ISPA/BDCloud/SocialCom/SustainCom 2019

***The 17th International Symposium on Parallel and Distributed Processing with Applications* (*ISPA 2019*)**
***The 9th IEEE International Conference on Big Data and Cloud Computing* (*BDCloud 2019*)**
***The 12th IEEE International Conference on Social Computing and Networking* (*SocialCom 2019*)**
***The 9th IEEE International Conference on Sustainable Computing and Communications* (*SustainCom 2019*)**

December 16 – 18, 2019
Xiamen, China
Conference Program and Information Booklet

Organized by
Fujian Agriculture and Forestry University
Fuzhou University
Minjiang University

Sponsored by
IEEE, IEEE Computer Society, IEEE Technical Committee on Scalable Computing

Registration Desk

The Registration Desk will be open to assist you at the following times:

- Sunday, December 15, 2019, 10:00am – 6:00pm
- Monday, December 16, 2019, 10:00am – 4:00pm
- Tuesday, December 17, 2019, 8:30am – 4:00pm
- Wednesday, December 18, 2019, 8:30am – 11:00pm

Name Badges and Meal Tickets

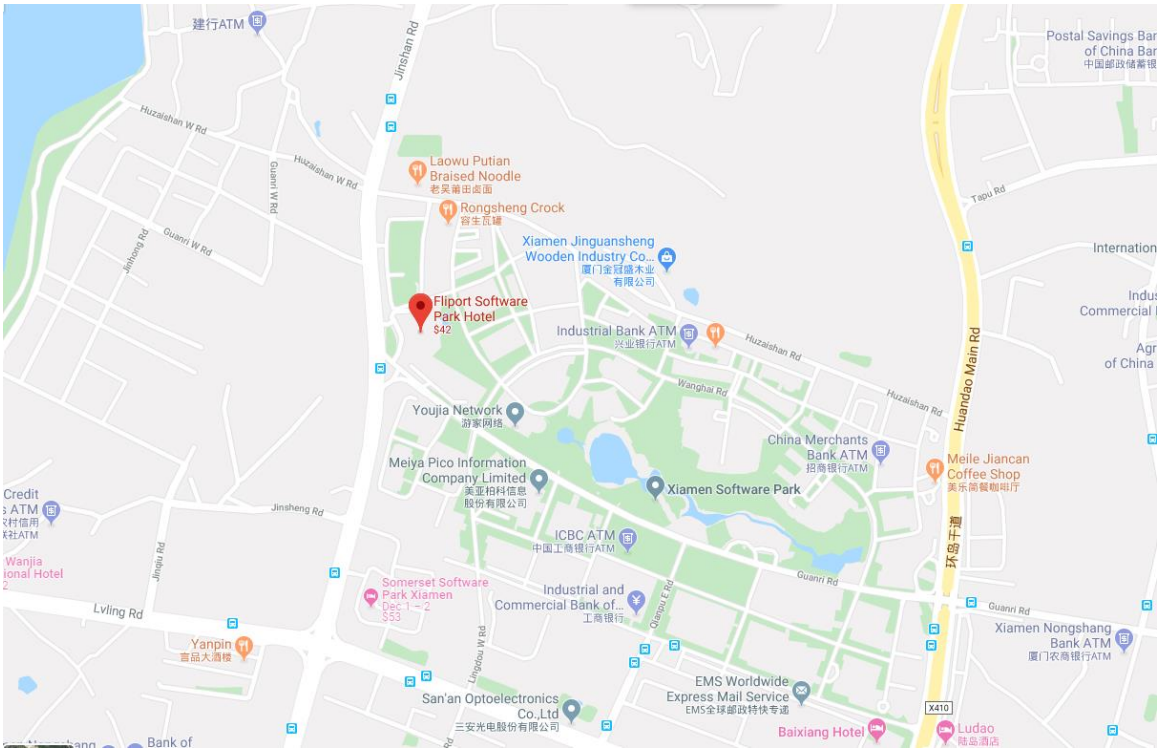
All delegates, sponsors and speakers of the IEEE ISPA/BDCloud/SocialCom/SustainCom 2019 and associated workshops will be provided with a name badge, to be collected upon registration. This badge must be worn at all times as it is your official pass to all technical sessions of the conferences and morning and afternoon teas.

There are 6 different meal tickets for 3 lunches on December 16, 17 and 18, banquet on December 17, and 2 dinners on December 16 and 18, respectively.

Conference Venue Map

Xiamen Fliport Software Park Hotel (厦门佰翔软件园酒店)

No.1 Guanri Road, Siming, Xiamen City, Fujian Province, China



Presentation Guidelines

Language

The presentation language of the IEEE ISPA/BDCloud/SocialCom/SustainCom 2019 and associated workshops is English.

Checking In

Session Chairs are requested to register at least 2 hours before their session, or as soon as the Registration Desk is open.

Setting Up

You are required to arrive at the room (in which you will deliver your talk) **20 minutes before the commencement of the session.** Upon arrival please confirm your attendance with the Session Chair and familiarize yourself with the venue.

Please bring with you a single paragraph summary, including your name (as you would like to be introduced), affiliation and research interests (maximum 100 words). Please present this to the session, Session Chair, upon arrival, for use for introductory purposes, prior to your talk.

Upon arrival, please copy your slides file to the presentation computer. If you plan to use your own equipment, please ensure it is ready to go prior to the session commencing, since there is very little time between presentations. If you have requested optional equipment, ensure that is in the room. In the larger conference rooms please, make sure you familiarize yourself with the audio system. For all assistance, please speak to the Session Chair.

Timing

Please ensure your check the program for the exact time of your session and where your paper falls within the session.

It is recommended that all IEEE ISPA/BDCloud/SocialCom/SustainCom 2019 paper presentations use **15 minutes presentation time including 5 minutes question time.** However, the Session Chairs will determine the exact presentation time for each paper, based on the number of presentations in each session. The Session Chairs will ensure that you do not over-run the time allocated.

Please keep strictly to this time guideline

Posters

One 90*60cm-size poster slot (portrait style) will be provided for each presenter.

The IEEE ISPA/BDCloud/SocialCom/SustainCom 2019
Program Overview

Monday December 16, 2019					
Meeting Room	Web Multi-function Hall A				
08:30 – 16:00	Registration				
08:30 – 08:40	Opening Ceremony				
08:40 – 09:40	Keynote 1: Ahmed Louri, " ***New Era of Machine-Learning Driven Computer Architecture Research*** "				
09:40 – 10:40	Keynote 2: Tao Li, " ***Empowering The Next-Generation of Deep Learning*** "				
10:40 – 11:00	Coffee Break				
11:00 – 11:45	InvitedTalk 1: Chunming Rong, "title"				
11:45 – 13:30	Lunch Buffet (1F The Palace Chinese Restaurant)				
Meeting Room	Tencent 腾讯 (Second Floor)	Netease 网易 (Second Floor)	Yahoo 雅虎 (Second Floor)	Sohu 搜狐 (Second Floor)	Aisle 2nd Floor
14:00 – 15:45	**Session-1A-I:** Databases, Data Mining, and Data Management	**Session-1B-I:** Energy Management and Green Computing, Wireless and Mobile Networks, Internet-Of-Things (IoT)	**Session-1C-I:** Social Computing and Networking	**Session-1D-I:** Internet Computing and Web Services	**Poster Session I:** Parallel and Distributed Processing with Applications
15:45 –	Coffee Break				

16:05					
16:05 – 18:20	**Session-1A-II:** Databases, Data Mining, and Data Management	**Session-1B-II:** Energy Management and Green Computing, Wireless and Mobile Networks, Internet-Of-Things (IoT)	**Session-1C-II:** Social Computing and Networking/ Reliability, Fault Tolerance, Dependability, and Security	**Session-1D-II:** Software Defined Networks and Its Applications/ Building Block Processors: FPGA, Multicore, GPU, NoC, SoC	**Poster Session II:** Big Data and Cloud Computing
18:30	Dinner Buffet (1F The Palace Chinese Restaurant)				

Tuesday December 17, 2019				
Meeting Room	Tencent 腾讯			
08:30 – 16:00	Registration			
08:30 – 09:30	Keynote 3: Xin Yao, "title "			
09:30 – 10:15	InvitedTalk 2: Bin Yang, "Millimetre-wave and Terahertz Imaging Applications"			
10:15 – 10:35	Coffee Break			
Meeting Room	Tencent 腾讯 (Second Floor)	NetEase 网易 (Second Floor)	Yahoo 雅虎 (Second Floor)	
10:35 – 12:20	**Session-2A-I:** Application Scenarios of IoT and Ubiquitous Computing/ Experience with Computational, Workflow and Data-Intensive Applications	**Session-2B-I:** Cloud Computing and Data Center Technology	**Session-2C-I:** Big Data and Cloud Computing/ Databases, Data Mining, and Data Management	
12:30 – 13:30	Lunch Buffet (1F The Palace Chinese Restaurant)			
Meeting Room	Tencent 腾讯 (Second Floor)	NetEase 网易 (Second Floor)	Yahoo 雅虎 (Second Floor)	Aisle 2nd Floor
14:00 – 15:45	**Session-3A-I:** High-Performance Scientific and Engineering Computing	**Session-3B-I:** Scheduling and Resource Management	**Session-3C-I:** Computer Vision	**Poster Session III:** Social Computing and Networking
15:45 – 16:05	Coffee Break			
16:05 –	**Session-3A-II:**	**Session-3B-II:**	**Session-3C-II:**	**Poster Session IV:**

