



2018 International Conference on Cyber-Enabled Distributed Computing and Knowledge Discovery

(Name in Chinese: 第10届网络分布式计算与知识发现国际会议)

October 18-20, 2018

SKY-LAND GDH Hotel (河南天地粤海酒店)

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Celebrating 10th CyberC

It is our greatest pleasure to welcome you to the 10th CyberC (International Conference on Cyber-enabled distributed computing and knowledge discovery). Thanks are expressed to your participations. CyberC is an international conference on cyber-enabled technology. This conference covers the R&D topics of cyber-networks, machine learning, cyber security, wireless communications, smart sensor network, and Internet of Things, and other cyber-related research. CyberC started in 2009 as a forum for presentation and discussion of innovative cyber-enabled technologies. CyberC 2018 is hosted by Zhengzhou University, Nanjing University of Posts & Telecommunications, University of Louisville

Thanks for the supports from the IEEE, IEEE Big Data, IEEE SDN, IEEE communications society and IEEE Communications society on Big Data. We also sincerely express our appreciation to Huawei, Tech Mahindra, Zhengzhou University, and InfoBeyond. CyberC is impossible without these sponsorships and participations from these companies.

Enjoy the conference!

Bin Xie and Ning Wang

CyberC Steering Committee
September 30, 2018

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- ◆ Please register yourself at the CyberC onsite to retrieve your conference material.
- ◆ The conference schedule may be adjusted by program organizers without prior notification.
- ◆ All papers **have to** be orally presented with PPT.
- ◆ The time slots — minimal time: 12 minutes, and maximal time: 20 minutes.
- ◆ Each session will have a Session Chair. Extra time is permitted under the permission of the Session Chair.
- ◆ For your presentation, you can use your computer or the computer from Session Chair which is the window system.
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- ◆ Contact us: papers@cyberc.org or onsite.

International Conference on Cyber-Enabled Distributed Computing and Knowledge Discovery

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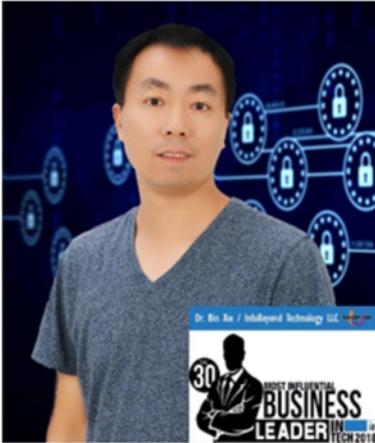
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CyberC 2018 & Emerging Technology Summit Keynotes

Keynote 1: Dr. Bin Xie (谢彬), CEO of InfoBeyond Technology LLC, USA



Dr. Xie received his M.Sc and Ph.D. degrees in Computer Science and Computer Engineering from the University of Louisville, Kentucky, USA, 2003 and 2006 respectively. He is the founder & CEO of the InfoBeyond and the Company is featured as one of 50 fast growth IT small businesses in 2017 by The Silicon Review. InfoBeyond offers (i) NXdrive for data security against data breach, and (ii) Security Policy Tool for access control cybersecurity and the product is honored as a Successful SBIR Story by NIST. InfoBeyond is also conducting R&D for delivering big data and security products. Dr. Xie is featured as one of 30 Most Influential Business Leaders in Tech 2018 by Insights Success Magazine for his Contributions in the Network and Data Security Industry.

Dr. Xie has awarded \$7.5 million research funding from the U.S. federal governments. He is/was the PI of 20+ R&D projects that are supported by DoD (Army, Navy, Air Force, Missile Defense), DoE, NIST, DoT, DoC, and Kentucky State. Dr. Xie has published 70+ papers in the IEEE conferences and journals. His research interests are focused on cyber security, wireless communication, big data streaming, and user performance. Dr. Xie is the co-author of books titled Handbook/Encyclopedia of Ad Hoc and Ubiquitous Computing (World Scientific: ISBN-10: 981283348X, World Scientific Publisher, Best-selling in 2012 & 2013), Handbook of Applications and Services for Mobile Systems (Auerbach Publication, Taylor and Francis Group, ISBN: 9781439801529, 2012) and Heterogeneous Wireless Networks- Networking Protocol to Security, (VDM Publishing House: ISBN: 3836419270, 2007. Dr. Xie severed as a member of NIH Special Emphasis Panel on System Science and Health in the Behavioral and Social Sciences, ZRG1 HDM-Q (50), 2012-2017.

Topic: Enabling Low-Latency High-reliability Wireless for Industry Communication Systems

Abstract: Industrial Control Systems (ICSs, e.g., automation, motion control, discrete manufacturing, robotics, refineries) usually needs to continuously monitor the status of the facilities in the plant and perform timely response accordingly. Low latency and high-reliability wired communication networks for ICSs have been successfully deployed for many years using SERCOSIII and other fieldbus standards. Recently, there are increasing interests in moving wireless technologies into manufacturing applications to replace the current wired communication networks to lower the installation and maintenance costs. However, as identified by NIST, the transmission error and delay caused by unreliable wireless connections have been the main concern that prevents the wide usage of wireless networks in manufacturing applications. In this talk, we will discuss the wireless technology to simultaneously address the stringent requirements on latency (close-loop sense-to-actuation time < 1ms) and reliability (transaction error < 10^{-9}), which are not achieved in the current 5G and other wireless technologies for ICS applications.

Keynote 2: Dr. Nikhil Malhotra, Creator/Head of Maker's Lab, TechMahindra, India



Nikhil Malhotra is the creator/head of Maker's Lab, a unique Thin-q-bator space within TechMahindra with over 17+ years of experience in a variety of technology domains. Nikhil has been working with TechMahindra for the past 11 years and is now leading the growth of AI and machine learning within the organization. In his present avatar as the creator/head of TechMahindra's R&D space he focuses on artificial intelligence, quantum computing ,robotics and mixed reality. Nikhil's area of personal research has been natural language processing , enabling machines to talk the way humans do . Nikhil has also designed an indigenous robot in his lab, as a personal assistant.

