

Conference Program

November 20-22, 2021

Virtual Conference

**2021 The 4th International Conference on Computational Intelligence
and Intelligent Systems (CIIS 2021)**

with workshop

2021 The 2nd International Conference on Artificial Intelligence Technology (CAIT 2021)

Sponsored by



Organized by



Supported by



Welcome Address

Welcome you all to 2021 The 4th International Conference on Computational Intelligence and Intelligent Systems (CIIS 2021), with workshop of 2021 The 2nd International Conference on Artificial Intelligence Technology (CAIT 2021), which will be held online during November 20-22, 2021, due to COVID-19. These conferences are sponsored by Macau University of Science and Technology, organized by Quzhou University, supported by Middlesex University, Chulalongkorn University, and Science and Engineering Institute.

After several rounds of review procedure, the program committee accepted those papers to be published in CIIS 2021 ACM conference proceedings. We wish to express our sincere appreciation to all the individuals who have contributed to CIIS 2021, CAIT 2021 conferences in various ways. Special thanks are extended to our colleagues in the program committee for their thorough review of all the submissions, which is vital to the success of the conference, and also to the members in the organizing committee who had devoted their time and efforts in planning, promoting, organizing and helping the conference.

This conference program is highlighted by Speakers: Prof. Jiebo Luo (SPIE Fellow, IEEE Fellow, IAPR Fellow, AAAI Fellow, ACM Fellow, IAPR Fellow, High Index 99), University of Rochester, USA; Prof. Fuchun Sun (IEEE Fellow, CAAI Fellow), Tsinghua University, China; Prof. Tok Wang LING (ER Fellow, IEEE Senior Life Member), National University of Singapore, Singapore; Prof. Matthias Rättsch - Head of the 'Vision Systems for intelligent Robots' (ViSiR), Reutlingen University, Germany; Prof. Xiaochun Cheng, Middlesex University, UK; Prof. Huseyin Seker, Birmingham City University, UK. They will deliver their speeches and share the latest research with the participants.

One best presentation will be selected from each session, evaluated from: originality; applicability; technical Merit; qualities of PPT; English. The best one will be announced at the end of each session, and we will e-mail you certificate after conference. Hope all of you can keep safe and sound and take care of yourself, we wish to see every one of you face to face in the next year

CIIS & CAIT Conference Organizing Committees

Conference Committees

Conference Chairs

Prof. Jianqing Li, Macau University of Science and Technology, China

Prof. Meilei Lv, Quzhou University, China

Conference Co-chairs

Prof. Tok Wang Ling, National University of Singapore, Singapore

Prof. Zhuoran Wang, Quzhou University, China

Prof. Sergei Gorlatch, University of Muenster, Germany

Program Chairs

Prof. Xiaochun Cheng, Middlesex University, UK

Assoc. Prof. Xiaolong Zhou, Quzhou University, China

Program Co-chairs

Prof. Ratchatin Chanchareon, Chulalongkorn University, Thailand

Assoc. Prof. Jianwen Fang, Quzhou University, China

Assoc. Prof. Yanjuan Li, Quzhou University, China

Publicity Chairs

Prof. Elizabeth Marie Ehlers, University of Johannesburg, South Africa

Prof. Hanan Alghamdi, King Abdulaziz University, Saudi Arabia

Dr. Kai Fang, Quzhou University, China

Publicity Co-chairs

Prof. Su-Cheng Haw, Multimedia University, Malaysia

Dr. Hongbo Bi, Quzhou University, China

International Technical Committee

Andrew Chiou, CQUniversity Australia, Australia

Matsumoto Mitsuharu, University of Electro-Communications, Japan

Semih Özden, National Defense University, Turkey

Anton Satria Prabuwon, King Abdulaziz University, Saudi Arabia

Sangkyun Yun, Yonsei University, Korea

Chawalit Benjangkaprasert, King Mongkut's Institute of Technology Ladkrabang, Thailand

Shailaja Patil, JSPM's Rajarshi Shahu college of Engineering, India

Jiaoyun Yang, Hefei University of Technology, China

Kiran Bailey, BMS College of Engineering Bangalore, India

Marco Antonio T. Subio, Technological Institute of the Philippines Manila, Philippines

Mohsen Kakavand, Sunway University, Malaysia

Conference Committees

Suresh Shirbahadurkar, Zeal College of Engineering & Research, India
Lu Nan, Shenzhen University, China
Pravin Ghate, JSPM's Rajarshi Shahu College of Engineering, India
Sadiq Hussain, Dibrugarh University, India
Jefferson Lerios, Laguna State Polytechnic University, Philippines
Xue-Qiang Zeng, Nanchang University, China
Mohammad Dabbagh, Sunway University, Malaysia
Bo Yang, Bowie State University, USA
P. Aruna, Coimbatore Institute of Technology, India
Kanda Runapongsa Saikaew, Khon Kaen University, Thailand
Rodrigo Jr. Pangantihon, University of Mindanao, Philippines
Hideo Murakami, Kanazawa Institute of Technology, Japan
Sheng-Li Sun, Shanghai Institute of Technical Physics, Chinese Academy of Sciences, China
Gahangir Hossain, Texas A&M University, USA
Dariusz Jacek Jakobczak, Koszalin University of Technology, Poland
Hang Qiu, University of Electronic Science and Technology of China, China
Ir Teo Hiu Hong, SEGi University, Malaysia
Muhammad Usman Rafique, Hong Kong Polytechnic University, Hong Kong, China
Usman Akram, National University of Sciences and Technology, Pakistan
Wiroj Taweepworadej, Khon Kaen University, Thailand
Sarat Saharia, Tezpur university, India
Tatpong Katanyukul, Khon Kaen University, Thailand
Tae Choong Chung, Kyung Hee University, Korea
Beomhee Lee, Seoul National University, Korea
Yasuhiro Matsuda, Kanagawa Institute of Technology, Japan
Chang Wook Ahn, Sungkyunkwan University, Korea
Ran Zheng, Northwestern Polytechnical University, China
Santosh Wagaj, JSPM's Rajarshi Shahu college of Engineering, India
Kais Ben Salah, University of Jeddah, Saudi Arabia
Nirmala Devi L, Osmania University, India
Md. Monirul Islam, Bangladesh University of Engineering and Technology, Iraq
Seelam Ch Vijaya Bhaskar, MVSR Engineering College, India
Yin Shen, Harbin Institute of Technology, China
Anitha S, ACS College of Engineering, India
Srividya P, Osmania University, India
John Paul Tomas, Mapua University, Philippines
Kok-Why Ng, Multimedia University, Malaysia
Pakawan Pugsee, Chulalongkorn University, Thailand
Khanista Namee, King Mongkut's University of Technology North Bangkok, Thailand
Siphesihle Philezwini Sithungu, University of Johannesburg, South Africa

