

The Seventh International Conference on Advanced Cloud and Big Data (CBD 2019)

Final Program

September 20-22, 2019

Suzhou, China

Organized by



Co-Sponsored by



Funded by

Priority Academic Program Development of Jiangsu Higher Education Institutions
(PAPD)

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Welcome Message

Message from Conference Chairs

It is our great pleasure to welcome you to the Seventh International Conference on Advanced Cloud and Big Data (CBD 2019) at Suzhou, China. This conference is jointly organized by Soochow University and Southeast University to promote the cooperative research on cloud computing and big data between academia and industry.

CBD 2019 is expected to serve as a platform for researchers and practitioners to exchange ideas regarding advancements and practices in cloud and big data. CBD 2019 also covers machine learning and edge computing in exploiting recent research advances to solve real-world problems. All participants are expected to obtain rewarding experiences as well as to have much fun during CBD 2019.

A number of people and organizations make great efforts to ensure the success of CBD 2019. First, we would like to express our deepest thanks to all the authors for submitting their papers and the program committee members for their review of the papers. We highly appreciate Prof. Yaoxue Zhang from Central South University, Prof. Yi Pan from Georgia State University, Prof. Xiaohua Jia from City University of Hong Kong, Prof. Xiaoyang Wang from Fudan University and Prof. Xiaofang Zhou from Soochow University for their keynote speeches. And we also appreciate Prof. Wei Zhao from American University of Sharjah, Prof. Weimin Zheng from Tsinghua University, Prof. Jianzhong Li from Harbin Institute of Technology, Prof. Changjun Jiang from Tongji University, Prof. Jianhua Ma from Hosei University, Prof. Minyi Guo from Shanghai Jiao Tong University, Prof. Xiaohua Jia from City University of Hong Kong, Prof. Guihai Chen from Nanjing University, Prof. Keqiu Li from Tianjin University, Prof. Kenli Li from Hu'nan University and Prof.

Wei Lu from Beijing Jiaotong University for their keynote panel speeches.

We sincerely give our special thanks to Steering Committee Co-chairs Junzhou Luo, Fanzhang Li, Yi Pan and Laurence T. Yang for their great guidance in organizing this conference. We also thank Program Co-chairs Xiaohua Jia, Qiaoming Zhu and Fang Dong for their great devotion through the paper review process. Last but not least, we gratefully acknowledge the support from Soochow University, Southeast University, ACM Nanjing Chapter, Tsinghua Science and Technology, Jiangsu Computer Society, Jiangsu Association of Artificial Intelligence, Collaborative Innovation Center of Novel Software Technology and Industrialization, and Priority Academic Program Development of Jiangsu Higher Education Institutions. Finally, we thank all the participants for attending the conference. We wish you an enjoyable experience at CBD 2019 in Suzhou.

Fanzhang Li, Soochow University, China

Junzhou Luo, Southeast University, China

Yi Pan, Georgia State University, USA

Laurence T. Yang, St. Francis Xavier University, Canada

CBD 2019 General Conference Co-chairs

Message from Program Chairs

Welcome to CBD 2019 – the Seventh International Conference on Advanced Cloud and Big Data. The objective of the conference is to bring together researchers and practitioners and bridge the gap between state-of-art research and state-of-practice technologies. We provide a forum for both academics and practitioners working on cloud computing and big data technologies to explore new ideas, share their experiences and leverage each other’s perspectives.

The technical program has 5 keynote addresses, 1 keynote panel and 65 regular papers. They cover a broad spectrum including cloud security and privacy, cloud data center networking, cloud virtualization, cloud Storage, cloud resource management, big data processing, cloud workflow scheduling, cloud based machine and deep learning, edge computing, and social computing .

We would like to thank all the authors for sharing their ideas and results with us, and all the members of the Program Committee and reviewers for their help in evaluating and selecting high quality papers. Without their participation, the success of the conference would not be possible.

We thank you for attending the conference and hope that you enjoy the program we have prepared for you.

Xiaohua Jia, City University of Hongkong, China

Qiaoming Zhu, Soochow University, China

Fang Dong, Southeast University, China

CBD 2019 Program Co-chairs

Organization

CBD 2019 Organization Committee

General Conference Co-Chairs

- Fanzhang Li, Soochow University, China
- Junzhou Luo, Southeast University, China
- Yi Pan, Georgia State University, USA
- Laurence T. Yang, St. Francis Xavier University, Canada

Program Co-Chairs

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- Qiaoming Zhu, Soochow University, China
- Fang Dong, Southeast University, China

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Publication Co-Chairs

- Zhe Yang, Soochow University, China
- He Chen, Tsinghua University Press
- Jinghui Zhang, Southeast University, China