He lives by a dream of creating smart machines that would wed human emotions with artificial intelligence to make lives better. His perseverance of creating an IP based incubator paid off in many forms; one being the idea of replicating Maker's Lab , his brain child across the world.

He is also a leading speaker on practical use of AI and the future that AI beckons.

He holds a masters degree in computing with specialization in distributed computing from Royal Melbourne Institute of Technology, Melbourne. Nikhil currently resides in Pune with his wife Shalini and son Angad.

Topic: TBD

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Keynote 3: Dr. Pei Ke, Huawei Technologies 2012-Labs, Corporate Reliability Dept.



Pei Ke received his Ph.D. degree in communication and information system from XiDian University in 2002. He is currently the chief AI technical expert/data scientist of Huawei corporate reliability department, who lead an AI expert team to build fault prediction and prevention capability of ICT products/cloud/services. He is responsible for idea initiation, prototype design and verification of Intelligent Fault prediction and localization capability, define intelligent architecture and solutions for next generation communication systems and public cloud. His research interests includes cloud computing, machine learning, deep learning, time series data processing, PHM and APM etc.

Prior to joining Huawei, Dr. Peike was Lucent Bell-labs distributed member of technical staff (DMTS) and was accepted as alcatel-lucent technical academy member (ALTA) also, he has over 10 years new product development and software architecture solid experience on cloud/NFV solution, distributed DB, Intelligent Network Applications, Data Mining/Analysis.

Topic: The explorations and challenges for AI based Fault Prediction and Prevention on ICT system

Abstract: Fault prediction and prevention are important method to improve the reliability of next generation communication systems. Based on the experience of real cases and lessons learned in using AI technology to predict and prevent failures, this talk discusses related challenges and strategies/suggestions in three perspectives: architecture, algorithms, and data.

Keynote 4: Yunfei Zhang, National expert of "ten thousand talents program" and founding director of Tencent



Yunfei Zhang is national "ten thousand talents program" expert and the founding director of Tencent future network Lab. He is interested in 5G, cloud computing, distributed systems, streaming, IoT and mobile handset. He has rich experience in operators, mobile phone vendor and Internet service provider. He is experienced in Internet and mobile standards, who created the peer to peer streaming WG in IETF and authored more than 10 RFCs, ITU-T specifications and led the first 3GPP standard team in Chinese terminal vendors. He has published more than 20 international journal and conference papers and more than 30 licensed patents. He won the national patent prize and national standard prize.

Topic: 5G applications driven network evolution - from Internet Service provider's perspective

Abstract: 3GPP has basically finished the R15 standards and we are beginning the 5G applications trials and commercialization. Many new applications, e.g., cloud gaming, auto driving and industrial internet have brought new requirements to the 5G network and droven the evolution of network architecture. In this talk, I will dicuss how these new applications will affect the network and its standards as well as how the applications and network interact with each other for development and evolution.

CyberC 2018 & Emerging Technology Summit Keynotes

Keynote 5: Alok Srivastava, Lead Architect, Microsoft Corporation, USA



Alok Srivastava is a lead architect with Microsoft services focusing on Internet of Things global scale architecture. He is focused on data ingestion from devices, in-flight analytics and scale models for machine learning with security, performance and distributed intelligence models that drive the modern IOT implementations. Alok has worked as CTO in Microsoft services and established CTO office that focuses on in-operation solution lifecycle. He was CTO for ISV team at Microsoft where he was responsible for working with Microsoft partners on scale architecture that can absorb emerging technology trends. Alok has worked as technology and business advisor to a number medium and large businesses enabling them to bring successful products to their respective markets.

Prior to joining Microsoft, Alok worked for Sybase and Oracle Corporation, leading product development and R&D teams. His played a key role in distributed replication management systems, database extensibility, multi-media management in relational databases, location based services, formalization of web services, service-oriented architecture and collaboration platform. Alok worked as CTO with his startup focusing on sales process optimization and automation. His research interest include distributed high performance and scale computing, internet of things (M2M architectures), cloud computing, service oriented architectures, complex high scale knowledge systems, data architecture and business intelligence.

Alok graduated from University of Louisville in 1994 after getting his bachelor's degree from Indian Institute of Technology, Kanpur in 1991. Alok is a seasoned technology executive, accomplished presenter and innovator with several patents. He has strong background in distributed large scale computing systems, transaction processing, data management, internet of things as well as complex system architectures.

Topic: Shaping of Digital Planet

Abstract: There isn't a day go by when you do not hear about how digital transformation is gripping all parts of our society and our economy. Traditional business processes are threatened continuously, and every business now needs to assess what it means to them. Exploding sensor networks, ubiquitous connectivity, and ever-expanding bandwidth are creating more data than we as humans know how to handle and use effectively. That is what is giving rise to new ways of analyzing data and using data and visualizing it. So much so that we are now able to take humans out of the equation to impact a lot of this that impact us. Artificial Intelligence is becoming a key part of our day to day life. Reality is being morphed into Augmented or Virtual reality and sometimes the only good way to visualize our digital world. In this keynote, we are going to look at trends that are shaping how we are going to live and work in the future and bringing us a step closer to the idea of Digital Planet.

Keynote 6: Dr. Ling Guan, Ryerson Multimedia Research Laboratory, Ryerson University, Toronto Canada



Ling Guan received the Ph.D. degree in Electrical Engineering from The University of British Columbia, Vancouver, Canada, in 1989. From 1989 to 1992, he was a Research Engineer of Array Systems Computing Inc., Toronto, ON, Canada, in machine vision and signal processing. From 1992 to 2001, he was a faculty member at University of Sydney, Sydney, Australia. In 2001, he joined the Ryerson University, Toronto, ON, Canada, where he is currently a Professor and a Tier I Canada Research Chair in the Department of Electrical and Computer Engineering. He is an Honorary Guest Professor of the School of Information Engineering, Zhengzhou University, Zhengzhou, China. He also held visiting positions at British Telecom (1994), Tokyo Institute of Technology (1999), Princeton University (2000), National ICT Australia (2007), The Hong Kong Polytechnic University (2008-2009), and Microsoft Research Asia (2002, 2009, 2017). He has published extensively in multimedia processing and communications, human-centered computing, machine learning, adaptive image and signal processing, and multimedia computing in the immersive environment.