18:20	High-Performance Scientific and Engineering Computing/ Parallel and Distributed Algorithms	Scheduling and Resource Management	Computer Vision/ Energy Management and Green Computing, Wireless and Mobile Networks, Internet-Of-Things (IoT)	Sustainable Computing and Communications
18:30	Banquet (1F The Palace Chinese Restaurant)			

Wednesday December 18, 2019	
Meeting Room	Tencent 腾讯
08:30 – 11:00	Registration
08:30 – 09:30	Keynote 4: Hai Jin, "title "
09:30 – 09:50	Coffee Break
Meeting Room	Tencent 腾讯 (Second Floor)
09:50 – 11:20	**Session-4A-I:** Big Data and Business Analytics
11:20 – 12:30	Lunch Buffet (1F The Palace Chinese Restaurant)

Welcome Message from the Conference Chairs

Welcome to Xiamen and the 2019 17th International Symposium on Parallel and Distributed Processing with Applications; IEEE 9th International Conference on Big Data and Cloud Computing; IEEE 12th International Conference on Social Computing and Networking; IEEE 9th International Conference on Sustainable Computing and Communications (ISPA-BDCloud-SocialCom-SustainCom)!

ISPA-BDCloud-SocialCom-SustainCom has moved into the mainstream of computing and determined future research and development activities in many academic and industrial branches, especially when the solution of large and complex problems must cope with very tight timing schedules. ISPA-BDCloud-SocialCom-SustainCom provides a high-profile, leading-edge forum for researchers, engineers, and practitioners to present state-of-art advances and innovations in theoretical foundations, systems, infrastructure, tools, testbeds, and applications for high performance computing and communication, smart city, data science and systems, as well as to identify emerging research topics and define the future.

Here we would like to sincerely thank all organizing committee members, program committee members and reviewers for their hard work and valuable contribution. Without your help, this conference would not have been possible. Special thanks go to Fujian Agriculture and Forestry University for hosting this event. We greatly appreciate the technical co-sponsorship from IEEE, IEEE Computer Society, and IEEE Technical Committee on Scalable Computing (TCSC). We are very grateful to the keynote and invited speakers for their authoritative speeches. We thank all authors and conference participants for using this forum to communicate their excellent work.

Xiamen ranks among China's most appealing tourist destinations, with a fine mix of urban and natural attractions. Located on the southern coast of the Fujian Province, Xiamen is, in large part, set on a separate island. With origins dating back 5,000 years, trade has been the lifeblood of Xiamen and the city has grown on commerce generated by merchants, both Chinese and European, who used Xiamen as their gateway to China.

We wish you have a fruitful and pleasant stay in Xiamen!

Riqing Chen, Professor
Dean, College of Computer and Information Sciences
Fujian Agriculture and Forestry University
Conference General Chair

Omer Rana, Professor
School of Computer Science and Informatics
Cardiff University, UK
Conference General Chair

Conference Keynotes Overview

Keynote 1: Ahmed Louri, IEEE Fellow, George Washington University, USA

"***New Era of Machine-Learning Driven Computer Architecture Research***"

Keynote 2: Tao Li, IEEE Fellow, University of Florida, USA

"***Empowering The Next-Generation of Deep Learning***"

Keynote 3: Xin Yao, IEEE Fellow, University of Birmingham, UK

"title"

Keynote 4: Hai Jin, IEEE Fellow, Huazhong University of Science and Technology, China

"title"

Keynote: New Era of Machine-Learning Driven Computer Architecture Research

Prof. Ahmed Louri, George Washington University, USA

About the Keynote Speaker

Dr. Ahmed Louri is the David and Marilyn Karlgaard Endowed Chair Professor of Electrical and Computer Engineering at the George Washington University, which he joined in August 2015. He is also the director of the High Performance Computing Architectures and Technologies Laboratory. Dr. Louri received the Ph.D. degree in Computer Engineering from the University of Southern California, Los Angeles, California in 1988. From 1988 to 2015, he was a professor of Electrical and Computer Engineering at the University of Arizona, and during that time, he served six years (2000 to 2006) as the Chair of the Computer Engineering Program. Throughout his career, he has held invited visiting scientist positions and served as a research fellow at various institutions, including the University of Electro-Communications, Chofu, Japan; the Communications Research Laboratory, Tokyo, Japan; the Laboratoire d'Informatique du Parallelism, Lyon, France; the University of Tsukuba, Tsukuba, Japan; the University of Paul Sabatier, Toulouse, France; and the Centre Nationale de Recherche Scientifique (CNRS), Toulouse, France. From 2010 to 2013, Dr. Louri served as a program director in the National Science Foundation's (NSF) Directorate for Computer and Information Science and Engineering. He directed the core computer architecture program and was on the management team of several cross-cutting programs, including: Cyber-Physical Systems; Expeditions in Computing; Computing Research Infrastructure; Secure and Trustworthy Cyberspace; Failure-Resistant Systems, Science Engineering and Education for Sustainability; and Cyber-Discovery Initiative, among others.

Dr. Louri conducts research in the broad area of computer architecture and parallel computing, with emphasis on interconnection networks, optical interconnects for scalable parallel computing systems, reconfigurable computing systems, and power-efficient and reliable Network-on-Chips (NoCs) for multicore architectures. Recently he has been concentrating on: energy-efficient, reliable, and high-performance many-core architectures; accelerator-rich reconfigurable heterogeneous architectures; machine learning techniques for efficient computing, memory, and interconnect systems; emerging interconnect technologies (photonic, wireless, RF, hybrid) for NoCs; future parallel computing models and architectures (including convolutional neural networks, deep neural networks, and approximate computing); and cloud-computing and data centers. He has published more than 160 refereed journal articles and peer-reviewed conference papers, and is the co-inventor on several US and international patents.

Dr. Louri is a Fellow of the Institute of Electrical and Electronics Engineers (IEEE), a member of IEEE Computer Society (CS) Technical Committee on Computer Architecture, the IEEE CS Technical Committee on Parallel Processing, the IEEE CS Technical Committee on Microprocessors & Microcomputers, and the Optical Society of America. He is the recipient of the highly competitive and prestigious NSF Research Initiation Award (now called the NSF CAREER Award), the Advanced Telecommunications Organization of Japan Fellowship, the CNRS Research Excellence Fellowship, the Japan Society for the Promotion of Science Fellowship, and the NSF Outstanding Service Award in recognition of his outstanding service to the field of computing and the research community, as well as several teaching awards.

He served as a general chair for the 25th IEEE CS Annual Symposium of the High Performance Computer Architecture (HPCA-25, 2019), the 13th IEEE CS Annual Symposium of the High Performance Computer Architecture (HPCA-13, 2007), the general co-chair of the Second Workshop on Optics in Communications and Computer Sciences (1999); and the general chair for the Workshop on Optics in High-Performance Computing Systems (1996). He is the 2019 area chair of the 34th IEEE International Parallel and Distributed Processing Symposium (IPDPS 2020).

Dr. Louri is the Editor-in-Chief of the IEEE Transactions on Computers, the flagship journal for the IEEE Computer Society. He is also currently serving as associate editor for the IEEE Transaction on Sustainable Computing. He previously served on the editorial boards for IEEE Transactions on Computers, IEEE Transactions on Emerging Technology for Computing, and Cluster Computing, the Journal of Networks, Software Tools and Applications. Dr. Louri's recent IEEE Computer Society committee service includes being: chair for the IEEE CS Fellow Evaluation Committee (2019), an evaluator on the IEEE CS Fellow Evaluation Committee (2012), vice-chair for the IEEE CS Fellow Evaluation Committee (2013, 2017, and 2018), and a member of IEEE CS Computer Entrepreneur Award Committee (2017).

Summary:

While the computing world is reaching the limits of Moore's Law, demands for performance in excess of 1 million trillion floating-point operations per second (1 exaflops) are arising from novel paradigms to address applications in big data, machine learning and analytics from nearly countless resources. This computing challenge has never been as complex or as critically important as it is now. We are witnessing a new computing era calling for a migration from an algorithmic based compute world to a machine-learning based, data-intensive, memory-centric computing paradigm in which human capabilities are scaled and magnified. This paradigm shift is driven by the abundance of data (big data era) and the computing resources required to process it in application spaces spanning mobile/embedded computing, cloud/edge computing, and the internet of things. This new trend has reinvigorated computer architecture research. Researchers are considering new ways forward based on machine learning.