Conference Committees

Shie-Jue Lee, National Sun Yat-sen University, Taiwan, China
Koichi kuzume, National Institute of Technology, Japan
Shahzad Ashraf, Hohai University, China
Yang Woo Shin, Changwon National University, Korea
Philippe Gorce, Universite de Toulon, France
Saad M. Darwish, Alexandria University, Egypt
Prof. Tsai-Yen Li, National Chengchi University, Taiwan, China
Zhigang Su, Southeast University, China
Ugur Bilge, Akdeniz University Faculty of Medicine, Turkey
Mirza Sajid Mahmood, SBEC-Engineering Industries Gujranwala, Pakistan
Thomas Schalow, University of Marketing and Distribution Sciences, Japan
Pei He, Guangzhou University, China
Dong Joong Kang, Pusan National University, Korea
Wei-Po Lee, National Sun Yat-sen University, Taiwan, China
Ziad Kobti, University of Windsor, Canada
Sherin M. Youssef, College of Engineering and Technology, Egypt
Jae-Gon Kim, Inchoen National University, Korea
Amar Faiz Zainal Abidin, Universiti Teknologi MARA, Malaysia
Saroj Kaushik, IIT Delhi, New Delhi, India
Taisuke Akimoto, The University of Electro-Communications, Japan
Filipe Portela, University of Minho, Portugal
Atila Bostan, Atilim University, Turkey
S. Selvamuthukumar, A.V.C. College of Engineering, India
Muhammad Farid. Shaari, Universiti Tun Hussein Onn Malaysia, Malaysia
Sukarnur Che Abdullah, University Technology Mara, Malaysia
Patrick Brandtner, University of Applied Sciences Upper Austria, Austria
N. Priya, Coimbatore Institute of Technology, India
Qingzhong Liu, Sam Houston State University, USA
Taeseok Kim, Kwangwoon University, Korea
Olga Georgieva, Sofia University, Bulgaria
Sunarin Chanta, King Mongkut's University of Technology North Bangkok, Thailand
Zhu Ping, Tellhow Institute of Smart City, China
Ishak b. Aris, Universiti Putra Malaysia, Malaysia
Mohit Gangwar, Bhabha Engineering Research Institute Bhopal, India
Evgeniy Bryndin, Research Center "NATURAL INFORMATICS," Russia
Zeyad Al-Shibaany, Cardiff University, UK
Sunny Joseph Kalayathankal, K. E. College, India
Priya RL, University of Mumbai, India

Guideline for Online Conference



Time Zone

The conference is arranged based on [Beijing Time \(UTC+8\)](#).

Please carefully check your presentation time, and join the conference [15 minutes in advance](#).



Network

Stable WIFI or Wired network.

Equipment be with enough battery or connected with chargers.

If your network is not good, please send us presentation videos within 10 Minutes as a back-up.



Presentation

English only during the conference.

Stay online during Keynote & Invited speeches and your own sessions.

Certificates & receipts will be emailed to you after the conference.



Zoom Usage

Download the APP ZOOM on zoom.us or www.zoom.com.cn (China only). Turn on your Audio and start your Video.

Use headsets/Earphones to enhance the audio effect and avoid the speaker echo or howling. Stay in a quiet place without noise.

Authors please rename like [Session Number+Paper ID+Name](#) as you join the room. E.g.: S1+A1001+Lairyn.

For KN or SC, please rename like [KN/SC+ Name](#) Join TEST DAY on November 20.

ROOM A Meeting ID: 981 8921 3804

<https://zoom.us/j/98189213804>

ROOM B Meeting ID: 864 2146 0816

<https://us02web.zoom.us/j/86421460816>

ROOM C Meeting ID: 921 8760 9105

<https://zoom.us/j/92187609105>

Program Overview

November 20, 2021 | Saturday

Room A ID: 981 8921 3804	Keynote Speaker&Invite Speaker Test
11:00-12:10	Prof. Jiebo Luo (11:00-11:10) Prof. Fuchun Sun (11:10-11:20) Prof. Tok Wang LING (11:20-11:30)
12:10-14:00	Break
	Author Test
14:00-15:00 Room A ID: 981 8921 3804	Session 1+2 Session 1: SD21-201E, SD21-202E, SD21-203, SD21-207, SD21-203E, SD21-208 Session 2: SD21-205, SD21-206, SD21-406, SD21-407, SD21-409, SD21-409E
14:00-15:00 Room B ID: 864 2146 0816	Session 3+4 Session 3: A1023, A2005, A2006, A2019, A2020, S1017 Session 4: SD21-202, A1001, A1006, A1010, A1018, A1022, S1002, S1011, S1013, S2007, S2011
15:00-15:30	Break
15:30-17:00 Room A ID: 981 8921 3804	Session 5+6 Session 5: A1002, A1003, A1007, A1009, A1017, A1501-A, S2003, S2005, S501, A1035, VA1002 Session 6: A1019, A1020, A1021, A1026-A, A2001, S1004, S1007, S1016, S2006, TD05
15:30-17:00 Room B ID: 864 2146 0816	Session 7+8+9 Session 7: SD21-204, SD21-204E, SD21-401, SD21-402, SD21-403, SD21-405, TD02 Session 8: A2002, A2003, A2004, A2010, A2011, A2012, A2013 Session 9: A1024, A1502, A2015, S1001, S1005, S1006, S1014, S2009
Room A ID: 981 8921 3804	Prof. Matthias Rättsch (17:00-17:10) Prof. Xiaochun Cheng (17:10-17:20) Prof. Qinglin Zhao (17:20-17:30) Prof. Huseyin Seker (17:30-17:40) Mr Furkan Tektas (17:40-17:50)

Test Tips

1. Please join the test session on time
2. First find your session and join the test room without sign in
3. Please send the message to conference secretary if you really have something emergency, we will arrange your test at other time

Program Overview

November 21, 2021 | Sunday

Meeting ID: 981 8921 3804	Chair: Prof. Tok Wang LING, National University of Singapore, Singapore
9:30-9:35	Opening Remarks Prof. Jianqing Li, Macau University of Science and Technology, China
9:35-9:40	Welcome Address Prof. Zhuoran Wang, Quzhou University, China
9:40-10:25	Keynote Speech I Prof. Jiebo Luo, University of Rochester, USA (SPIE Fellow, IEEE Fellow, IAPR Fellow, AAAI Fellow, ACM Fellow, IAPR Fellow, High Index 99) <i>Title: COVID-19: What Social Media and Machine Learning Can Inform Us</i>
10:25-10:40	Coffee Break & Group Photo
	Chair: Prof. Xiaolong Zhou, Quzhou University, China
10:40-11:25	Keynote Speech II Prof. Fuchun Sun, Tsinghua University, China (IEEE Fellow, CAAI Fellow) <i>Title: Robot Skill Learning: Imitation, Transfer and Enhancement</i>
11:25-12:10	Keynote Speech III Prof. Tok Wang LING, National University of Singapore, Singapore (ER Fellow, IEEE Senior Life Member) <i>Title: Conceptual Modeling Views of Relational Databases vs Big Data and Machine Learning</i>
12:10-15:00	Lunch Break
	Chair: Prof. Huseyin Seker, Birmingham City University, UK
15:00-15:45	Keynote Speech IV Prof. Matthias Rättsch - Head of the 'Vision Systems for intelligent Robots' (ViSiR), Reutlingen University, Germany <i>Title: Humanoid Robots and Artificial Super Intelligence - The Terminating End or the Last Hope for Humans?</i>