Dr. Guan is a Fellow of the IEEE and a Fellow of the Canadian Academy of Engineering. He is an IEEE Circuits and System Society Distinguished Lecturer, an recipient of the 2014 IEEE Canada C.C. Gotlieb Computer Medal and the 2005 IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS Best Paper Award.

Topic: Knowledge Discovery: Can We Do Better Than Deep Neural Networks?

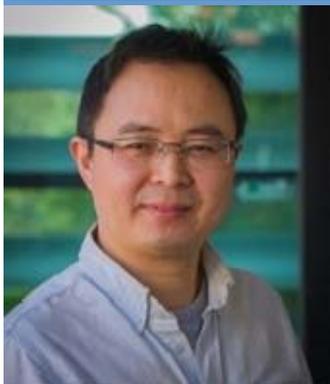
Abstract: Knowledge discovery plays a key role in the success of machine learning for visual analysis and recognition. Knowledge discovery includes three major steps: 1) key-point detection in the visual scene; 2) feature (descriptor) generation at the identified key-points; 3) feature coding which transforms the features into a more effective (or optimal) representation. We recently conceived an idea for the design of an information discovery framework which consists of three parts:

- Part I. SCK - A sparse coding key-point detector
- Part II: Discovery of features associated with SCK
- Part III: Statistical machine learning in feature coding

The talk will present the current progress on Part I, analytically and experimentally demonstrate the effectiveness and robustness of SCK, including comparisons with classical key-point detectors and deep neural network methods.

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Keynote 7: Dr. Shui Yu(余水);, University of Technology Sydney, Australia



Shui Yu is currently a full Professor of School of Software, University of Technology Sydney, Australia. Dr Yu's research interest includes Security and Privacy, Networking, Big Data, and Mathematical Modelling. He has published two monographs and edited two books, more than 200 technical papers, including top journals and top conferences, such as IEEE TPDS, TC, TIFS, TMC, TKDE, TETC, ToN, and INFOCOM. Dr. Yu initiated the research field of networking for big data in 2013. His h-index is 32.

Dr. Yu actively serves his research communities in various roles. He is currently serving the editorial boards of IEEE Communications Surveys and Tutorials, IEEE Communications Magazine, IEEE Internet of Things Journal, IEEE Communications Letters, IEEE Access, and IEEE Transactions on Computational Social Systems. He has served more than 70 international conferences as a member of organizing committee, such as publication chair for IEEE Globecom 2015, IEEE INFOCOM 2016 and 2017, TPC chair for IEEE BigDataService 2015, and general chair for ACSW 2017. He is a Senior Member of IEEE, a member of AAAS and ACM, the Vice Chair of Technical Committee on Big Data of IEEE Communication Society, and a Distinguished Lecturer of IEEE Communication Society.

Topic: Big Data Privacy: A Machine Learning Perspective

Abstract: Big data is a revolution for our society. However, it also introduces a significant threat to data privacy. In this talk, we firstly review the current work in privacy protection under the framework of big data. Then we discuss the challenges in the domain from different angles, especially the machine learning aspects in field. We humbly hope this talk will shed light for forthcoming researchers to further explore the uncharted part of this promising land.

Keynote 8: Dr. Chih-Lin I(易芝玲), Chief Scientist, Wireless Technologies, China Mobile Research Institute



Chih-Lin I received her Ph.D. degree in electrical engineering from Stanford University. She has been working at multiple world-class companies and research institutes leading the R&D, including AT&T Bell Labs; Director of AT&T HQ, Director of ITRI Taiwan, and VPGD of ASTRI Hong Kong. She received the IEEE Trans. COM Stephen Rice Best Paper Award, is a winner of the CCCP National 1000 Talent Program, and has won the 2015 Industrial Innovation Award of IEEE Communication Society for Leadership and Innovation in Next-Generation Cellular Wireless Networks.

In 2011, she joined China Mobile as its Chief Scientist of wireless technologies, established the Green Communications Research Center, and launched the 5G Key Technologies R&D. She is spearheading major initiatives including 5G, C-RAN, high energy efficiency system architectures, technologies and devices; and green energy. She was an Area Editor of IEEE/ACM Trans. NET, an elected Board Member of IEEE ComSoc, Chair of the ComSoc Meetings and Conferences Board, and Founding Chair of the IEEE WCNC Steering Committee.

She was a Professor at NCTU, an Adjunct Professor at NTU, and currently an Adjunct Professor at BUPT. She is the Chair of FuTURE 5G SIG, an Executive Board Member of GreenTouch, a Network Operator Council Founding Member of ETSI NFV, a Steering Board Member of WWRF, a member of IEEE ComSoc SDB, SPC, and CSCN-SC, and a Scientific Advisory Board Member of Singapore NRF. Her current research interests center around "Green, Soft, and Open".

Topic: Bringing AI to the RAN

Abstract: TBD

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Keynote 9: Dr. Ning Wang, Zhengzhou University, China



Ning Wang received the B.E. degree in Communication Engineering from Tianjin University, China, the M.A.Sc. degree in Electrical Engineering from the University of British Columbia, Canada, and the Ph.D. degree in Electrical Engineering from the University of Victoria, Canada, in 2004, 2010, and 2013, respectively. From 2004 to 2008, he was with the China Information Technology Design and Consulting Institute as a mobile communication system engineer, specializing in network planning of large-scale commercial mobile communication networks, voice and data traffic analysis, and radio network optimization. He was a post-doctoral research fellow with the Department of Electrical and Computer Engineering, the University of British Columbia, from 2013 to 2015. Since 2015, he has been with the School of Information Engineering, Zhengzhou University, Zhengzhou, China, where he is currently an Associate Professor. He also holds adjunct appointment with the Department of Electrical and Computer Engineering, McMaster University, Hamilton, Canada. His research interests include resource allocation and security designs of future cellular networks, channel modeling for wireless communications, statistical signal processing, and cooperative wireless communications.