In this talk, I will first briefly describe the new mega trends in computer architecture research. I will then present our own research efforts and introduce a design paradigm that exploits the use of machine-learning to simultaneously improve power-efficiency, performance, reliability and security, for heterogeneous multicore architectures and on-chip communications. The aim is to provide insights and directions of integrating architectural innovations with machine learning in a holistic approach for future computer architecture research.

Keynote: Empowering The Next-Generation of Deep Learning

Prof. Tao Li, University of Florida, USA

About the Keynote Speaker

Dr. Tao Li is a full professor in the Department of Electrical and Computer Engineering at the University of Florida. He received a Ph.D. in Computer Engineering from the University of Texas at Austin. His research interests include computer architecture, microprocessor/memory/storage system design, virtualization technologies, energy-efficient/sustainable/ dependable data center, cloud/big data computing platforms, the impacts of emerging technologies/applications on computing, and evaluation of computer systems. Dr. Tao Li received 2009 National Science Foundation Faculty Early CAREER Award, 2008, 2007, 2006 IBM Faculty Awards, 2008 Microsoft Research Safe and Scalable Multi-core Computing Award and 2006 Microsoft Research Trustworthy Computing Curriculum Award. Dr. Tao Li co-authored two papers that won the Best Paper Awards in ICCD 2016, HPCA 2011 and seven papers that were nominated for the Best Paper Awards in HPCA 2018, HPCA 2017, ICPP 2015, CGO 2014, DSN 2011, MICRO 2008 and MASCOTS 2006. Dr. Tao Li is one of the College of Engineering winners, University of Florida Doctor Dissertation Advisor/Mentoring Award for 2013-2014 and 2011-2012. Dr. Tao Li is an IEEE Fellow.

Summary:

Nowadays, deep learning techniques have achieved amazing success in numerous applications. Especially, they are being increasingly adopted in various real-world applications (e.g. autonomous vehicles, rescue robots, drones, smart home, IoT systems) to learn models from the raw data aggregated by edge devices, hence, providing accurate prediction and decision-making. Traditionally, due to its huge compute power and scalability, the cloud data center is often the best option for training and evaluating AI applications. With the increasing computing power and energy efficiency of mobile and edge devices, there is a growing interest in performing AI applications on these platforms. As a result, we believe the next-generation AI applications are pervasive across all platforms, ranging from central cloud data center to edge-side wearable and mobile devices. However, we observe several gaps that challenge the pervasive AI applications. First, the large size of such newly developed AI networks poses both throughput and energy challenges to the underlying processing hardware, which hinders ubiquitous deployment for many promising AI applications. Second, the traditional statically trained AI model in cloud data center could not efficiently handle the dynamic data in the real in-situ environments, which leads to low inference accuracy. Lastly, the training of AI models still involves extensive human efforts to collect and label the large-scale dataset, which becomes impractical in big data era where raw data is largely un-labeled and uncategorized. In this talk, I will present architecture and system support which enables next generation AI applications to become high efficient and intelligent. I will first introduce Pervasive AI, a user satisfaction-aware deep learning inference framework, to provide the best user satisfaction when migrating AI-based applications from Cloud to all kinds of platforms. Next, I will describe In-situ AI, a novel-computing paradigm tailored to in-situ AI applications. Furthermore, to tackle the big data challenge and achieve real intelligent (support autonomous learning), I will introduce

Unsupervised AI, an unsupervised GAN-based deep learning accelerator.

Keynote: title

Prof. Xin Yao, University of Birmingham, UK

About the Keynote Speaker

Dr. Xin Yao is a part-time Professor of Computer Science in the School of Computer Science at the University of Birmingham and the Director of the Centre of Excellence for Research in Computational Intelligence and Applications (CERCIA). He took up a chair professorship at the Department of Computer Science and Engineering, Southern University of Science and Technology (SUSTech), Shenzhen, China, in Fall 2016. He is also a Fellow of IEEE, a Distinguished Lecturer, and a Past (2014-15) President of the IEEE Computational Intelligence Society. He was a Distinguished Visiting Professor at the Nature Inspired Computation and Applications Laboratory (NICAL), USTC-Birmingham Joint Research Institute in Intelligent Computation and Its Applications, University of Science and Technology of China, Hefei, China.

Summary:

I will summarize the findings of a recently completed, community-driven study to set research directions for AI Research for the next 20 years.

Keynote: title

Prof. Hai Jin, Huazhong University of Science and Technology, China

About the Keynote Speaker

Hai Jin is a professor of computer science and engineering at the Huazhong University of Science and Technology (HUST) in China. He is now Dean of the School of Computer Science and Technology at HUST. Jin received his PhD in computer engineering from HUST in 1994. In 1996, he was awarded a German Academic Exchange Service fellowship to visit the Technical University of Chemnitz in Germany. Jin worked at The University of Hong Kong between 1998 and 2000, and as a visiting scholar at the University of Southern California between 1999 and 2000. He was awarded Excellent Youth Award from the National Science Foundation of China in 2001. Jin is the chief scientist of ChinaGrid, the largest grid computing project in China.

Jin is an IEEE Fellow and a member of the ACM. Jin is the member of Grid Forum Steering Group (GFSG). He has co-authored 15 books and published over 400 research papers. His research interests include computer architecture, virtualization technology, cluster computing and grid computing, peer-to-peer computing, network storage, and network security.

Jin is the steering committee chair of International Conference on Grid and Pervasive Computing (GPC), Asia-Pacific Services Computing Conference (APSCC). Jin is a member of the steering committee of the IEEE/ACM International Symposium on Cluster Computing and the Grid (CCGrid), the IFIP International Conference on Network and Parallel Computing (NPC), and the International Conference on Grid and Cooperative Computing (GCC), International Conference on Autonomic and Trusted Computing (ATC), International Conference on Ubiquitous Intelligence and Computing (UIC).

Summary:

I will summarize the findings of a recently completed, community-driven study to set research directions for AI Research for the next 20 years.

Conference InvitedTalks Overview

InvitedTalk 1: Chunming Rong, University of Stavanger, Norway

"title"

InvitedTalk 2: Bin Yang, University of Chester, UK

"Millimetre-wave and Terahertz Imaging Applications"

InvitedTalk: title

Prof. Chunming Rong, University of Stavanger, Norway

About the InvitedTalk

Prof. Chunming Rong is head of the Center for IP-based Service Innovation (CIPSI) at the University of Stavanger (UiS) in Norway, where his work focuses on data-intensive (big-data) analytics, cloud computing, security and privacy. He is an IEEE senior member and is honored as member of the Norwegian Academy of Technological Sciences (NTVA) since 2011. He is also an advisor for SINTEF ICT and has extensive contact network and projects in both the industry and academic. He was visiting chair professor at Tsinghua University (2011 – 2014) and served also as an adjunct professor at the University of Oslo (2005-2009). He is co-founder and chairman of the Cloud Computing Association (CloudCom.org) and its associated IEEE conference and workshop series. He is chair of IEEE Computer Society Special Technical Community (STC) for Cloud Computing since April 2014, and is representative of the IEEE Computer Society in steering board of the IEEE Cloud Computing Initiative. He is also the co-Editors-in-Chief of the Journal of Cloud Computing (ISSN: 2192-113X) by Springer and associate editor of the IEEE Transactions on Cloud Computing (TCC). He received award as Editor's Choice in Discrete Mathematics for 1999, ConocoPhillips Communication Award for 2007, and Sparebank-1 SR-bank Innovation Award for 2011. He coauthored a book titled "Security in Wireless Ad Hoc and Sensor Networks" published by John Wiley & Sons in 2009. Prof. Rong has extensive experience in managing large-scale R&D projects funded by both industry and funding agencies, such as the Norwegian Research Council and the European Framework and Horizon2020 Programs.

Summary:

add

***InvitedTalk:* Millimetre-wave and Terahertz Imaging Applications**

Prof. Bin Yang, University of Chester, UK

About the InvitedTalk

Bin Yang (BY) received his PhD degree in Electronic Engineering from Antenna and Electromagnetics Group, Queen Mary University of London, 2008. After that, BY remained in the same group as a Postdoctoral Researcher. In September 2013, BY moved to the University of Bolton as a Lecturer and joined the University of Chester as a Senior Lecturer A in September 2015. BY was promoted to Associate Professor in July 2017. BY's research focuses on development of millimetre-wave and THz measurement systems and their applications in materials, electronics and life sciences. As Principal Investigator (PI), he has received more than £300K research grant funded by UK EPSRC high education Innovation fund (HEIF) and Innovate UK. His work has been published into the prestigious journals such as Nature Communications, Chem.Soc.Review, Nano Energy, IEEE trans on MTT, Optics Letter and Applied Physics Letters.