Program Overview

15:45-16:10	<p>Invite Speaker I</p> <p>Prof. Xiaochun Cheng, Middlesex University, UK</p> <p><i>Title : Artificial Intelligence Computing Solutions and Applications</i></p>
16:10-16:35	<p>Invite Speaker II</p> <p>Prof. Qinglin Zhao, Macau University of Science and Technology, China</p> <p><i>Title : Exploiting Residual Channel Resources for Coexistence of Heterogeneous Technologies via Reinforcement Learning</i></p>
16:35-16:45	Coffee Break
16:45-17:45	<p>Industry Session</p> <p>Industry Session by Bubo.AI (https://www.bubo.ai/)</p> <p>Prof. Huseyin Seker, Birmingham City University, UK</p> <p>Mr. Furkan Tektas (Data Scientist, Bubo.AI)</p> <p><i>Title: Artificial Intelligence and Big Data Analytics in Practice</i></p>

Formal Session Tips

1. Please join the keynote speeches on time, we will have a group photos together
2. First find your session and join the room without sign in
3. If you present on live, please prepare your PPT well and join directly
4. If you prepare a video, please play it by yourself and join your own session all the time
5. The language should be ENGLISH ONLY

Program Overview

November 22, 2021 | Monday

	Room A Meeting ID: 981 8921 3804	Room B Meeting ID: 864 2146 0816	Room C Meeting ID: 921 8760 9105
9:30-11:00	Session 1-Big Data Science and Application SD21-201E, SD21-202E, SD21-203, SD21-207, SD21-203E, SD21-208	Session 2-Mathematical Model and Calculation SD21-205, SD21-206, SD21-406, SD21-407, SD21-409, SD21-409E	Session 3-Modern Education and Intelligent Teaching A1023, A2005, A2006, A2019, A2020, S1017
11:00-13:30	Lunch Time		
13:30-16:15	Session 4-Machine Learning and Neural Network Algorithms SD21-202, A1001, A1006, A1010, A1018, A1022, S1002, S1011, S1013, S2007, S2011	Session 5-Computer Science and Data Computing A1002, A1003, A1007, A1009, A1017, A1501-A, S2003, S2005, S501, A1035, VA1002	Session 6-Intelligent System and Information Management A1019, A1020, A1021, A1026-A, A2001, S1004, S1007, S1016, S2006, TD05
16:00-16:30	Coffee Break		
16:30-18:15	Session 7-Computer and Information Management SD21-204, SD21-204E, SD21-401, SD21-402, SD21-403, SD21-405, TD02	Session 8-Learning Mode and Method A2002, A2003, A2004, A2010, A2011, A2012, A2013	Session 9-Intelligent Image Processing and Application A1024, A1502, A2015, S1001, S1005, S1006, S1014, S2009
18:15-18:30	Closing Ceremony		

Formal Session Tips

1. Please join the keynote speeches on time, we will have a group photos together
2. First find your session and join the room without sign in
3. If you present on live, please prepare your PPT well and join directly
4. If you prepare a video, please play it by yourself and join your own session all the time
5. The language should be ENGLISH ONLY

Keynote Speaker I



Prof. Jiebo Luo, University of Rochester, USA

(SPIE Fellow, IEEE Fellow, IAPR Fellow, AAAI Fellow, ACM Fellow, IAPR Fellow, High Index 99)

Title : COVID-19: What Social Media and Machine Learning Can Inform Us

Abstract: The COVID-19 pandemic has severely affected people's daily lives and caused tremendous economic losses worldwide. However, its influence on public opinions and people's mental health conditions has not received as much attention. In addition, the related literature in these fields has primarily relied on interviews or surveys, largely limited to small-scale observations. In contrast, the rise of social media provides an opportunity to study many aspects of a pandemic at scale and in real-time. Meanwhile, the recent advances in machine learning and data mining allow us to perform automated data processing and analysis. We will introduce several recent studies ranging from 1) characterizing Twitter users and topics regarding the use of controversial terms for COVID-19, 2) understanding how college students respond differently than the general public to the pandemic, 3) monitoring depression trends throughout COVID-19, to 4) studying consumer hoarding behaviors during the pandemic.

Biography: Jiebo Luo is a Professor of Computer Science at the University of Rochester which he joined in 2011 after a prolific career of fifteen years at Kodak Research Laboratories. He has authored over 500 technical papers and holds over 90 U.S. patents. His research interests include computer vision, NLP, machine learning, data mining, computational social science, and digital health. He has been involved in numerous technical conferences, including serving as program co-chair of ACM Multimedia 2010, IEEE CVPR 2012, ACM ICMR 2016, and IEEE ICIP 2017, and general co-chair of ACM Multimedia 2018. He has served on the editorial boards of the IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), IEEE Transactions on Multimedia (TMM), IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), IEEE Transactions on Big Data (TBD), ACM Transactions on Intelligent Systems and Technology (TIST), Pattern Recognition, Knowledge and Information Systems (KAIS), Machine Vision and Applications, and Intelligent Medicine. He is the current Editor-in-Chief of the IEEE Transactions on Multimedia. Professor Luo is a Fellow of ACM, AAAI, IEEE, SPIE, and IAPR.

Keynote Speaker II



Prof. Fuchun Sun, Tsinghua University, China
(IEEE Fellow, CAAI Fellow)

Title : *Robot Skill Learning: Imitation, Transfer and Enhancement*

Abstract: Humans can realize their intelligent behavior in a complex environment and are able to fulfill multiple tasks in different fields by cognitive learning. Since task is usually composed of a spatiotemporal combination of different skills, hopefully skill learning constitutes the bridge between human behavior and different tasks. However, this ability is exactly what the current robots lack and it has become a bottleneck of the improvement of robotic intelligence. In this talk, we discuss robot skill learning in three respects: skill imitation, transfer learning and skill enhancement. Firstly, imitation learning methods for observation and long-term tasks are developed, where the disagreement between perfect demonstration and partial observation one is revealed, and the simplified one-step model is proposed to improve the performance of hierarchical imitation learning. Furthermore, the generation and interaction of perceptual information such as vision, tactile and acoustic is still a challenging problem in digital twins, the elastic interaction of particles approach is proposed to robotic tactile simulation, and the sim-to-real transfer learning is discussed, enhancing the skills of real-world robots. Next, enhanced learning approaches from expert preference and inaccurate demonstration are developed for improving robotic manipulation performance. Finally, the applications of skill imitation, transfer learning and skill enhancement technology in UAVs and robot dexterous manipulations are introduced, and the development trend of robot manipulation skill learning is discussed.