Topic: Towards the Next Stage Evolution of Massive MIMO for 5G and Beyond: A Cost-Effective Perspective

Abstract: TBD

Keynote 10: Dr. Mugen Peng, Beijing University of Posts and Telecommunications (BUPT), Beijing, China



Mugen Peng received the Ph.D. degree in communication and information systems from the Beijing University of Posts and Telecommunications (BUPT), Beijing, China, in 2005. Afterward, he joined BUPT, where he has been a Full Professor with the School of Information and Communication Engineering since 2012. During 2014 he was also an academic visiting fellow at Princeton University, USA. He leads a Research Group focusing on wireless transmission and networking technologies in BUPT. He has authored and co-authored over 100 refereed IEEE journal papers and over 200 conference proceeding papers. His main research areas include wireless communication theory, radio signal processing, cooperative communication, self-organization networking, heterogeneous networking, cloud communication, and Internet of Things.

Dr. Peng was a recipient of the 2018 Heinrich Hertz Prize Paper Award, the 2014 IEEE Com-Soc AP Outstanding Young Researcher Award, and the Best Paper Award in the JCN 2016, IEEE WCNC 2015, IEEE GameNets 2014, IEEE CIT 2014, ICCTA 2011, IC-BNMT 2010, and IET CCWMC 2009. He is currently or has been on the Editorial/Associate Editorial Board of the IEEE Communications Magazine, IEEE ACCESS, IEEE Internet of Things Journal, IET Communications, and China Communications. He received the First Grade Award of Technological Invention Award three times in China.

Topic: Fog Radio Access Networks: Architecture, Techniques, and Application

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Keynote 11: David Lu(陆惠晨), Vice President, ECOMP Platform & Systems Development, AT&T Labs



David Lu , Vice President, D2 Platform & Systems Development, is currently responsible for development and engineering of AT&T next generation ECOMP platform and Open ECOMP (ONAP) to enable the AT&T network virtualization (SDN) and target OSS/BSS transformation including API, micro-services, policy control & orchestration, hyper-automation, and advanced data analytics. He leads an organization with more than 2,000 people across the globe.

David is a well-respected leader in large scale and real time software architecture and engineering, network performance and traffic management, work flow and policy controlled automation, large databases and big data implementation/mining/analytics, machine learning, artificial intelligence, software reliability and quality, and network operations process engineering. Examples of his achievements include large scale platforms he has led and engineered that process annually: **956 Trillion** network performance events and **195 Billion** alarms with 99.99%+ automation; **60 Million** dispatches with 14.4 Billion automated manual steps; and over **90 Billion** API transactions.

Since joining AT&T Bell Labs in 1987, he has served in various leadership positions at AT&T. He has led multiple extreme automation initiatives in AT&T that resulted in **Multi-Billion Dol-**

lars savings in the past 15 years and won **AT&T CIO 100 Awards** in 2010. He holds 43 patents and has frequently appeared as a guest speaker at technical and leadership seminars and conferences throughout the world. He received numerous industry awards including the **2015 Chairman's Award** from IEEE Communication Society for Network and Systems Quality and Reliability and **2017 CIE AAEOY (Asian America Engineer of Year) Award** . He has also been very active in community organizations and activities including AT&T APCA, DFW-CIE, and DFW Asian American Chamber of Commerce. He was recognized by AT&T APCA with the **2015 Corporate Leadership Award** .

He was accepted to the world-renowned Shanghai Conservatory of Music and came to the U.S. to complete his college education. He has an undergraduate degree in music, majoring in cello performance and graduate degree in Computer Science.

Topic: 5G Innovation and Challenges

Abstract: The speed of technology advancement and disruptive technology impact to global economy in the past decade has been truly impressive. Mobile Broadband and Mobile Apps have changed the world we live in today in a very dramatic way. With 4G/LTE deployment just behind us not long ago, 5G is rising as one of the leading disruptive technologies for the next decade. Why 5G is so hot all of a sudden? Will 5G deliver most of expected changes in speed, coverage, and latency? This talk will provide an industry perspective in its key use cases, the technology innovation, investment strategy, and operation challenges.

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Tzyh-Jong (TJ) Wang, PhD, AT&T, USA



Dr. TJ Wang is currently with AT&T since 2008. He is a system engineer for mobility operations support systems focusing on mobility network end-to-end performance and reliability. Prior to joining AT&T, TJ was with DEC, Bellcore, Lucent Technologies and UTStarcom between 1987 and 2008.

He received his Ph.D. in Industrial Engineering from the University of Wisconsin-Madison in 1987; and B.S. in Industrial Engineering from Tsing Hua University, Taiwan, in 1978.

Dr. Chonggang Wang, Interdigital Inc.



Chonggang Wang received his Ph.D. degree from Beijing University of Posts and Telecommunications (BUPT) in 2002. He is currently a Member Technical Staff with InterDigital Communications. His current research interests include decentralized IoT, semantic computing and services for IoT, fog computing for IoT, IoT data analytics, and advanced IoT services. He also has abundant IoT standardization experience including oneM2M, IETF, IEEE, and ETSI TC M2M. He was the co-founder (2011-2013) and the founding Editor-in-Chief (EiC) of IEEE Internet of Things Journal (2014-2016). He is currently the Associate EiC of IEEE Transactions on Big Data and the EiC of IEEE Blockchain Newsletter. He is an IEEE Fellow for his contributions to IoT enabling technologies (2017).

Anup Kumar, PhD, Professor, University of Louisville, Kentucky, USA



Anup Kumar (ak@louisville.edu) completed his Ph.D. from North Carolina State University and is currently a Professor of CECS Department at the University of Louisville. He is also the Director of Mobile Information Network and Distributed Systems (MINDS) Lab. His research interests include web services, wireless networks, distributed system modelling, and simulation. He has co-edited a book titled, "Handbook of Mobile Systems: Applications and Services" published by CRC press in 2012. He is an Associate Editor of IEEE Transactions on Services Computing. He is also the Associate Editor of Internal Journal of Web Services Research and International Society of Computers and Their Application Journal. He is a member of IEEE Distinguished Visitor Program (2006-2008). He was the Chair of IEEE Computer Society Technical committee on Simulation (TCSIM) (2004-2007). He has published and presented over 150 papers. Some of his papers have appeared in ACM Multimedia Systems Journal, several IEEE Transactions, Wireless Communication and Mobile Computing, Journal of Parallel and Distributed Computing, IEEE Journal on Selected Areas in Communications etc. He was the Associate Editor of International Journal of Engineering Design and Automation 1995-1998. He has served on many conference program and organizing committees such as IEEE ISCC 2007, IEEE ICSW-

2006, IEEE MASS-2005, IEEE SCC-2005, IEEE ICWS-2005, CIT-2005, IEEE MASCOTS, ADCOM 97 and 98. He has also edited special issues in IEEE Internet Magazine, and International Journal on Computers and Operations Research. He is a Senior Member of IEEE.