Summary:

Offset lithographic printed flexible antenna substrate boards and electrodes have attracted much attention recently due to the boost of flexible electronics. Unmanned quality inspection of these printed substrate boards and electrodes demands high-speed, large-scale and nondestructive methods, which is highly desired for manufacturing industries. The talk here demonstrates millimetre-wave and terahertz (THz) bands (0.1 - 10 THz) as a growing applicability to industrial quality control applications. THz sensing techniques probe the alteration in the dielectric properties of the samples under test, hence no active closed circuit is required. In this talk, three modalities: vector network analysis (VNA)-based sub-THz reflection spectroscopy; antenna near-field scanning (NSI™ apparatus) and, THz time-domain spectroscopy (THz-TDS) have been investigated on various printed ink patterns. The images and complex dielectric constants of the inks are used to reveal ink quality as a whole.

The second part of this talk will focus on wide-ranging THz applications to: 1) reveal the detailed nature of global, collective, harmonic modes of oscillation at the atomic and molecular level in bioactive cementitious material [Nature Communications, 2015]; 2) measure the THz control of crystallisation and polymorphism [Chemical Society Review/Chem.Phys.Letter, 2013]; 3) THz applications in material characterisations and algriculture.

The ISPA/BDCloud/SocialCom/SustainCom 2019 Technical Program

Monday December 16, 2019

Session-1A-I: Databases, Data Mining, and Data Management

1. Content-aware Anomaly Detection with Network Representation Learning
   Zhong Li, Xiaolong Jin and Chuanzhi Zhuang
2. Detecting Interest-factor Influenced Abnormal Evaluation of Teaching via Multimodal Embedding and Priori Knowledge based Neural Network
   ***
3. Secure and Scalable Multi-Company Management in Enterprise Cloud Storage Broker System
   Muhammad Ihsan Haikal Sukmana, Marvin Petzolt, Kennedy Aondona Torkura, Hendrik Graupner, Feng Cheng and Christoph Meinel
4. A High-Performance Self-learning Antelopes Migration Algorithm (SAMA) for Global Optimization
   Na Lin, Luwei Fu, Liang Zhao, Lu Liu and Geyong Min
5. A Vectorization Approach for Graph-Structured Data to Pattern Recognition
   Lin Sun, Haopeng Chen, Feng Huang and Zhiming Li
6. DCIGAN: A Distributed Class-Incremental Learning Method Based on Generative Adversarial Networks
   Hongtao Guan, Yijie Wang, Xingkong Ma and Yongmou Li
7. SwiftFabric: Optimizing Fabric Private Data Transaction Flow TPS
   Li Mingxuan, Huo Dongdong, Liu Chao, Wang Han, Wang Yazhe and Xu Zhen

Session-1B-I: Energy Management and Green Computing, Wireless and Mobile Networks, Internet-Of-Things (IoT)

1. Low-Latency Cooperative Computation Offloading for Mobile Edge Computing
   Xinxiang Zhang, Jigang Wu, Wenjun Shi and Yalan Wu
2. Task Offloading and Service Migration Strategies for User Equipments with Mobility Consideration in Mobile Edge Computing
   Yan Ding, Chubo Liu, Kenli Li, Zhuo Tang and Keqin Li
3. Content Aware Task Scheduling Framework for Mobile Workflow Applications in Heterogeneous Mobile-Edge-Cloud Paradigms: CATSA Framework
   Abdullah Lakhan and Xioaping Li
4. Traffic Image Acquisition and Compression Technology in Vehicular Ad Hoc Network
   Fu Pang and Xiangyu Bai
5. An Efficient Secure Coded Edge Computing Scheme Using Orthogonal Vector
   Wei Zhou, Jin Wang, Lingzhi Li, Jianping Wang, Kejie Lu and Xiaobo Zhou
6. Feature Reorganization based Human Behavior Recognition
   Min Zhou, Ming Tao and Ping-Hua Chen
7. To Shift Tasks or To Shift Energy by ESDs? An Economical Scheduling for Cloud Data Center
   Chonglin Gu, Yi Chen, Wenye Li and Chunyan Liu

Session-1C-I: Social Computing and Networking

1. Metropolis-Hastings Random Walk with a Reduced Number of Self-Loops
   Toshiki Matsumura and Kazuyuki Shudo
2. Predicting Future Alleviation of Mental Illness in Social Media: An Empathy-based Social Network Perspective
   Yibo Chai, Fengyang Wu, Rui Sun, Zhongliang Zhang, Jie Bao, Runxin Ma, Qizhou Peng, Danqin Wu, Yexing Wan and Keyu Li
3. Methods for User Profiling Across Social Networks
   ***
4. Rumor Spreading with Cross Propagation in Multilayer Social Networks
   Qiyi Han, Musong Gu, Lei You and Fang Miao
5. Finding Potential Empathizers in an Online Mental Health Community: A Deep Graph Embedding Approach

Yibo Chai, Yahu Cong, Rui Sun, Fengyang Wu, Zhongliang Zhang, Yexing Wan and Lixin Cui
6. Differentially Private Auctions for Private DataCrowdsourcing
Yu Qiao, Mingyu Shi and Xinbo Wang
7. Identifying Interpretable Link Communities with User Interactions and Messages in Social Networks
Wei Li, Meng Qin and Kai Lei

Session-1D-I: Internet Computing and Web Services

1. SELWasm: A Code Protection Mechanism for Web Assembly
Jian Sun, Dingyuan Cao, Ximing Liu, Ziyi Zhao, Xiaoli Gong, Wenwen Wang and Jin Zhang
2. A summarization generation method for e-courseware on the Internet platform
Gang Cui, Yan Wang and Hao Yu
3. A Web Services Classification Method based on GCN
Hongfan Ye, Buqing Cao, Junjie Chen, Jianxun Liu, Yiping Wen and Jinjun Chen
4. Asymmetry&Locality-aware Cache Bypass and Flush for NVM-based Unified Persistent Memory
Yuanchao Xu, Yuanyuan Xu, Min Tang, Liangliang Zhang and Yazhu Lan
5. Accurate and Automatic Detection of Oblique RFID-enabled Objects in Mobile Manner
Chuanqing Zhang, Zijuan Liu, Jiuwu Zhang, Xiulong Liu and Keqiu Li
6. Blockchain-based Incentive Announcement System for Internet of Vehicles
Yang Yang, Jialiang Chen, Xianghan Zheng, Ximeng Liu, Wenzhong Guo and Hairong Lv
7. Random Label Based Security Authentication Mechanism for Large-scale UAV Swarm
Liangjun Liu, Hongyan Qian and Feng Hu

Session-1A-II: Databases, Data Mining, and Data Management

1. BF-Join: An Efficient Hash Join Algorithm for DRAM-NVM-Based Hybrid Memory Systems
Liu Yang, Peiquan Jin and Shouhong Wan
2. Anomaly Subgraph Mining in Large-Scale Social Networks
Shengnan Chen, Jianmin Qian, Haopeng Chen and Si Liu
3. DKDR: An Approach of Knowledge Graph and Deep Reinforcement Learning for Disease Diagnosis
Jia, Tan and Zhang
4. Speech synthesis of Shanghai dialect based on DNN and LSTM-RNN
Yuren You, Yun Zhou, Hongwu Yang, Hui Wang and Lijia Chen
5. Sequence to Sequence Network for Learning Network Representation
Liang Qi, Zhou Meilin, Ma Lu, Luo Dan, Zhang Peng and Wang Bin
6. Buffer Management for Identifying Crypto-ransomware Attack in Environment with no Semantic Information
Joon-Young Paik, Joong-Hyun Choi, Rize Jin, Jianming Wang and Eun-Sun Cho
7. Parallelized Top-k Route Search with User's Preferences
Sen Zhang, Youming Ge, Qun Jiang, Haihang Li and Yubao Liu
8. Towards a Latin-Square Search Engine
Wenxiu Fang, Rebecca J. Stones, Trent G. Marbach, Gang Wang and Xiaoguang Liu
9. HEE-Sketch: an Efficient Sketch for Sliding-Window Frequency Estimation over Skewed Data Streams
Shuhao Sun, Jingwei Zheng and Dagang Li

Session-1B-II: Energy Management and Green Computing, Wireless and Mobile Networks, Internet-Of-Things (IoT)

1. Latency Optimization for Mobile Edge Computing with Dynamic Energy Harvesting
Yifei Sun, Jigang Wu, Long Chen and Mianyang Yao
2. Robot-Assisted Sensor Relocation for Confident Information Coverage in Wireless Sensor and Robot Networks
Lihua Zhu, Minghua Wang, Kaiwu Jiang, Xianjun Deng, Lingzhi Yi, Xiangbai Liao and Chao Wang
3. TaskAlloc: Online Tasks Allocation for Offloading in Energy Harvesting Mobile Edge Computing
Qiucen Jiang, Songtao Guo, Yifan Dong and Quyuan Wang
4. Mobility-Aware Resource Allocation in Multi-Access Edge Computing using Deep Reinforcement Learning
Najamul Din, Haopeng Chen and Daud Khan
5. A Time-Driven Workflow Scheduling Strategy for Reasoning Tasks of Autonomous Driving in Edge Environment
Lin Kai, Lin Bing, Chen Xing and Mo Yuchang
6. Attitude tracking control for rigid-body aircraft system based on neural network with bounded disturbance environment