Biography: Dr. Fuchun Sun is professor of Department of Computer Science and Technology, President of Academic Committee of the Department, Tsinghua University, and deputy director of State Key Lab. of Intelligent Technology & Systems, Beijing, China. He serves as Vice Chairman of Chinese Association for Artificial Intelligence and Executive Director of Chinese Association for Automation. His research interests include robotic perception and skill learning , Cross-modal Learning and intelligent control. He has won the Champion of Autonomous Grasp Challenges in IROS2016 and IROS 2019. He is elected as IEEE Fellow and CAAI Fellow in 2019, CAA Fellow in 2020.

Dr. Sun is the recipient of the excellent Doctoral Dissertation Prize of China in 2000 by MOE of China and the Choon-Gang Academic Award by Korea in 2003, and was recognized as a Distinguished Young Scholar in 2006 by the Natural Science Foundation of China. He served as the EIC of the Journal of Cognitive Computation and Systems, and associated editors of IEEE Trans. on Neural Networks and Learning Systems during 2006-2010, IEEE Trans. On Fuzzy Systems since 2011, IEEE Trans. on Cognitive and Development Systems since 2018 and IEEE Trans. on Systems, Man and Cybernetics: Systems since 2015.

Keynote Speaker III



**Prof. Tok Wang LING, National University of Singapore, Singapore
(ER Fellow, IEEE Senior Life Member)**

***Title : Conceptual Modeling Views of Relational Databases vs Big Data and
Machine Learning***

Abstract: We first present a brief introduction to big data and describe the basic data models of the 4 major categories of NoSQL data stores for big data applications.

We discuss some limitations and performance issues of RDBMS for big data applications. We revisit some basic concepts in relational data model which have big impact on the performance, such as normal forms, join of relations, ACID for handling concurrent transactions, etc.

Next, we compare the relational data model and big data model using a set of application requirements and characteristics to help users to decide when to use SQL or NoSQL for big data applications.

We describe some existing database techniques which can be used to improve the performances of some categories of database applications in RDBMS, such as materialized view, unnormalized relation, horizontal and vertical partitioning of data in physical database schema design, etc.

We present some seldom mentioned but very important concepts related to data and schema integration, such as entity resolution vs relationship resolution, primary key vs object identifier (OID), and local OID vs global OID, etc. These concepts are related to Object-Relationship-Attribute Semantics (ORA-semantics) and they have significant impact on the quality and correctness of the integrated databases.

In the second half of the talk, we briefly mention some traditional machine learning topics and some current deep learning systems. We notice that the types of data sets used by the machine learning systems and the systems have some limitations: such as only use one single data type of data from a single data source, can only handle single specific task applications, completeness and correctness issues of the training data and test data, use only data but not existing known knowledge, do not provide explanations on the knowledge learnt with different levels of details for different technical levels of users, cannot transfer the new knowledge learnt to other systems/applications or for future use, etc.

Existing systems such as IBM Deep Blue, Google AlphaGo, Google Maps, image and speech recognitions, Goggle Search, chatbot, etc., are for some specific task applications; they are termed narrow AI (or weak AI). We list some possible research topics in machine learning for general AI (or called strong AI), i.e. with some human learning and thinking capability.


Biography: Dr. LING Tok Wang is a professor of the Department of Computer Science, School of Computing at the National University of Singapore. He was the Head of IT Division, Deputy Head of the Department of Information Systems and Computer Science, and Vice Dean of the School of Computing of the University. Before joining the University as a lecturer in 1979, he was a scientific staff at Bell Northern Research, Ottawa, Canada. He received his Ph.D. and M.Math., both in Computer Science, from University of Waterloo (Canada) and B.Sc.(1st class Hons) in Mathematics from Nanyang University (Singapore). His research interests include Data Modeling,



Keynote Speaker III

Entity-Relationship Approach, Object-Oriented Data Model, Normalization Theory, Logic and Database, Integrity Constraint Checking, Semi-Structured Data Model, XML Twig Pattern Query Processing, ORA-semantics based XML and Relational Database Keyword Query Processing. He has published more than 230 international journal/conference papers and chapters in books, all in database research areas. He also co-edited 13 conference and workshop proceedings, co-authored one book, and edited one book.

He is an ER Fellow, an ACM Distinguished Scientist, IEEE Senior Life Member, and Senior Member of Singapore Computer Society. He received the ACM Recognition of Service Award in 2007, the DASFAA Outstanding Contributions Award in 2010, and the Peter P. Chen Award in 2011.



Keynote Speech IV



Prof. Matthias Rättsch - Head of the 'Vision Systems for intelligent Robots' (ViSiR), Reutlingen University, Germany

Title : Humanoid Robots and Artificial Super Intelligence - The Terminating End or the Last Hope for Humans?

Abstract: Abstract: Recent research in humanoid robotics and artificial intelligence, termed as fourth industrial or robot revolution, show that artificial intelligence and robots will play a major role in our future lives. When will the Technological Singularity take place and what happens when Transhumanism starts? The humanoid robots are gaining super intelligence based on machine learning and interaction with humans. Another field to use artificial intelligence is autonomous driving. Driving cars is the biggest group of workers today with 70 Mill employees. All big automotive companies work on autonomous driving cars.

In this talk we will define what artificial super intelligence means, what is possible current and in future in the field of autonomous driving, robotics and human machine interaction. Why is reinforcement and transfer learning a new generation of deep learning and why mid-level fusion of RGB and depth-information is improving scene labeling for autonomous driving?

The use of AI for Human-Robot-Interaction is illustrated on robots of the RT-Lions team taking part on World Championships in RoboCup. Practical examples are shown from collaborations with strong industrial partners, like BMW, Mercedes Benz Daimler, BOSCH or Kuka..

Biography: Prof. Matthias Rättsch is a professor at the Reutlingen University for Image Understanding, Artificial Intelligence and Interactive Mobile Robotics. In 2008, he received his Ph.D. degree in the Graphics and Vision Research Group (GraVis) at the University of Basel, Switzerland in 3DMM Face Analysis. His research interests are in the fields of Artificial Intelligence, Deep Learning, Image Understanding, Autonomous Driving, Human-Robot-Interaction, Humanoid Robots and Bionic Grasping.

He is the head of the RoboCup team RT-Lions. The team could win several international competitions (World Champion in Graz 2009, Iran Master 2011, German Master 2009, Vice World Champion in Singapore 2010). After changing to the RoboCup@Home League the team gained the 4th place at the German Open, won the Portuguese Robotics Open and SICK Robot Day. The team was qualified with 35 teams at the World Championship in Nagoya, Japan, 2017, obtaining the 8th place and 2019 in Sydney, Australia, obtaining the 5h place. The team is qualified for 2021 at World Championship in Bordeaux, France.