CyberC 2018 & Emerging Technology Summit Organizers

Keynote 15: Chi-Ming Chen (陳啟明) - Advisor, Ph.D. , AT&T Labs, USA



Chi-Ming Chen joined AT&T in 1995. He is with the AT&T Labs architecture organization which designs the Enhanced Control Orchestration Management Platform (ECOMP) and Open Network Automation Platform (ONAP). Prior to joining AT&T, Chi-Ming was with the Quality Assurance Center of Bell Communications Research (Bellcore) from 1985 to 1995 and was a faculty member at Tsing Hua University, Hsinchu, Taiwan from 1975 to 1979.

He received his Ph.D. in Computer and Information Science from the University of Pennsylvania in 1985; M.S. in Computer Science from the Pennsylvania State University in 1981; M.S. and B.S. in Physics from Tsing Hua University, Taiwan, in 1973 and 1971 respectively.

Chi-Ming Chen is a Life Senior Member of IEEE and Senior Member of the ACM. He is an Advisory Board Member of IEEE Communications Society (ComSoc) Technical Committee on Communications Quality & Reliability (CQR). He was a member of the IEEE GLOBECOM & ICC Management & Strategy (GIMS) Standing Committee and served as the GLOBECOM and ICC Site Selection Chair from 2012 to 2017. He has chaired the Industry Forums of several

GLOBECOMs and ICCs and is serving as the GIMS Advisor for ICC 2019, Shanghai, China.

From 2015 to 2017, Chi-Ming was a Steering Committee member of the IEEE SDN Initiative and IEEE Big Data Initiative. Currently, he is co-chairing the 5G Roadmap Working Group of IEEE 5G Initiative. He has been a key Organizing Committee member of CyberC conference since it's started in 2009. In addition, he also organizes the annual IEEE Emerging Technology Reliability Roundtable (ETR-RT) since 2014.

International Conference on Cyber-Enabled Distributed Computing and Knowledge Discovery

Registration 注册: 16:00— 18:00 —October 17 or October 18 Morning and Afternoon
(Location: see on-site notice)

Program Schedule (会议安排)

Welcome Party (CyberC): 19:00-21:00 PM, October 17, 2018 (1楼茶餐厅C区 —1th Floor Dinning Room #C)

Date and Location (时间和地点)

8:00-13:00, Oct. 18, 2018 – 牡丹厅(Mu Dan Ting)

CyberC 2018 Keynote (3th Floor —牡丹厅(Mu Dan Ting))

Time	Speaker	Topic
8:00 – 8:20	Dr. Bin Xie, Prof. Ning Wang	Conference Opening Ceremony and Logistics
8:20 – 9: 00	David Lu 陆惠晨, VP, ECOMP Platform & Systems Development, AT&T Labs, USA	5G Innovation and Challenges
9:00 – 9:40	Yunfei ZHANG 张云飞, Tencent Technologies	5G applications driven network evolution - from Internet Service provider's perspective
9:40 – 10:00		Break
10:00 – 10:40	Ning Wang 王宁, Professor, Zhengzhou University, China	Towards the Next Stage Evolution of Massive MIMO for 5G and Beyond: A Cost-Effective Perspective
10:40 – 11:20	Pei Ke 裴珂, Huawei Technologies	Towards CloudNative, Embrace the future of all cloud
11:20 – 12:00	Chih-Lin I 易芝玲, Chief Scientist, Wireless Technologies, China Mobile Research	TBD
12:00 – 13:00	Lunch Buffet 自助餐 (1楼茶餐厅C区 —1th Floor Dinning Room #C)	

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CyberC Keynote Date and Location (时间和地点)

13: 30—18:00, October 18, 2018, (3th Floor —牡丹厅 - Mu Dan Ting)

CyberC 2018 Keynote (3th Floor —牡丹厅 (Mu Dan Ting))		
Time	Speaker	Topic
13:30 – 14:10	Shui Yu 余水, University of Technology Sydney, Australia	Big Data Privacy: A Machine Learning Perspective
14:10 – 14:50	Nikhil Malhotra, Tech Mahindra, India	Data and Analytics – Transforming into a Cognitive and Convergent space
14:50 – 15:20	Break	
15:20 – 16:00	Speaker from Zhengzhou University	TBD
16:00 – 16:40	Alok Srivastava, Microsoft, USA	Shaping of Digital Planet
16:40 – 17:20	David Lu 陆惠晨, VP, ECOMP Platform & Systems Development, AT&T Labs, USA	Panel Discussions
17:20 – 18:00	Networking and Dialog with Speakers	
18:30 – 20:00	Dinner Buffet 自助餐 (1楼茶餐厅C区 —1th Floor Dinning Room #C)	

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Program Schedule (会议程序)