Qiping Wang, Ning Zhou and Riqing Chen
7. Tensor Layout Optimization of Convolution for Inference on Digital Signal Processor
Xiaoyang Zhang, Junmin Xiao and Guangming Tan
8. Green Power Constrained Scheduling for Sequential Independent Tasks on Identical Parallel Machines
Laurent Philipppe, Ayham Kassab, Jean-Marc Nicod and Veronika Rehn-Sonigo
9. A Message-Oriented Message Dissemination and Authentication Scheme for Vehicular Ad Hoc Networks
Xincheng Li, Yali Liu and Xinchun Yin

Session-1C-II: Reliability, Fault Tolerance, Dependability, and Security

1. Fault-tolerant Cycle Embedding into 3-Ary n-Cubes with Structure Faults
Weibei Fan, Yang Wang, Jing Sun, Zhijie Han, Peng Li and Ruchuan Wang
2. Fast, Dynamic and Robust Byzantine Fault Tolerance Protocol for Consortium Blockchain
Anping Song, Jing Wang, Chaoqun Niu, Jianjiao Chen and Wenjing Yu
3. Using Resource Use Data and System Logs for HPC System Error Propagation and Recovery Diagnosis
Edward Chuah, Arshad Jhumka, Samantha Alt, J. J. Villalobos, Josh Fryman, Bill Barth and Manish Parashar
4. An Improved Quantum Genetic Algorithms and Application for DDoS Attack Detection
Changqing Gong, Tongyao Shi, Ming Mu, Liang Zhao, Abdullah Gani and Han Qi
5. DDM: A Demand-based Dynamic Mitigation for SMT Transient Channels
Yue Zhang, Ziyuan Zhu and Dan Meng
6. ADCMO: An Anomaly Detection Approach Based on Local Outlier Factor for Continuously Monitored Object
Shubin Su, Limin Xiao, Li Ruan, Rongbin Xu, Shupan Li and Zhaokai Wang
7. Convolutional Neural Network with Character Embeddings for Malicious Web Request Detection
Jiahong Wu, Zhenguo Yang, Lingni Guo, Yong Li and Wenyin Liu
8. An Conflict Detection Method for IPv6 Time-Based Firewall Policy
Xue Zhang, Yi Yin, Wei Liu and Guoqiang Zhang
9. Fault Detection and Diagnosis in HVAC Systems Using Diagnostic Multi-Query Graphs
Nadra Tabassam, Sarah Amin, Omid Nazari and Roman Obermaisser

Session-1D-II: Software Defined Networks and Its Applications/ Building Block Processors: FPGA, Multicore, GPU, NoC, SoC

1. Orchestrating Service Function Chains with Joint Resource Optimization in NFV Networks
Zhe Wang, Zhiwei Zhao, Chang Shu and Geyong Min
2. Hand Motion Based Human Computer Interaction Using 3D Convolutional Neural Network
Vachiraporn Ketsoi, Muhammad Raza and Haopeng Chen
3. An Integrative Approach to Robust Hand Detection Using CPM-YOLOv3 and RGBD Camera in Real Time
Muhammad Raza, Vachiraporn Ketsoi and Haopeng Chen
4. SecFT-SDN: Securing the Flow-Table for Software-Defined Network
Ruibang You, Bibo Tu, Zimu Yuan and Jie Cheng
5. CuckooFlow: Achieving Fast Flow Table Lookups for Virtual OpenFlow Switching by Exploiting Network Traffic Locality
Bing Xiong, Zhixiong Hu, Yao Luo and Jin Wang
6. The Quantum Shor Algorithm Simulated on FPGA
Xin Zhang, Yaqian Zhao, Rengang Li, Xuelei Li, Zhenhua Guo, Xiaomin Zhu and Gang Dong
7. Gdarts: A GPU-Based Runtime System for Dataflow Task Programming on Dependency Applications
Mingfan Li, Qingcai Jiang, Han Lin and Hong An
8. Fast Schedule Tensor Computation on GPU for High Data Reuse and Device Utilization
Yuxiang Zhang and Yu Zhang
9. MMNR: A Network Representation Framework Based on Multi-view Motif Fusion
Jingjing Xu, Aimin Yu, Lijun Cai and Dan Meng

Poster Session I: Parallel and Distributed Processing with Applications

1. Stacked sparse auto-encoder for deep clustering
Jinyu Cai, Shiping Wang and Wenzhong Guo
2. Computer Network Security Monitoring based on Convolutional Neural Network in Artificial Intelligence
Yu Hao Yu

3. Self-Adaptive Resource Management Framework for Software Services in Cloud
****
4. Dynamic Network Embedding for Link prediction
Yan Cao, Yihong Dong and Shaoqing Wu
5. Probabilistic linguistic VIKOR method based on TODIM for Reliable Participant Selection Problem in Mobile Crowdsensing
Chao Huang, Mingwei Lin and Riqing Chen
6. Inverse Markov: An Analysis on Online Dynamic Graph Layout using Parallel Computing
Shiying Sheng, Xiaoju Dong and Chunyuan Wu
7. A Novel Information Diffusion Model Inspired by Particle-Collision Dynamics for Online Social Networks
Zhenche Xia, Zhenhua Tan, Yuling Zhang, Shaocheng Zhang and Yi Ma
8. Identification and prediction of key nucleotide sites using machine learning in Bioinformatics: A brief overview
Jianhua Cai, Wei Leyi, Kun Zeng, Tao Wang and Guobao Xiao
9. ABC-NER: Cybersecurity Named Entity Recognition using Self-Attention Mechanism and BiLSTM with CRF
Ma Pingchuan, Bo Jiang, Ming Du and Zhigang Lu
10. An online face clustering algorithm for face monitoring and retrieval in real-time videos
Ye Cai and Haiyang Gan
11. Automatic Text Summarization Based on Transformer and Switchable Normalization
Tao Luo, Kun Guo and Hong Guo
12. Financial Big Data Hot and Cold Separation Scheme Based on HBase and Redis
Kunhui Li, Kun Guo and Hong Guo
13. Mixed Word Embedding Method Based on Knowledge Graph Augment for Text Classification
Hongzhong Wang, Kun Guo and Zhanghui Liu
14. The Research of Ternary Error-Correcting Output Code Based on Genetic Programming
Yifan Liang, Chang Liu, Hanrui Wang and Kunhong Liu
15. LSOF: Novel Outlier Detection Approach based on Local Structure
Renmin Wang and Qingsheng Zhu
16. An SDN-based QoS Guaranteed Mechanism for Geospatial Flows
Feilong Huang, Jianzhong Zhang, Jingdong Xu, Yiran Shao and Lingjun Pu
17. Improving Security Data Access Control for Multi-Authority Cloud Storage
Jian Wang, Chunxiao Ye, Xiaofeng Xia, Fei Ouyang and Kehua Wu

Poster Session II: Big Data and Cloud Computing

1. Research on Strategy Optimization of OpenFlow Switch Flow Table Based on "Bus Route" Idea
Ma Zhaohui and Deng Chunyun
2. DATRA: A Power-Aware Dynamic Adaptive Threshold Routing Algorithm for Dragonfly Network-on-Chip Topology
Songwen Pei, Jihong Yuan, Tianma Shen and Yanfei Ji
3. TriBHMM: An Energy-Efficient and Latency-Aware Hybrid Main Memory
Xiaojun Wang, Feng Shi and Hong Zhang
4. LearnedCache: A Locality-aware Collaborative Data Caching by Learning Model
Wenlong Ma, Yuqing Zhu, Sa Wang and Yungang Bao
5. i2Graph: An Incremental Iterative Computation Model for Large Scale Dynamic Graphs
Zhuo Tang, Mengsi He, Li Yang and Zhongming Fu
6. Network Log Anomaly Detection Based on GRU and SVDD
Shirong Liu, Xiong Chen, Xingxiong Peng and Ruliang Xiao
7. The Vessel Tree Segmentation for Retinal Image via Matched Filter combining Enhanced Frame
Heng Dong and Lifang Wei
8. CSF: An Efficient Parallel Deduplication Algorithm by Clustering Scattered Fingerprints
Hao Fan, Yi Zhang, Guangping Xu and Yanbing Xue
9. A Data Fusion and Data Cleaning System for Smart Grids Big Data
Ningxuan Guo, Zhixiang Xu, Xiasheng Shi, Wei Li, Lifu Ding and Gangfeng Yan
10. An Optimizing Algorithm for Deadline Constrained Scheduling of Scientific Workflows in IaaS Clouds Using Spot Instances
Shujin Cao, Kefeng Deng, Kaijun Ren, Xiaoyong Li, Tengfei Nie and Junqiang Song