Prof. Rättsch has been a member of the program committee and a session chair for several international conferences and was invited for several speeches including keynote, seminal and training in Artificial Intelligence, Face Analysis and Robot Vision for academic and industrial sectors.


Prof. Rättsch and his group has published more than 50 international academic research papers and journals, like at the top-rank IEEE Transactions on Image Processing journal or at the SIGGRAPH conference. His publications were recently honored with an award at the IEEE International Conference on Image Processing (ICIP), at the International Conference on Systems,



Keynote Speech IV

Control and Communications (ICSCC), the Informatics Inside Conference for Human-Centered Computing, and at the IEEE Intelligent Data Acquisition and Advanced Computing Systems Journal. His working group ViSiR could win the Otto-Johansen-Price.

Prof. Rättsch led the with 1.1 Mill EUR founded interdisciplinary project “KollRo 4.0” (BMBF, BOSCH) and current two ZIM-projects with 0,4 Mill EUR in the field of Human-Robot-Collaboration and was a member of other funded industrial projects like RTMO (BMBF), GES 3D (BMBF), Face-HMI (SAB, COG), and I-Search (BMBF).



Invite Speaker I



Prof. Xiaochun Cheng, Middlesex University, UK

Title : Artificial Intelligence Computing Solutions and Applications

Abstract: Artificial Intelligence (AI) has been applied to more and more applications. Xiaochun Cheng researched both symbolic and numeric AI computing solutions and applied different AI computing solutions into several projects, including security, e-learning, system engineering, management, communication network, et al. This speech will review relevant AI computing solutions and AI applications, rational the potential and limitations of relevant AI computing solutions, hence support future more and better AI applications by integrating diverse AI computing solutions.

Biography: Xiaochun Cheng received the BEng Degree in Computer Engineering in 1992, PhD in Computer Science in 1996. He visited Queen's University of Belfast between 1997 and 1998. He was a Postdoc Research Associate at Sheffield University between 1998 and 2000. He was a Lecturer in Reading University between 2000 and 2005. He has been a Senior Lecturer since 2006 and since 2012 the Computer Science Project Coordinator in Middlesex University. One project was funded with 16 Million Euro budget. He is a member of the IEEE SMC Technical Committee on Computational Intelligence, IEEE SMC Technical Committee on Intelligent Internet Systems, IEEE Communications Society Communications and Information Security Technical Committee, IEEE Technical Committee on Cloud Computing, BCS AI Specialist Group, BCS Information Security Specialist Group. He has been Outstanding Ph.D. Thesis Award Chair of IEEE Technical Committee on Cloud Computing. He contributed for five times best conference paper awards so far. 3 his papers are in the 2020 top 1% of the academic field by Data from Essential Science Indicators. He won 3 times national competitions. He won National Science and Technology Advance Award.

Invite Speaker II



Prof. Prof. Qinglin Zhao, Macau University of Science and Technology, China

Title : Exploiting Residual Channel Resources for Coexistence of Heterogeneous Technologies via Reinforcement Learning

Abstract: In Internet of Things (IoT), heterogeneous wireless technologies with different bandwidths often coexist and share unlicensed bands. When a set of wideband channels partially overlap each other, a wideband transmission occurring on one channel partially occupies other channels. For the wideband technology, the remaining parts of partially occupied channels are unusable because their bandwidths are narrow than the signal bandwidth, leading to a waste of channel resources. We refer to these wasted channel resources as residual channel resources (RCRs). On the other hand, for a narrowband technology, a narrowband transmission can occur on an RCR of the wideband technology, as long as its channel overlaps the RCR and its signal bandwidth is not wider than the RCR's bandwidth. In this talk, focusing on WiFi and ZigBee coexistence, we present a Reinforcement Learning-based design that fully exploits RCRs of wideband technologies by arranging narrowband transmissions on them, thereby improving the frequency utilization of IoT. In the design, there are two challenges: 1. how to detect available RCR, and 2. how to exploit RCRs with random durations. This talk will address the two challenges.

Biography: Qinglin Zhao is currently a professor at the Faculty of Information Technology (FIT), Macau University of Science and Technology (MUST). He obtained his Ph.D. degree from the Institute of Computing Technology, the Chinese Academy of Sciences, Beijing, China, in 2005. From May 2005 to August 2009, he conducted post-doctoral academic research at the Chinese University of Hong Kong (CUHK) and the Hong Kong University of Science and Technology (HKUST). In September 2009, he joined the FIT, MUST, and has worked there so far. His research interests are in the areas of Blockchain and decentralization computing, machine learning and its applications, Internet of things, wireless communications and networking, cloud/fog computing, software-defined wireless networking, etc. He has been a senior member of IEEE and a member of CCF Blockchain since 2019; an associate Editor of IET Communications since 2021; a guest Editor of Mobile Information Systems for Special Issue on Artificial Intelligence for Next-Generation Wireless Networks, 2021. He contributed over 60 peer-reviewed journal and conference papers. He received Bank of China (BOC) excellent research award in 2011 and 2015. His research publications appear in the high-quality peer reviewed journals and conference proceedings, such as IEEE Transaction journals, IEEE Infocom, Globecom, ICC, etc. He has obtained more than 20 international patents (including 8 US patents).

Industry Session

Industry Session by Bubo.AI (<https://www.bubo.ai/>)



Prof. Huseyin Seker, Birmingham City University, UK



Mr. Furkan Tektas (Data Scientist, Bubo.AI)

Title: Artificial Intelligence and Big Data Analytics in Practice

Abstract: Every sector is becoming more data-driven and automated through the development of advanced data analytics, artificial intelligence and machine learning methods. Therefore, companies need to be harnessing the data more wisely to outperform their competitors in such a competitive environment. This workshop will cover practical aspect of data-driven economy along with successfully developed and deployed projects in industry.

Session 1--Big Data Science and Application

9:30-11:00, Nov. 22 | Meeting ID: 981 8921 3804

Chair: Prof. Alessio Faccia, De Montfort University Dubai - University College London Centre for Blockchain Technology , United Arab Emirates

SD21-201E	Research on Project Cooperation Prediction based on Metapath2vec Xiaojun Zhou , Yulin Yang University of Chinese Academy of Sciences, China
9:30-9:45	
SD21-202E	Big Data: Finding Frequencies of Faulty Multimedia Data Hemn Barzan Abdalla, Nasser Mustafa, Baha Ihnaini Wenzhou-Kean University, China
9:45-10:00	
SD21-203	Research on Real-time Data Warehouse Technology for Sea Battlefield Xian Zeng , Minglei Han, Ning Li, Peng Liu China Ship Research and Development Academy, China
10:00-10:15	
SD21-207	Financial Big Data Security and Privacy in X-Accounting. A Step Further to Implement the Triple-Entry Accounting Alessio Faccia , Nedal Sawan, Ahmed Eltweri, Zeenat Beebeejaun De Montfort University Dubai, United Arab Emirates
10:15-10:30	
SD21-203E	Big Data Applications in Supply Chain Management: SCOPUS Based Review Baha M. Mohsen Wayne State University, United States
10:30-10:45	
SD21-208	Business Planning and Big Data, Budget Modelling Upgrade Through Data Science Alessio Faccia , Vishal Pandey De Montfort University Dubai, United Arab Emirates
10:45-11:00	