CyberC & Big Data Summit Date and Location (时间和地点): October 13, 2018

Keynote (1号会议室 (Conference Room 1))					
8:30 – 8:50	Bin Xie and Ning Wang		Conference Logistic Announcement		
8:50 – 9: 30	Prof. Ling Guan, Ryerson University, Toronto, Canada		Knowledge Discovery: Can We Do Better Than Deep Learning in Feature Generation and Representation?		
9:30 – 10:10	Prof. Mugen Peng, Beijing University of Posts and Telecommunications		Fog Radio Access Networks: Architecture, Techniques, and Application		
10:10 – 10:30	Break				
10:30 – 11:10	Bin Xie,, InfoBeyond Technology, LLC, USA		Enabling Low-Latency High-reliability Wireless for Industry Communication Systems		
10:10– 11:50	TBD		TBD		
12:00 – 13:00	Lunch Buffet 自助餐 (1楼茶餐厅C区 —1th Floor Dinning Room #C)				
	Conference Room 1 (1号会议室) - 3rd floor	Conference Room 2 (2号会议室) - 3rd floor	Conference Room 3 (3号会议室) - 3rd floor	Conference Room 6 (6号会议室) - 3rd floor	Conference Room 7 (7号会议室) - 3rd floor
13:00 — 15:40	Session 1: Security, Privacy, and Protection	Session 3: IoT, Video, Positioning, and Systems	Session 5: Cloud Computing, Mobile Services, and Intelligence	Session 7: 5G and Wireless Communications	Session 9: Network Resource, Images, Optimization
15:40 – 15:50	Break				
15:50 – 18:30	Session 2: Algorithm, Analytics, and Systems	Session 4: Big Data and Data Analytics	Session 6: Machine Learning and Analytics	Session 8: Network and Smart Sensor Networks	Session 10: Data Processing, Analytics, Quality, and Performance
19:00 –21:00	Banquet (Best Paper Announcement) (V202 —2nd floor)				

October 20, 2018— Free—enjoying your personal time

International Conference on Cyber-Enabled Distributed Computing and Knowledge Discovery

Session 1: Security, Privacy, and Protection

Session Chair: TBD

(Conference Room 1 (1号会议室)- 3rd floor), 13:00 — 15:40 October 19)

Authors (包括演讲人)	Paper Titles (报告主题)
Yang Zhang, Haichang Gao, Ge Pei, Shuai Kang and Xin Zhou	Effect of adversarial examples on the robustness of CAPTCHA
Liping Li, Qinglei Zhou, Li Bin, Xueming Si	An Algorithm to Generate Password Structure Dictionary Based on Gene Bank
Lingfeng Shen, Ning Wang, and Xiaomin Mu	Iterative UAV Trajectory Optimization for Physical Layer Secure Mobile Relaying
Guangxia Xu, Guowei Gao, Mengxiao Hu	Detecting Spammer on Micro-blogs Base on Fuzzy Multi-class SVM
Shengjun Zhang, Liang Jin, Yangming Lou, Kaizhi Huang and Zhou Zhong	High-rate Secret Key Generation Method Using Two-way Random Signal
Yi Ding, Lin Qi, Yun Tie, Chengwu Liang, Zizhe Wang	Single Sample per Person Face Recognition Based on Sparse Representation With Extended Generic Set
Liudmila Babenko, Ilya Pisarev	Security Analysis Of The Electronic Voting Protocol Based On Blind Intermediaries Using The SPIN Verifier
Wei Yang, Yuan Wang, Zhixiang Lai, Yadong Wan and Zhuo Cheng	Security Vulnerabilities and Countermeasures in the RPL-based Internet of Things
Yan Zheng, Shouyi Yang, Hao Fu, Tian Chen	Secure Outage Probability Analysis of Relay networks based on Cooperative Jamming
Jianming Cui, Zuowen Zhang, Hengzhong Li, Rongquan Sui	An Improved User Authentication Protocol for IoT
Elena Basan, Mikhail Medvedev, Stanislav Terevyatnikov	Analysis of the Impact of Denial of Service Attacks on the Group of Robots

Session 2: Algorithm, Analytics, and Systems

Session Chair: TBD

(Conference Room 1 (1号会议室)- 3rd floor), 15:50 – 18:30, October 19)

Authors (包括演讲人)	Paper Titles (报告主题)
Chuan Tian, Wenge Rong, Yuanxin Ouyang, Zhang Xiong	Improving Word Representation with Word Pair Distributional Asymmetry
Suzhen Wang, Lu Zhang, Yanpiao Zhang, Ning Cao	Spark Load Balancing Strategy Optimization Based on Internet of Things
Haodong Bian, Xiangyu Bai, Hua Zhang, Maoli Ran	Research on Auxiliary Content Distribution based on OPNET on Campus
Ravi Kishore Kodali, Mohamed Azman, Jithu G. Panicker	Smart Control System Solution for Smart Cities
Muzaffar Rao, Admir Kaknjo, Edin Omerdic, Daniel Toal and Thomas Newe	An efficient high speed AES implementation using Traditional FPGA and LabVIEW FPGA platforms
Alejandro A. Valenzuela, Mauro Schwab, Adolfo A. Silnik, Alfredo F. Debattista, Roberto A. Kiessling	Low Power Wireless Sensor Node Platform for Agriculture Monitoring in Argentina
Lanfei Wang, Jun Guo, Jiangming Kan, Chao Wang	Improved Ant Colony Optimization for Ground Robot 3D Path Planning

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Session 3: IoT, Video, Positioning, and Systems

Session Chair:

(Conference Room 2 (2号会议室)- 3rd floor), 13:00 — 15:40 October 19)

Authors (包括演讲人)	Paper Titles (报告主题)
Jieli Sun, Yao Zhai, Yanxia Zhao, Jianke Li, Naishi Yan	Information Acquisition and Analysis Technology of Personalized Recommendation System Based on Case-Based Reasoning for Internet of Things
Nadia Imtiaz Jaya, Md. Farhad Hossain	A Prototype Air Flow Control System for Home Automation using MQTT over Websocket in AWS IoT Core
Yinghao Xie, Yihong Hu, Yuejun Chen, Yaqiong Liu, Guochu Shou	A Video Analytics-Based Intelligent Indoor Positioning System Using Edge Computing For IoT
Suzhen Wang, Yanpiao Zhang, Lu Zhang, Ning Cao	The Optimization of Big Data Platform under the Internet of Things
Yuejun Chen, Yinghao Xie, Yihong Hu, Yaqiong Liu, Guochu Shou	Design and implementation of video analysis system based on edge computing
XiaWen Zhang, Zhao Qiu, Ping Huang, JianZheng Hu, JingYu Luo	Application Research of YOLO v2 Combined with Color Identification
Jian Ling, Lei Wang, Hong Ji, Hu Xie, Junfeng Ding and Qiejun Dai	UWB-based Real-time Continuous Positioning System in NLOS Tunnel Environment
Zhenzhou Wang, Wei Huo, Pingping Yu, Lin Qi, Ning Cao	Research on Vehicle Taillight Detection and Semantic Recognition Based on Internet of Vehicle
Ravi Kishore Kodali, Krishna Yogi Borra, Sharan Sai G. N. and Jehova Honey Domma	An IoT based Smart Parking System using LoRa