11. Prediction Method of Energy Consumption Based on Multiple Energy-related Features in Data Center
    Yang Liang and Zhigang Hu
12. Indoor Fingerprinting Positioning Based on the Least Anticipation Loss
    Ayong Ye, Jianfei Shao, Yiqing Diao and Lingyu Meng
13. Game-based Attack Defense Model to Provide Security for Relay Selection in 5G Mobile Networks
    Boubakri Wided, Walid Abdallah and Noureddine Boudriga
14. Game-based Attack Defense Model to Provide Security for Relay Selection in 5G Mobile Networks
    Boubakri Wided, Walid Abdallah and Noureddine Boudriga
15. Image Cosegmentation via Cosaliency Guided and Spline Regression
    Haiping Xu, Geng Lin and Meiqing Wang
16. Collaborative filtering algorithm based on rating prediction and user characteristics
    Na Song and Qin Lu
17. Accelerated Stochastic Variational Inference
    Pingbo Hu and Yang Weng

Tuesday December 17, 2019

Session-2A-I: Application Scenarios of IoT and Ubiquitous Computing/ Experience with Computational, Workflow and Data-Intensive Applications

1. Timber Transportation Vehicle Detection Based on SSD-GIoU
   Xiaojuan Zhang, Changying Wang, Li Cheng, Shuihan Jiang and Junting Qi
2. Utility-aware Batch-processing Algorithms for Dynamic Carpooling Based on Double Auction
   Jiale Huang, Jigang Wu, Long Chen and Jiaquan Yan
3. Multi-Sensor Information Fusion and Machine Learning for High Accuracy Rate of Mechanical Pedometer in Human Activity Recognition
   Michael Adjeisah, Guohua Liu, Douglas Omwenga Nyabuga and Richard Nuetey Nortey
4. Mobility-aware and Data Caching-based Task Scheduling Strategy in Mobile Edge Computing
   Linyao Kang, Bing Tang, Li Zhang and Lujie Tang
5. An optimization method of WebP images lossy compression algorithm for FPGAs
   Yaqian Zhao, Zhenhua Guo, Baoyu Fan, Kai Gao, Li Wang and Fang Cao
6. swMD: Performance Optimizations for Molecular Dynamics Simulation on Sunway Taihulight
   Kun Li, Shigang Li, Bei Wang, Yifeng Chen and Yunquan Zhang
7. FLOWGAN:Unbalanced network encrypted traffic identification method based on GAN
   Zixuan Wang, Pan Wang, Zhou Xiaokang, Shuhang Li and Moxuan Zhang

Session-2B-I: Cloud Computing and Data Center Technology

1. The Impact of Application Mapping on Non-random and Random Network Topologies
   Yao Hu and Michihiro Koibuchi
2. ExpressPass++: Credit-Effecient Congestion Control for Data Centers
   Zejia Zhou, Dezun Dong, Shan Huang and Wei Zihao
3.Understanding the Performance of In-Network Computing: A Case Study
   Fan Yang, Zhan Wang, Xiaoxiao Ma, Guojun Yuan and Xuejun An
4.Cloud Resource Provision of Competitive Content Providers: Models and Analysis
   Xiaodong Dong, Xiaobo Zhou, Laiping Zhao and Keqiu Li
5. Cost Efficient Offloading Strategy for DNN-based Applications in Edge-Cloud Environment
   Yinhao Huang, Bing Lin, Yongjie Zheng, Junqin Hu, Yuchang Mo and Xing Chen
6. SwitchAgg: A Further Step Towards In-Network Computing
   Fan Yang, Zhan Wang, Xiaoxiao Ma, Guojun Yuan and Xuejun An
7. Self-adaptive Address Mapping Mechanism for Access Pattern Awareness on DRAM
   Chundian Li, Mingzhe Zhang, Zhiwei Xu and Xianhe Sun

Session-2C-I: Big Data and Cloud Computing/ Databases, Data Mining, and Data Management

1. Detecting Interest-factor Influenced Abnormal Evaluation of Teaching via Multimodal Embedding and Priori Knowledge based Neural Network
   Yu Mao, Yifan Zhu, Sifan Zhang Zhang, Dexiu Zhang, Fuquan Zhang and Xiaozhong Fan
2. Pixel-level dehazed image quality assessment based on dark channel prior and depth
   Chuansheng Wang, Haoyi Fan, Zuoyong Li and Hong Zhang
3. Modified Image Haze Removal Algorithm Based on Dark Channel Prior
   Junpeng Hu, Zuoyong Li and Xinwei Chen
4. Chinese Lexical based Sentiment Analysis Framework in Meteorology
   Yinan Li, Fuquan Zhang, Sifan Zhang, Yifan Zhu, Yu Mao and Zhendong Niu
5. Dynamic virtual machine number selection for processing-capacity constrained workflow scheduling in cloud computing environments
   Emmanuel Bugingo, Wei Zheng, Defu Zhang and Jinjun Chen
6. Aspect Based Sentiment Analysis by Pre-trained Language Representations
   Liang Tianxin, Xiaoping Yang, Zhou Xibo and Wang Bingqian
7. Reducing Style Overfitting for Character Recognition via Parallel Neural Networks with Style to Content Connection
   Tang Wei, Weiyu Jiang, Gao Neng, Ji Xiang, Yijun Su and Xiang Li

Session-3A-I: High-Performance Scientific and Engineering Computing

1. Underwater Image Enhancement based on Dehazing and Color Correction
   Hanyu Li, Peixian Zhuang, Wei Wang and Jingjing Li
2. Performance optimization of High-Performance LINPACK based on GPU-centric model on heterogeneous systems
   Huang Jiawen and Lu Lu
3. Dynamic block size adjustment and workload balancing strategy based on CPU-GPU heterogeneous platform
   Juan Fang, Kuan Zhou and Hui Zhao
4. An Efficient Parallel Successive Cancellation List Polar Decoder based on GPUs
   Xin Zhou, Rongchun Li, Shijie Li, Yuntao Liu and Yong Dou
5. Binary competitive swarm optimize Algorithm for Feature Selection in Identification of Chinese Fir Family
   ***
6. Formal Modeling and Verification of Scalable Process-aware Distributed IoT Applications
   Rakesh Jain, Kais Klai and Samir Tata
7. A Content placement strategy based on popularity for ICN
   Yingqi Li, Ru Li and Meiju Yu

Session-3B-I: Scheduling and Resource Management

1. RPMSP: A novel replica placement method inspired by self-similarity propagation of plants
   Xingjia Yuan and Yuelong Zhao
2. Smart DAG Task Scheduling with Efficient Pruning-based MCTS Method
   Kui Liu, Zhiwei Wu, Qing Wu and Yuxia Cheng
3. Run Data Run! Re-distributing Data via Piggybacking for Geo-distributed Data Analytics
   Yefei Li, Yibo Jin, Mingtao Ji, Zhuzhong Qian and Sanglu Lu
4. Resource-Aware Cache Management for In-Memory Data Analytics Frameworks
   Zhengyang Zhao, Haitao Zhang, Xin Geng and Huadong Ma
5. Measuring the Coexistence Competitiveness of ECN- or RTT-based ExpressPass and TCP in Data Centers
   Zihao Wei, Dezun Dong, Shan Huang and Liquan Xiao
6. An Intelligent Parallel Hybrid Algorithm for Multi-Objective Multi-Period Portfolio Selection Models with Fuzzy Random Returns
   Chen Li, Yulei Wu, Zhonghua Lu and Yonghong Hu
7. Evaluation of TSN Dynamic Configuration Model for Safety-Critical
   Maryam Pahlevan, Jonas Schmeck and Roman Obermaisser

Session-3C-I: Computer Vision

1. A Black-box Attack on Neural Networks Based on Swarm Evolutionary Algorithm
   Xiaolei Liu, Jiazhong Lu, Teng Hu, Xiaosong Zhang and Qingxin Zhu
2. Parsing Indoor Scenes from RGB-D Image Using Superpixel and Region Merging
   Kai He, Zejun Zhang, Xiong Pan, Changcai Yang, Sheng Yang and Riqing Chen
3. Robust Feature Matching via Multi-scale Grid Structure
   Yanping Li, Qian Huang, Yizhang Liu, Yuan Huang and Xiaoqing Sun
4. A Video Semantic Segmentation Method based on FCN and Data Argumentation
   Yuan Huang, Qian Huang, Qinglong Chen, Yanping Li and Xiaoqing Sun
5. Convolutional Neural Network-Based Approach for Citrus Diseases Recognition
   Caixia Dong, Luanyuan Dai, Weinan Liu, Quan Chen, Yizhzang Liu, Riqing Chen and Changcai Yang
6. Robust Feature Matching via Two Constraints Interaction
   Yizhang Liu, Yanping Li, Xiong Pan, Luanyuan Dai, Xin Liu, Changcai Yang and Riqing Chen
7. Single Image Super-resolution Reconstruction of Enhanced Loss Function with Multi-GPU Training
   Jianqiang Huang, Kai Li, Xiaoying Wang and Wenguang Chen