Session 2

Session 2--Mathematical Model and Calculation

9:30-11:00, Nov. 22 | Meeting ID: 864 2146 0816

Chair: Prof. Qimin Hu, JiangXi Normal University, China

SD21-205 9:30-9:45	Predicting the Total Population Development of China Based on Logistic Blocking Growth Model and Improved Grey GM (1,1) Prediction Model Shuangfei Li Northwest University, China
SD21-206 9:45-10:00	Regional Flood Risk Grading Assessment and Application Based on Uncertain EW-AHPSort II Method Jiali Kang , Yijun Zhang, Yuxin Guo, Xiaonan Liu, Yuntian Bai, Yan Tu Wuhan University of Technology, China
SD21-406 10:00-10:15	Learning Knowledge Uncertainty from the Pretrained Language Model Shihan Yang , Rui Tang Kunming University of Science and Technology, China
SD21-407 10:15-10:30	Dual-channel BERT-DBLCA based on Attention Mechanism for News Category Label Classification Model Xuchao Ma , Shuang Zheng, Quanmin Wang Beijing University of Technology, China
SD21-409 10:30-10:45	Research on the Influence of Gambling Culture on Investment Decisions Yuling Qian , Yingkai Tang, Han Chen Sichuan University, China
SD21-409E 10:45-11:00	Research on the Development of Key Technologies of Tactical Edge Cloud Sicong Yu , Huiji Zheng, Yang Fan, Caihong Ma Engineering University of PAP, China

Session 3--Modern Education and Intelligent Teaching

9:30-11:00, Nov. 22 | Meeting ID: 921 8760 9105

Chair: Prof. Yuxia Sun, Jinan University, China

<p>A1023 9:30-9:45</p>	<p>Predictive Modeling and Simulation to Identify the Prenatal, Natal, and Postnatal Risk Factors of Autism Spectrum Disorder: A Case Study from the Philippines Jefferson A. Costales, Madhavi Devaraj Mapua University, Philippines</p>
<p>A2005 9:45-10:00</p>	<p>Analysis on the Human Development Path of Vocational Education in the Era of Artificial Intelligence Jing Mou Chengdu industry and Trade College, China</p>
<p>A2006 10:00-10:15</p>	<p>Analysis of the Difficulties When Applying Positive Teaching Methods in Credit Training at Public Universities in Vietnam Huong Thi Thu Dao, Thanh Hoang FPT University – FPT Polytechnic, Vietnam</p>
<p>A2019 10:15-10:30</p>	<p>Exploration and Practice of Hierarchical Graduation Project under the Background of Science Collaborative Education and Engineering Education Accreditation Lilan Gao, Yansong Tan, Yanfang Sun, Linwei Lv, Bin Li, Junqi Gao, Xiaofei Wang, Yijiao Zhao Tianjin University of Technology, China</p>
<p>A2020 10:30-10:45</p>	<p>Comparison of Tree-based Feature Selection Algorithms on Biological Omics Dataset Zheng Liu, Jiayuan Song Tongji University, China; University of Bologna, Italy</p>
<p>S1017 10:45-11:00</p>	<p>IoT based Attendance Management System (AMS) with Smartwatches' Compatibility Shrooq Alsenan, Deem Aljameel, Sara Alsinan, Dalal Al-Abdulaziz Prince Sultan University, Saudi Arabia</p>

Session 4--Machine Learning and Neural Network Algorithms

13:30-16:15, Nov. 22 | Meeting ID: 981 8921 3804

Chair: Prof. John Paul Q. Tomas, Mapua University, Philippines

<p>SD21-202</p> <p>13:30-13:45</p>	<p>Research on Method of Undesirable Text Recognition based on Deep Learning and Knowledge Graph</p> <p>Lijuan Liu</p> <p>Computer Network Emergency Response Technical Team/Coordination Center of China, China</p>
<p>A1001</p> <p>13:45-14:00</p>	<p>A Deep Feedforward Neural Network and Shallow Architectures Effectiveness Comparison: Flight Delays Classification Perspective</p> <p>Desmond Bala Bisandu, Mohammed Salih Homaid, Irene Moulitsas, Filippone Salvatore</p> <p>Cranfield University, UK / Machine Learning and Data Analytics Laboratory, Digital Aviation Research and Technology Centre (DARTEC)</p>
<p>A1006</p> <p>14:00-14:15</p>	<p>Deep Learning-based EEG Detection of Mental Alertness States from Drivers under Ethical Aspects</p> <p>Tihomir Rohlinger, Le Ping Peng, Tobias Gerlach, Paul Pasler, Bo Zhang, Ralf Seepold, Natividad Martinez Madrid, Matthias Rättsch</p> <p>University Reutlingen TEC, Germany</p>
<p>A1010</p> <p>14:15-14:30</p>	<p>On Large-Batch Training of Residual Networks with SignSGD</p> <p>Alex Xavier, Dumindu Tissera, Rukshan Wijesinghe, Kasun Vithanage, Ranga Rodrigo, Subha Fernando, Sanath Jayasena</p> <p>University of Moratuwa, Sri Lanka</p>
<p>A1018</p> <p>14:30-14:45</p>	<p>Deep Learning-Based Detection for Traffic Control</p> <p>Yiou Yang</p> <p>University of Southern California, US</p>
<p>A1022</p> <p>14:45-15:00</p>	<p>AdaFed: Performance-based Adaptive Federated Learning</p> <p>Alessandro Giuseppi, Lucrezia Della Torre, Danilo Menegatti, Antonio Pietrabissa</p> <p>Sapienza, University of Rome, Italy</p>
<p>S1002</p> <p>15:00-15:15</p>	<p>Developing an Adaptive AI Agent using Supervised and Reinforcement Learning with Monte Carlo Tree Search</p> <p>John Paul Q. Tomas, Nathanael Jhonn Aguas, Angela De Villa, Jasmine Rose Lim</p> <p>Mapua University, Philippines</p>
<p>S1011</p> <p>15:15-15:30</p>	<p>Detecting Gravitational Waves Using Constant-Q Transform and Convolutional Neural Networks</p> <p>Dingyun Zhang</p> <p>University of Science and Technology of China, China</p>