Session 4: Big Data and Data Analytics

Session Chair:

(Conference Room 2 (2号会议室)- 3rd floor), 15:50 – 18:30, October 19)

Authors (包括演讲人)	Paper Titles (报告主题)
Deshun Zhao, Kun Zhao, Jun Yang, Wei Ma, Bo Yu	Structural Exploration of Chinese Character Combination Networks
Kunli Zhang, Kaixiang Li, Hongchao Ma, Donghui Yue, Lei Zhuang	Construction of MeSH-like Obstetric Knowledge Graph
Lijuan HU, Ke-yan LIU, Zhi LIN, Yinglong DIAO, Wanxing SHENG	An Abnormal State Detection Method for Power Distribution Network Based on Big Data Technology
JianZheng Hu, CaiMao Li, Zhao Qiu, Ping Huang, GengQuan Xie	Text Cluster Analysis Based on Haikou 12345 Hotline Data
JingYu Luo, Zhao Qiu, GengQuan Xie, Jun Feng, JianZheng Hu, XiaWen Zhang	Research on Civic Hotline Complaint Text Classification Model Based on word2vec
Yangyizhou Wang, Lan Li, Lei Fan	A Binary Feature Extraction based Data Provenance System Implemented On Flink Platform
Naychi Nway Nway, Julia Myint, Ei Chaw Htoon	Evaluating Checkpoint Interval for Fault-Tolerance in MapReduce
Thandar Aung, Hla Yin Min, Aung Htein Maw	Performance Evaluation for Real-Time Messaging system in Big data Pipeline Architecture

International Conference on Cyber-Enabled Distributed Computing and Knowledge Discovery

Session 5: Cloud Computing, Mobile Services, and Intelligence

Session Chair – TBD

(Conference Room 3 (3号会议室)- 3rd floor), 13:00 — 15:40 October 19)

Authors (包括演讲人)	Paper Titles (报告主题)
Zehong Zhou, Chenxi Zhang, Zhenyu Liao, Jian Xu and Jiangfeng Li	A Field Intensity Based Model for Initiative File Sharing in Mobile Social Networks
Shuo Zhang, Fanchao Meng, Zhongyi Zhang	A cloud data center virtual machine placement scheme based on energy optimization
Srikanth Bethu, B Sankara Babu, S Govinda Rao, R Aruna Florence	Map Reduce by K-Nearest Neighbor Joins
Tianshi Chen, Yun Tie, Lin Qi	Progressive Perceptual Audio Rendering for Large Multi-Source Scenes
Yifeng Cui, Weifeng Lv, Qing Wang, Bowen Du	Usage demand forecast and quantity recommendation for urban shared bicycles
Bihuan Xu, Yingzhou Zhang, Shurong Zhu, Junyan Qian	Monadic Dynamic Slicing of Object-Oriented Programs
Lei Gao and Ling Guan	Information fusion via optimized kernel entropy components analysis with application to audio emotion recognition

Session 6: Machine Learning and Analytics

Session Chair – TBD

(Conference Room 3 (3号会议室) - 3rd floor), 15:50 – 18:30, October 19)

Authors (包括演讲人)	Paper Titles (报告主题)
Abdurazzag A Aburas, Scott Eyono, Omesan Naidoo	Vehicle Accident Foresight System using Bigdata Intelligent Random Forest
Abdurazzag A Aburas, Muhammed Mehtab, Yusuf Mehtab	ICC World Cup Prediction Based Data analytics and Business Intelligent (BI)
Dongge Tang, Wenge Rong, Libin Shi, Haodong Yang, Zhang Xiong	A Hybrid of Deep Sentence Representation and Local Feature Representation Model for Question Answer Selection
Juan Liang, Jiapeng Xiu	Prediction of mobile APP Advertising Conversion Rate Based on Machine Learning
Jiping Chen, Huijuan Wu, Xiangrong Liu, Yao Xiao, Mengjiao Wang, Mingru Yang and Yunjiang Rao	A real-time distributed deep learning approach for intelligent event recognition in long distance pipeline monitoring with DOFS
Weibing Long, Kunli Zhang, Hongchao Ma, Donghui Yue, Lei Zhuang	Neural Network Multi-label Learning Based on Enhancing Pairwise Labels Discrimination for Obstetric Auxiliary Diagnosis
Jian Zhang, Yaozong Pan	Planning Station Capacity and Bike Rebalance Based on Visual Analytics of Taxi and Bike-Sharing Data
Xiaofeng Gu, Hao Zhou, Lei Fan	Credit Scoring Based on Transaction Sequence Classification

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Session 7: 5G and Wireless Communications Session Chair– Ning Cao, Qingdao Binhai University, China

(Conference Room 6 (6号会议室)- 3rd floor), 13:00 — 15:40 October 19)

Authors (包括演讲人)	Paper Titles (报告主题)
Jing Yang, Chunhua Zhu	Rate-less codes aided cooperation based on antenna selection in Multi-user massive MIMO system
Hui Huang, Chunlong Li, Chao Wu, Fan Wu, Luming Li	Energy Efficiency Optimization Method under the Scene of Wireless Information and Energy Simultaneous Transmission
Gangtao Han, Linxin Zhang, Xiaomin Mu, Dalong Zhang, and Yi sun	QAM Division Based Space-Time Modulation for Two-User Uplink Massive MIMO Systems
Zonghao Ma, Yanhui Lu, Lingfeng Shen, Yili Liu, and Ning Wang	Cooperative Jamming and Relay Beamforming Design for Physical Layer Secure Two-Way Relaying
Yuanyuan Ren, Yanhui Lu, Shouyi Yang	A Reduced Overhead Low Complexity Sum Rate Optimization Algorithm for Massive MIMO System
Yingbo Shang, Xinying Guo, Youyou Zhao, Xiaomin Mu, Jiankang Zhang	A Nonlinear Precoding Design for Two-group Alamouti System in MIMO Correlated Channel
Lingxiao Zhao, Shuangzhi Li, Jiankang Zhang, Xiaomin Mu	A Parafac-based Blind Channel Estimation and Symbol Detection Scheme for Massive MIMO Systems
Nouhoum Satarou Abdoul Galeb Yari, Mbembo Loundou varus, Dong Doan Van	Users Scheduling and Power Allocation Algorithm for MIMO-OFDMA Green Cognitive Radio Systems
Lina Xu, Ning Cao	A Smart QoE Aware Network Selection Solution for IoT Systems in HetNets Based 5G Scenarios