Session-3A-II:High-Performance Scientific and Engineering Computing/ Parallel and Distributed Algorithms

1. Improve the Detection of Clustered Outliers via Outlier Score Propagation
   Yongmou Li, Yijie Wang and Hongtao Guan
2. Accelerating Swap-Based Tabu Search for Solving Maximum Clique Problems on FPGA
   Kenji Kanazawa

3. CuPhylo: A CUDA based Application Program Interface and Library for Phylogenetic Analysis
   Mingming Ren, Xiaomin Huang, Yuyang Gao, Gang Wang and Xiaoguang Liu
4. Multi-Parameter Performance Modeling Based on Machine Learning with Basic Block Features
   Meng Hao, Weizhe Zhang, Yiming Wang, Dong Li, Wen Xia, Laurence Tianruo Yang and Chen Lou
5. MD5 Encryption Algorithm Enhanced Competitive Swarm Optimizer for Feature Selection
   Yanhong Lin, Shiguo Huang, Minglin Hong, Shiting Chen, Xiaolin Li and Dakun Lin
6. Ratio and Partition are Revealed in Proposed Graph on Reduced Collatz Dynamics
   Wei Ren
7. Performance comparison of GPU-accelerated fast motion estimation method
   Pengcheng Chen, Bo Peng, Anxin Zou and Luwen Xu
8. Distributed Parallelizability Analysis and Optimization of Legacy Code in Cloud Migration
   Junfeng Zhao, Ziyang Qin and Hongji Yang
9. A Variable Batch Size Strategy for Large Scale Distributed DNN Training
   Zhongzhe Hu, Junmin Xiao, Ninghui Sun and Guangming Tan

Session-3B-II: Scheduling and Resource Management

1. Fast Finding Optimal Redundancy to Satisfy Reliability Requirement for Safety-Critical Parallel Applications on Heterogeneous Distributed Automotive Systems
   Lizan Wang, Jiang Zhu, Shujuan Tian, Tingrui Pei, Haolin Liu and Yinying Li
2. Personality-Aware VNF Deployment for Profit Maximization
   Ruiming Yang, Kun Cao, Peijin Cong, Junlong Zhou, Mingsong Chen and Tongquan Wei
3. SAED: A Self-Adaptive Encryption and Decryption Architecture
   Zhong Youbing
4. Fine-Grained Flow Scheduling in WDM Optical Cut-through Switches
   Zhemin Zhang, Weining Dai, Lisha Chen and Yuanyuan Yang
5. List Scheduling Algorithm Based on Pre-scheduling for Heterogeneous Computing
   Yi Zhao, Suzhi Cao and Lei Yan
6. Scheduling multiple workflows with time constraints onto cloud computing resources
   Wei Zheng, Lin Shen, Emmanuel Bugingo and Dongzhan Zhang
7. Multi-Resource Fair Allocation for Composited Services in Edge Micro-Clouds
   Tongyu Guo, Haitao Zhang, Han Huang, Jianli Guo and Chenze He
8. Taxi Demand Prediction Based on Deep Learning
   Yongxuan Lai, Kaixin Zhang, Junqiang Lin, Fang Yang and Yi Fan
9. An Improved Programming Model for Thread-Level Speculation
   Liu Bin, Yang Hao, Yuancheng Li, Li Yuxiang, Niu Dangdang and Zhiming Lv

Session-3C-II: Computer Vision/ Big Data and Business Analytics

1. Enhanced Knowledge Distillation for Face Recognition
   Hao Ni, Jie Shen and Chong Yuan
2. The Model of Potential Violation Discovery based on KNN and Spatio-temporal Trajectory of Commercial Vehicle
   Gang Xu and Xinyue Wang
3. An Improved Vehicle Detection Algorithm based on YOLOV3
   Xiaoqing Sun, Qian Huang, Yanping Li and Yuan Huang
4. Saliency Detection based on weighted saliency probability
   Xiaogen Zhou, Taotao Lai and Zuoyong Li
5. Deep convolutional network for citrus leaf diseases recognition
   Chen Quan, Liu Xin, Dong Caixia, Li Xiaohan, Yang Changcai and Chen Riqing
6. Weighted Feature Pyramid Networks for Object Detection
   Xiaohan Li, Taotao Lai, Shuaiyu Wang, Quan Chen, Changcai Yang and Riqing Chen
7. LSB-based visual image encryption scheme in cloud environment
   Sifei Zheng, Xiaolong Liu, Riqing Chen, Shyan-Ming Yuan and Chia-Chen Lin
8. Price Prediction of Agricultural Products Based on Wavelet Analysis-LSTM
   Qinglong Chen, Xiaoyu Lin, Yiwen Zhong and Ziyan Xie
9. Research on Gold ETF forecasting based on LSTM

Ziyan Xie, Xiaoyu Lin, Yiwen Zhong and Qinglong Chen

Poster Session III: Social Computing and Networking

1. Sequence Data Enhancement Method Based on Knowledge Graph
   Xie Huosheng, Chai Wenda and Lin Shufeng
2. Perishable Digital Goods Trading Mechanism for Blockchain-based Vehicular Network
   Rui Xi, Kang Liu, Wuhui Chen and Shenghui Li
3. A Double Nonnegative Matrix Factorization Model for Signed Network Analysis
   Wei Yu, Rongjian Mu, Ying Sun, Xue Chen, Wenjun Wang and Huaming Wu
4. Dynamic Network Embedding for Link prediction
   Yan Cao, Yihong Dong and Shaoqing Wu
5. OpenMP4.5-enabled large-scale heterogeneous Lattice Boltzmann multiphase flow simulations
   Xu Chuanfu, Wang Xi, Dali Li, Yonggang Che and Zhenghua Wang
6. Underwater Image Enhancement with a Total Generalized Variation Illumination Prior
   Zhengjie Zhao, Yuxiang Dai and Peixian Zhuang
7. Boosting Temporal Community Detection via Modeling Community Evolution Characteristics
   Wei Yu, Wenjun Wang, Xue Chen, Huaming Wu, Minghu Tang and Yang Yu
8. Image Fusion via Domain and Feature Transfer
   Yicheng Yang, Huabing Zhou, Wei Zhang, Changcai Yang and Zhenghong Yu
9. CSIndex: A Coprocessor-Based Classified Secondary Index Mechanism for Efficient HBase Query
   Zhe Zou, Linjiang Zheng, Weining Liu and Yixiong Chen
10. Medical Image Registration based on Moving Manifold Regularization
    Wei Zhang, Huabing Zhou, Changcai Yang, Zhenghong Yu and Yicheng Yang
11. Resource-Aware Cache Management for In-Memory Data Analytics Frameworks
    Zhengyang Zhao, Haitao Zhang, Xin Geng and Huadong Ma
12. Workload-Aware Scheduling for Data Analytics upon Heterogeneous Storage
    Mingtao Ji, Yibo Jin, Zhuzhong Qian and Sanglu Lu
13. A Versatile Acceleration Framework for Machine Learning Algorithms
    Xianfeng Li and Yuanxun Wang
14. An Asynchronous Algorithm to Reduce the Number of Data Exchanges
    Zhuo Tian, Yifeng Chen and Lei Zhang
15. A fast algorithm for hiding high utility sequential pattern
    Chunkai Zhang, Yiwen Zu and Junli Nie
16. Two efficient algorithms for mining high utility sequential patterns
    Chunkai Zhang, Yiwen Zu and Junli Nie
17. Physical Layer Security of Digital Front End based Internet of Things Communication in Power Systems
    Gaopeng Yan, Zian Wang, Yongan Qian and Yongpeng Wu
18. UCWE: A User-centric Approach for Web Quality of Experience Measurement
    Xiaohui Zheng, Yan Jin, Yonghao Song, Xiao Shi and Xiaofang Zhao

Poster Session IV: Sustainable Computing and Communications

1. An improved LFM algorithm based on fitness function and community similarity
   Lingxiao Zhang and Xuefeng Yan
2. An Efficient Machine Reading Comprehension Method Based on Attention Mechanism
   Wenzhen Jin, Guocai Yang and Hong Zhu
3. A High Efficiency Network Using DAG and Consensus in Blockchain
   Kaituo Cao, Fei Lin and Chaohui Qian
4. A Novel Architecture of Pedestrian Detection
   Wenshu Li, Menghui Ruan, Xiaoying Guo, Hongyan Wang, Hancui Zhang and Yang Han
5. Research on Web Service Selection Based on Improved Skyline Algorithm
   Xinmei Liang, Qin Lu and Mingyu Li
6. A ciphertext policy attribute based signcryption scheme with secure and flexible key evolving
   Hanshu Hong, Xiaokang Zhou and Zhixin Sun
7. Agricultural Product Traceability System Based on Blockchain Technology

