21:30	ISAIC-MS-2610	Toward the Design of Personalised Adaptive Driver Assistance for Truck Docking <i>André Frank Krause, Rhine-Waal University of Applied Sciences, Germany</i>
21:30-21:45	ISAIC-MS-2631	Optimizing the Quality of Electric Lighting with the Use of Minkowski's Geometric Difference <i>Mashrabjon Mamatov, National University of Uzbekistan, Uzbekistan</i>
21:45-22:00	ISAIC-MS-2534	Energy Optimization of the Post-Harvest Area of Roses in Quiroga, Ecuador – A Comparative Analysis <i>Saravana Prakash Thirumuruganandham, Universidad Indoamérica Ecuador</i>
22:00-22:15	ISAIC-MS-2649	Data Modelling and Analysis of Sequential Images Used in Comic Books <i>Xing Tu, Shenzhen University, China</i>

22:15-22:30	ISAIC-MS-2482	<p>Development of a model for monitoring socio-economic processes using fuzzy cognitive map and algorithms for detecting structural changes</p> <p><i>Zinaida Avdeeva, V.A. Trapeznikov Institute of Control Sciences of Russian Academy Sciences, Russia</i></p>
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