Session 4

S1013 15:30-15:45	A Meta-Method for Portfolio Management Using Machine Learning for Adaptive Strategy Selection Damian Kisiel , Denise Gorse University College London (UCL), UK
S2007 15:45-16:00	Veritas: A Sign Language-To-Text Translator Using Machine Learning and Computer Vision Shaun Njazi , Sokchoo Ng International University of Malaya-Wales, Malaysia
S2011 16:00-16:15	Crafting ASR and Conversational Models for an Agriculture Chatbot Abbott Po Shun Chen , C. W. Liu Chaoyang University of Technology, Taiwan, China

Session 5--Computer Science and Data Computing

13:30-16:15, Nov. 22 | Meeting ID: 864 2146 0816

Chair: Prof. Nguyen Cong-Phuong, Hanoi University of Science and Technology, Vietnam

<p>A1002 13:30-13:45</p>	<p>Analysing the Sentiment of Air-Traveller: A Comparative Analysis Mohammed Salih Homaid, Desmond Bala Bisandu, Irene Moulitsas, Karl Jenkins Cranfield University, UK / Machine Learning and Data Analytics Laboratory, Digital Aviation Research and Technology Centre (DARTEC)</p>
<p>A1003 13:45-14:00</p>	<p>A Simple and Effective Sound-based Five-Class Classifier for Induction Motor Overload Nguyen Cong-Phuong Hanoi University of Science and Technology, Vietnam</p>
<p>A1007 14:00-14:15</p>	<p>Dynamic Guarantee Network Model and Risk Spill-over Effect Ziyan Zhu, Xiaoxing Liu, Obaid Ur Rehman, Chenyi Wang Southeast University, China</p>
<p>A1009 14:15-14:30</p>	<p>Prediction and Sensitivity Analysis of Shear Strength of Reinforced Concrete Beams with Deformed Hook Steel Fiber using Backpropagation Neural Network coupled with Garson's Algorithm Claire M. Garduce, Dante L. Silva, Kevin Lawrence M. de Jesus Mapua University, Philippines</p>
<p>A1017 14:30-14:45</p>	<p>Towards Quantification of Explainability Algorithms Pratyush Rokade, BKSP Kumar Raju Alluri VIT-AP University, India</p>
<p>A1501-A 14:45-15:00</p>	<p>The Lawyer's Trust in the Risk Assessment System: Perceptions, Attitudes, and Practices of Use Anastasia Gracheva Saint Petersburg State University, Russia</p>
<p>S2003 15:00-15:15</p>	<p>Manifold Learning Projection Quality Quantitative Evaluation Vladislav Belov, Radek Mařík Czech Technical University in Prague, Czech Republic</p>
<p>S2005 15:15-15:30</p>	<p>Dynamic Weighted Majority based on Over-sampling for Imbalanced Data Streams Du Hongle, Thelma Palaoag University of the Cordilleras, Baguio City, Philippines</p>

Session 5

S501 15:30-15:45	Development of Informed Rapidly-Exploring Random Tree Focused on Memory Efficient Path Planning Zhanhao Le , Fanyi Tang, Pengyu Wang Wuhan Textile University, China
A1035 15:45-16:00	Stochastic Neural Variational Learning of Noisy-OR Bayesian Networks for Images Takashi Sano , Yuuji Ichisugi Toyo University, Japan
VA1002 15:45-16:15	Development of A Modular Sandwich Panel Wall System – Modelling and Numerical Simulations S Ferreir , G Vela, M Morais, V Costa University of Aveiro, Portugal

Session 6--Intelligent System and Information Management

13:30-16:00, Nov. 22 | Meeting ID: 921 8760 9105

Chair: Prof. Mattias Wahde, Chalmers University of Technology, Sweden

<p>A1019 13:30-13:45</p>	<p>A Study on Applying Decentralized Constraint Optimization to Mobile Sensor Teams with Range Sensors Toshihiro Matsui Nagoya Institute of Technology, Japan</p>
<p>A1020 13:45-14:00</p>	<p>Design of A Semi-automatic System that Projects UV-C Rays for the Sterilization of Household Pantry Products Helder Alexis Mayta Leon, Jean Pierre Arce Misajel, Sario Angel Chamorro Quijano, Frank William Zarate Peña Universidad Continental, Peru</p>
<p>A1021 14:00-14:15</p>	<p>iMobilAkou: The Role of Machine Listening to Detect Vehicle using Sound Acoustics Muddsair Sharif, Mayur Hotwani, Huseyin Seker, Gero Lückemeyer University of Applied Sciences, Germany</p>
<p>A1026-A 14:15-14:30</p>	<p>Applying Reinforcement Learning for Improving Production Scheduling in Smart Factories Leon Vogel University of Applied Sciences Bielefeld, Germany</p>
<p>A2001 14:30-14:45</p>	<p>An interactive System to Improve Cognitive Abilities Using Electromyography Signals Xavier Aguas, Ángel Leonardo Valdivieso Caraguay, Lorena Isabel Barona López, Rubén Nogales, Jaime Guilcapi, Freddy Guilcapi, Freddy Benalcázar, Marco Enrique Benalcázar Palacios Escuela Politécnica Nacional (EPN), Ecuador</p>
<p>S1004 14:45-15:00</p>	<p>Proposals for Addressing Research Gaps at the Intersection of Data Analytics and Supply Chain Management Chibuzor Udokwu, Patrick Brandtner, Farzaneh Darbanian, Taha Falatouri University of Applied Sciences, Austria</p>
<p>S1007 15:00-15:15</p>	<p>GAAINet: A Generative Adversarial Artificial Immune Network Model for Intrusion Detection in Industrial IoT Systems Siphesihle Philezwini Sithungu, Elizabeth Marie Ehlers University of Johannesburg, South Africa</p>

Session 6

S1016 15:15-15:30	AI based Supervision System for Pandemic Management Krisha Bhambani, Tanmay Jain, Kavita A Sultanpure Pune Institute of Computer Technology, India
S2006 15:30-15:45	The Five Is: Key Principles for Interpretable and Safe Conversational AI Mattias Wahde , Marco Virgolin Chalmers University of Technology, Sweden
TD05 15:45-16:00	WikiFish: Mobile App for Fish Species Recognition Using Deep Convolutional Neural Networks Kholoud Elbatsh Gaza University, Palestine