Weipeng Xie, Xianghan Zheng, Yangyi Ou and Xionghui Fan

8. Copyright Protection Application Based on Blockchain Technology
   Ouyang Yi, Zheng Xianghan, Xie Weipeng and Zhang Shengyin
9. Long-term Trend Prediction Algorithm Based on Neural Network for Short Time Series
   Xin Zexi, Zhang Haiyang and Ma Yue
10. CUDA Optimization Method for Activation Function in Convolution Operation
    Lubin Feng, Dulei Zheng and Jianzhi Yu
11. Feature Selection Algorithm Based on Sparse Score and Correlation Analysis
    Shanliang Xue, Sijia Cheng and Yong Yuang
12. Counting Attention Based on Classification Confidence for Visual Question Answering
    Mingqin Chen, Yilei Wang, Yingjie Wu and Shan Chen
13. A multi-task service recommendation model considering dynamic and static QoS
    Mingyu Li, Qin Lu, Mingge Zhang and Xinmei Liang
14. Statistic Chinese New Word Recognition by Combing Supervised and Unsupervised Learning
    Fei Wang
15. DiffusionGAN: Network Embedding for Information Diffusion Prediction with Generative Adversarial Nets
    Wei Zhuo, Yanan Zhao, Qianyi Zhan and Yuan Liu
16. Model checking for the Goal-Feedback-Result Pattern in ROS
    Wei Wei, Xiaojuan Li, Guan, Rui Wang, Qian Lu and Jie Zhang
17. Power Combination Network for Image Classification on Small Samples with Data Loss
    Kexin Song, Fenglei Yang and Zhuochen Sun

Wednesday December 18, 2019

Session-3A-I: Big Data and Business Analytics

1. Architectural Implications in Graph Processing of Accelerator with Gardenia Benchmark Suite
   Yang Zhang, Jie Shen, Zhen Xu, Shikai Qiu and Xuhao Chen
2. A Unified Storage System for Whole-time-range Data Analytics over Unbounded Data
   Yijie Shen, Guangzhong Yao, Sijie Guo and Jin Xiong
3. OMOPredictor: An Online Multi-step Operator Performance Prediction Framework in Distributed Streaming Processing
   Weimin Mu, Zongze Jin, Fan Liu, Weilin Zhu and Weiping Wang
4. A Deep Temporal Collaborative Filtering Recommendation Framework via Joint Learning from Long and Short-Term Effects
   Qianqian Ji, Xiaoyu Shi and Mingsheng Shang
5. Using temporal conceptual graphs and neural networks for big data-based attack scenarios reconstruction
   Yacine Djemaiel and Boutheina Fessi
6. Design and Implementation of a Model Driven Real-time Stream Processing System
   Wen Yijun, Li Zhang, Cheng Wang and Jianqiao Luo

Travel Guide

Xiamen (simplified Chinese: 厦门) ranks among China's most appealing tourist destinations, with a fine mix of urban and natural attractions. Located on the southern coast of the Fujian Province, Xiamen is, in large part, set on a separate island. With origins dating back 5,000 years, trade has been the lifeblood of Xiamen and the city has grown on commerce generated by merchants, both Chinese and European, who used Xiamen as their gateway to China.

With a sense of rich history, Xiamen has developed on the trade of merchants from around the world, attracted by its location at the mouth of the Juilong (Dragon) River. Traders in previous centuries included those working in a less than legal fashion, commonly known as pirates, but all contributed to the success of a city which today is one of the more important commercial centres. Today the city has the status of a Special Economic Zone, which offers the visitor great shopping opportunities whilst the local beach areas, the offshore islands and some nineteen public parks and botanical gardens make Xiamen a great city to explore and enjoy.

Xiamen offers the tourist a balance of cultural and historical, natural and man-made attractions. The city has miles of coastline and nice beaches to choose from. The city does not only offer historical sites like a Buddhist Temple and Huli Shan Fort but also amazing gardens like Wanshi or the Underwater Sea World.

Xiamen is a great place for shopping for it has been a foreign trading city for centuries. Today, the choice ranges from western designer shops to the smallest back street market. All are conveniently located on or around Zhongshan Lu, which runs from the Zhongshan Park to the harbour area and the Ferry Wharf. The typical items you 1l find here include art and crafts, spices and olive oils, so make sure to save some time for shopping.

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Gulangyu Island / 鼓浪屿

4045 / Shutterstock.com

South Putuo Temple / 南普陀寺

Luisa Fernanda Gonzalez / Shutterstock.com

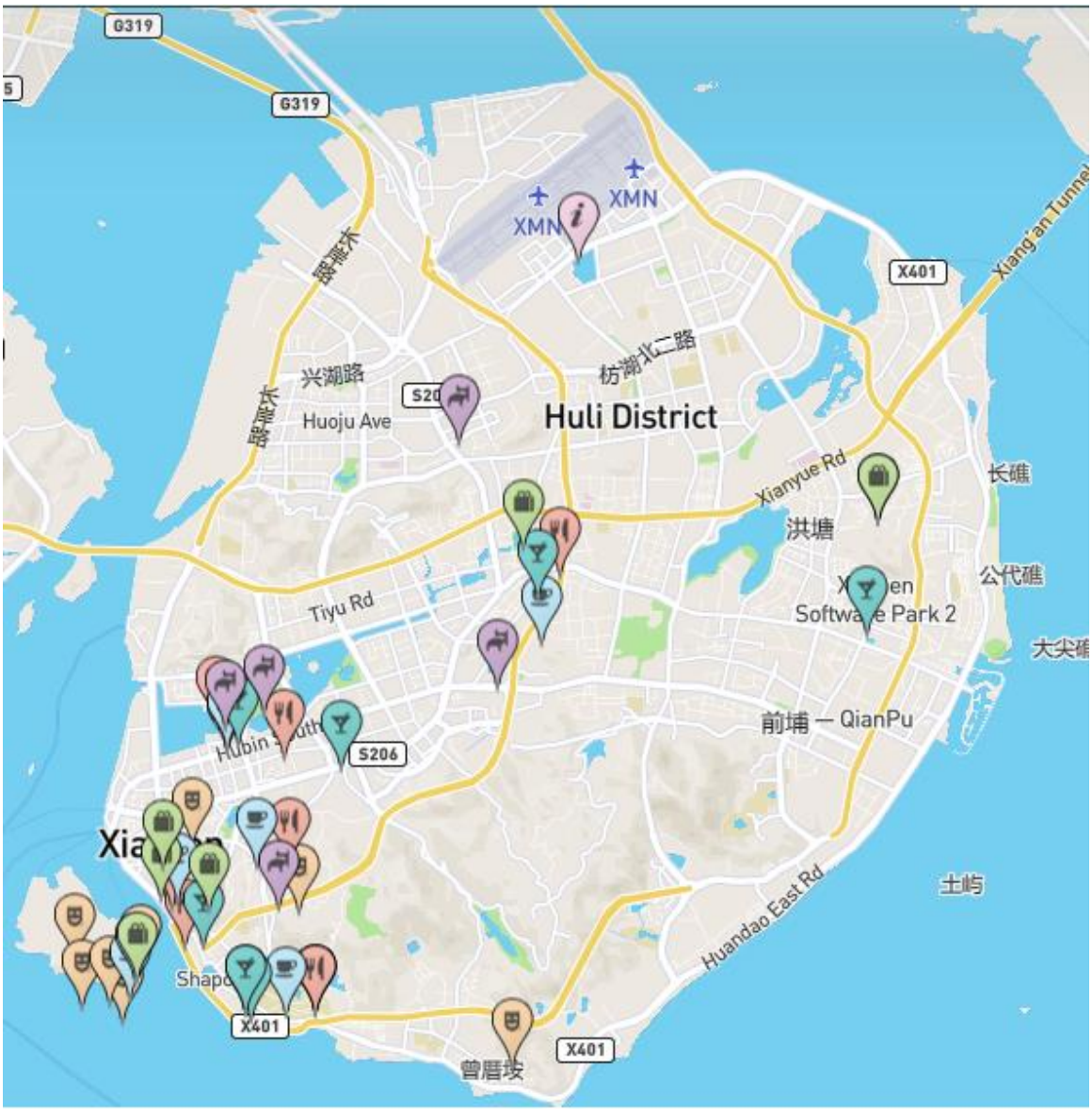
Hulishan Fort / 胡里山炮台

SaraYeomans / Flickr (image cropped)

Xiamen Botanical Garden / 厦门植物园

Caiguanhao / Wikimedia Commons (image cropped)

Zhongshan Lu / 中山路

edwardpye / pixabay.com

Kaihe Lu Fish Market / 开禾路菜市场