Session 8: Network and Smart Sensor Networks

Session Chairs–

(Conference Room 6 (6号会议室)- 3rd floor), 15:50 – 18:30, October 19)

Authors (包括演讲人)	Paper Titles (报告主题)
Zehui Shao, Pu Wu, Enqiang Zhu, Lanxiang Chen	Metric dimension and robot navigation in specific sensor networks
Zhongke Li, Huijuan Zhao, Xiaoping Su, Changsheng Wan	Asymmetric Cryptography Based Unidirectional Authentication Method for RFID
Hui Huang, Chunlong Li, Fang Liu, Hang Lu, Luming Li	Mobile Data Gathering and Charging in Wireless Rechargeable Sensor Networks
Sana Ullah Jan, Van Hiep Vu, In Soo Koo	Performance Analysis of Support Vector Machine-Based Classifier for Spectrum Sensing in Cognitive Radio Networks
Dong Weijie, Liu Keyan, Hu Lijuan, Sheng Wanxing, Jia Dongli, Deng Pan	CPS Event Driving Method Based on Micro PMU of Distribution Network
Yongsheng Rao, Pu Wu, Zehui Shao, Ramy Shaheen, S.M. Sheikholeslami, Lanxiang Chen	The rainbow restrained domination in torus network
Youyou Zhao, Xingxuan Zuo, Yingbo Shang, Xiaomin Mu, Jiankang Zhang	Prior-Information Associated Channel Parameter Estimation for Aeronautical Communications
Maoli Ran, Xiangyu Bai, Fangshuo Xin, Yaping Xiang	Research on Probability Statistics Method for Multi-sensor Data Fusion
Qianqian Ren, Jinbao Li, Beibei Sun	TTAT:A Two-Tier Aggregation based Tracking Algorithm in Wireless Sensor Networks
Lanfei Wang, Jun Guo, Qu Wang, Jiangming Kan	Ground Robot Path Planning based on Simulated Annealing Genetic Algorithm
Qianyu Chen, Clive Roberts	Maximum Data Rate and Error Performance Comparisons of SPAD Array Optical Receivers

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Session 9: Network Resource, Images, Optimization

Session Chair–

(Conference Room 7 (7号会议室) - 3rd floor), 13:00 — 15:40 October 19)

Authors (包括演讲人)	Paper Titles (报告主题)
Jiale Zhao, Shuangzhi Li, Dan Ma, Xiaomin Mu	Research on Joint Mode Selection and Resource Allocation Scheme in D2D Networks
Zizhe Wang, Lin Qi, Yun Tie, Yi Ding, Yang Bai	Drone Detection Based On FD-HOG Descriptor
Shurong Zhu, Yingzhou Zhang, Yang Gao, Fan Wu	A Cooperative Task Assignment Method of Multi-UAV Based on Self Organizing Map
Yang Gao, Yingzhou Zhang, Shurong Zhu, Yi Sun	Multi-UAV Task Allocation Based on Improved Algorithm of Multi-Objective Particle Swarm Optimization
Yongliang Sun, Yu He, and Yang Yang	Interpolation Method for Radio Map Establishment Based on RSS Clustering and Propagation Model Optimization
Yuewei Jia, Dongyuan Qi, Yan Shi, Jianghua Li, Zhuyun Chen, Xiaokai Zhang	Loading Analysis of Channelized SATCOM System with Link-Margin Degree Optimization
Peng Liu, Yarong Guo, Yue Li, Song Liu	IQ Imbalance Compensation based on Cordic Algorithm in VLC-OFDM System
Shan-shan Zhu, Hai Qin, Bo Liu, Jun Yang	Design and Optimization of Reconfigurable Data Path for Communication Baseband Signal Processing
Yuanshuang Wang, Junjun Liu, and Guowang Miao	Decentralized Cross-Layer Optimization for Energy-Efficient Resource Allocation in HetNets
YUAN Hang, LIU Leibo, LI Hui, YIN Shouyi, WEI Shaojun	A Full Multicast Reconfigurable Non-blocking Permutation Network
Mudela, Mahesh singh	Mesh Generation technique and object identification for robotic/artificial intelligence

Session 10: Data Processing, Analytics, Quality, and Performance

Session Chair– Prof. Xiaolong Xu, Nanjing University of Posts & Telecommunications

(This session is hosted at Nanjing University of Posts & Telecommunications)

Authors (包括演讲人)	Paper Titles (报告主题)
Shumiao Yu, Weifeng Sun, MingHan Jia	A Dynamic Proxy Based Crawler Strategy for Data Collection on CyberGIS
Juan Zhao, Xiaolong Xu	Security of Multi-Antenna Laptop Wirelessly Access to Internet of Things Networks
Haowei Lin, Xiaolong Xu	BDDS: An efficient data screening algorithm based on binary digit
Shijun Chen, Dawei Chen, Yuanyuan Wang, Xinxin Liu	3D indoor localization mechanism based on multiple sensors
Shijun Chen, Dawei Chen, Yuanyuan Wang, Yuanyuan Wu	GR-PMS: A geomagnetism-based real-time positioning mechanism of smart phones
Mabrouka Gmiden, Mohamed Hedi Gmiden, Hafedh Trabelsi	Cryptography and Intrusion Detection System for automotive CAN bus: A Survey of Recent Solutions