Session 7--Computer and Information Management 16:30-18:15, Nov. 22 Meeting ID: 981 8921 3804 Chair: Prof. Shihan Yang, Kunming University of Science and Technology, China	
SD21-204 16:30-16:45	The Corporate Governance Performance of Taiwan's Legal Entity Directors and Supervisors for Fat Cat Enterprises Kote Liu, Yungyu Shin , Minghua Yu Guangdong Business Technology University, China
SD21-204E 16:45-17:00	Design and Research of IoT Management Architecture for Power Grid Enterprises Based on Digital Transformation Ji Wu, Ming Zhou , Min Xu, Jin Zhang, Yue Wu, Weiwei Zha State Grid Anhui Electric Power Co., LTD. Information communication Branch, China
SD21-401 17:00-17:15	One-shot Learning of Fusion Model in Patient Identity Recognition in ICU Ward Yiming Wu , Gehao Lu, Yaling Luo, Fei Wang Yunnan University, China
SD21-402 17:15-17:30	Comprehensive Design and Evaluation System of Flight Test Mission Based On Test Point Lulu Liu, Zengqiang Hui Chinese Flight Test Establishment, China
SD21-403 17:30-17:45	Terahertz Image Super-Resolution Reconstruction based on Complex Deconvolution Algorithm with Different Criteria Ying Wang , Feng Qi, Jinkuan Wang Northeastern University, China
SD21-405 17:45-18:00	Research on Motion State Recognition of Random Forest based on Bayesian Optimization Fang Kun , Guo Ruohan, Chen Guanghui, Du Mingming Henan Branch of National Computer Network and Information Security Management Center, China
TD02 18:00-18:15	Is It Possible To Distinguish COVID-19 cases and Influenza With Wearable Devices? Analysis With Machine Learning Justyna Skibińska Brno University of Technology, Czech Republic

Session 8--Learning Mode and Method

16:30-18:15, Nov. 22 | Meeting ID: 864 2146 0816

Chair: Prof. Gridaphat Sriharee, King Mongkut's University of Technology North Bangkok, Thailand

<p>A2002 16:30-16:45</p>	<p>Difficulties When Implementing Blended E-learning in Credit Training at Public Universities in Vietnam Huong Dao Thi Thu, Thanh Hoang FPT University – FPT Polytechnic, Vietnam</p>
<p>A2003 16:45-17:00</p>	<p>Is Online Learning Method Better than Traditional Method in Customer Psychology Course Regarding Academic Results? Thu Thi Kim Le FPT University – FPT Polytechnic, Vietnam</p>
<p>A2004 17:00-17:15</p>	<p>Is Synchronous E-learning Implementation in Public Universities a good idea during the pandemic of the COVID-19 in Vietnam? Anh Thi Van Pham, Nam Van Kieu FPT University – FPT Polytechnic, Vietnam</p>
<p>A2010 17:15-17:30</p>	<p>Factors Affecting Student Engagement in Online Learning during Covid-19: A Case Study of Students' Perceptions Anh Thi Van Pham, Nam Van Kieu, Thao Thi Thu Vu FPT University – FPT Polytechnic, Vietnam</p>
<p>A2011 17:30-17:45</p>	<p>Applying Exploratory Search for Self-Paced Learning using Tagging Gridaphat Sriharee King Mongkut's University of Technology North Bangkok, Thailand</p>
<p>A2012 17:45-18:00</p>	<p>The Implementation of Project-based Learning Approach in Technical Courses: An Investigation into Students' Perceptions Anh Thi Van Pham, Thien Huu Tran FPT University – FPT Polytechnic, Vietnam</p>
<p>A2013 18:00-18:15</p>	<p>Data Mining for Discovering Cognitive Models of Learning Jinjin Zhao, Candace Thille, Dawn Zimmaro Amazon, US</p>

Session 9--Intelligent Image Processing and Application

16:30-18:30, Nov. 22 | Meeting ID: 921 8760 9105

Chair: Prof. Elizabeth Marie Ehlers, University of Johannesburg, South Africa

A1024	Efficient Fruit and Vegetable Classification and Counting for Retail Applications Using Deep Learning
16:30-16:45	Kirill Bogomasov , Stefan Conrad Heinrich Heine University, Germany
A1502	ACU-Net: Adaptive Context Network Based on U-Net for Retinal Vessel Segmentation
16:45-17:00	Ye Yuan Imperial College London, UK
A2015	Vietnamese Students' Perspectives towards Using Graphic Organizers on Reading Comprehension Skills
17:00-17:15	Le Ha Van FPT University, Vietnam
S1001	Vehicle Detection and Speed Estimation Implemented through Euclidean Algorithm
17:15-17:30	John Paul Q. Tomas , Angelo Jesus De Rosas, Christian Lumugdang, Jose Danielle Pantoja Mapua University, Philippines
S1005	Application of Agents to the Recognition of Mathematical Expressions from Noisy Images
17:30-17:45	Daniel Ogwok , Elizabeth M Ehlers University of Johannesburg, South Africa
S1006	Proposed Face Recognition System Based on Immune Inspired Anomaly Detection Using Symbiotic Agents
17:45-18:00	Elizabeth Marie Ehlers, Ruan Spijkerman University of Johannesburg, South Africa
S1014	Identifying the Optimal Threshold for Image Segmentation Using PSO and its Application to Chronic Wound Assessment
18:00-18:15	Wanyok Atisattapong , Chontida Chansri, Jidapa Somboonbadeebut, Pakorn Songkaew Thammasat University, Thailand
S2009	DeCloud GAN: An Advanced Generative Adversarial Network for Removing Cloud Cover in Optical Remote Sensing Imagery
18:15-18:30	Krishna Bhambani , Mukta Takalikar SCTR's Pune Institute of Computer Technology, India

2022 The 5th International Conference on Computational Intelligence and Intelligent Systems (www.ciis.net)

2022 The 3rd International Conference on Artificial Intelligence Technology (www.cait.net)

CIIS 2022 & CAIT 2022 | Quzhou, Zhejiang, China

CIIS & CAIT 2022 aim at addressing advances in research on computational intelligence and intelligent systems, covering topics ranging from enabling technologies to emerging applications and industrial experiences. Authors are solicited to contribute original, unpublished contributions in all aspects of computational intelligence. We look forward to welcoming you in **Quzhou, Zhejiang, China** during **November 4-6, 2022**.



衢州学院
QUZHOU UNIVERSITY

Quzhou University

Quzhou University (QZU) is an application-oriented institution of full-time higher education. While comprehensive in scope, QZU maintains a strong emphasis on engineering disciplines. Founded in 1985, QZU was formerly known as the West Branch of the Zhejiang College of Technology. In March of 2010, with the approval of the Ministry of Education (MOE), it was renamed Quzhou University. In 2014, QZU was authorized as a bachelor's degree awarding institution. In 2013, it was approved as a university of National Innovation and Entrepreneurship Training Program for College Students. In 2014, QZU was authorized as a bachelor's degree awarding institution. In 2015, QZU was approved to be one of the pilot and demonstration universities for the construction of application-oriented universities in Zhejiang Province. In 2018, QZU passed the undergraduate teaching qualification assessment of the MOE, and was listed as a pilot institution for the new round of Quality Assessment of Undergraduate Education in 2021. The past decades of years also witnessed honors and awards including Provincial Mass Entrepreneurship Innovation Demonstration Base of Zhejiang, Provincial Model University for Talent Management, Role Model in Ethical and Cultural Progress of Zhejiang Province, Excellent Higher Education Institution for Undergraduate Employment, Provincial Model University for Safe Campus, Excellent Institution for National Sports Undertaking, and National Pilot Training Institution of Weiqi Teachers.



About Quzhou



Scan to Join Us