Local Arrangement Co-Chairs

- Zhe Yang, Soochow University, China
- Liying Yu, Soochow University, China

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- Junzhou Luo, Southeast University, China (Chair)
- Yi Pan, Georgia State University, USA (Chair)
- Laurence T. Yang, St. Francis Xavier University, Canada (Chair)
- Fanzhang Li, Soochow University, China
- Qingguo Zhou, Lanzhou University, China
- Guohua Liu, Donghua University, China
- Bing Guo, Sichuan University, China
- Bin Li, Yangzhou University, China
- Xiao Zheng, Anhui University of Technology, China

CBD 2019 Program Committee

Bin Zhao, Nanjing Normal University, China
Byeungwoo Jeon, Sungkyunkwan University, Korea
Chao Tan, Nanjing Normal University, China
Chaobo He, Zhongkai University of Agriculture and Engineering, China
Cong Wang, Notheasten University, China
Darren Xu, Transaction Network Services, USA
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Dengao Li, Taiyuan University of Technology, China
Dezun Dong, National University of Defense Technology, China
Domenico Talia, University of Calabria, Italy
Dong Yuan, The University of Sydney, Australia
Fan Yang, Google, USA
Fang Dong, Southeast University, China
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Lu Liu, University of Derby, UK
Lu Zhang, Nanjing University of Finance and Economics, China
Mingfu Xue, Nanjing University of Aeronautics and Astronautics, China
Mingming Lu, Central South University, China

Panlong Yang, University of Science and Technology of China, China
Peijian Wang, Xi'an Jiaotong University, China
Peng Chen, Facebook, USA
Pengwei Wang, Donghua University, China
Qiang He, Swinburne University of Technology, Australia
Qingguo Zhou, Lanzhou University, China
Qingjun Xiao, Southeast University, China
Qun Jin, Waseda University, Japan
Rui Zhou, Victoria University, Australia
Runqun Xiong, Southeast University, China
Sheng Zhang, Nanjing University, China
Shaofu Yang, Southeast University, China
Siyao Cheng, Harbin Institute of Technology, China
Songtao Guo, Southwest University, China
Tao Xiang, Chongqing University, China
Thomas Rauber, University Bayreuth, Germany
Tian Wang, Huaqiao University, China
Tianzhang Xing, Northwest University, China
Wanchun Dou, Nanjing University, China
Wei Li, University of Sydney, Australia
Wei Zheng, Xiamen University, China
Wenjia Wu, Southeast University, China
Xiang Fei, Coventry University, UK
Xiao Fu, Nanjing University of Posts and Telecommunications, China
Xiao Liu, Deakin University, Australia
Xiaobing Sun, Yangzhou University, China
Xiaofan Liu, City University of Hongkong, China

Xiaofei Wang, Tianjin University, China
Xiaohua Tian, Shanghai Jiao Tong University, China
Xiaojiang Chen, Northwest University, China
Xiaolin Fang, Southeast University, China
Xuanzhe Liu, Peking University, China
Xuejun Li, Anhui University, China
Xuyun Zhang, University of Technology Sydney, Australia
Yifei Lu, Nanjing University of Science and Technology, China
Yuxiang Wang, Hangzhou Dianzi University, China
Zebin Wu, Nanjing University of Science and Technology, China
Zhen Ling, Southeast University, China
Zhenhua Li, Tsinghua University, China
Zhiang Wu, Nanjing University of Finance and Economics, China
Zhigeng Han, Nanjing Audit University, China

Conference Information

Registration and Conference Venue

Full Registration

Full registration includes lunches, reception and banquet.

Registration and Help Desk

Location: Lobby, 1st floor, building 2, Nanlin Hotel

(南林饭店 2 号楼山水楼一楼大厅)

Open Time: 12:00-21:00, September 20, 2019

Coffee Break Location

Location: Building 1, Nanlin Hotel

(南林饭店 1 号楼园中楼)

Reception Lunch & Dinner Location

YiRan Western Restaurant, 1st floor, building 2, Nanlin Hotel

(怡然西餐厅, 南林饭店 2 号楼山水楼 1F)

DianChun Chinese Restaurant 2nd floor, building 2, Nanlin Hotel

(殿春中餐厅, 南林饭店 2 号楼山水楼 2F)

Banquet Location

YuanXiangTang Convention Hall, 3rd floor, building 1, Nanlin Hotel

(远香堂, 南林饭店 1 号楼园中楼 3F)

Meeting Rooms (building 1, Nanlin Hotel, 南林饭店 1 号楼园中楼)

Main Conference Room: YuanXiangTang Convention Hall, 3rd Floor

(远香堂, 园中楼 3F)

Room A: HanBi meeting room, 1st Floor

(涵碧厅, 园中楼 1F)

Room B: YaoHua convention room, 2nd Floor

(瑶华厅, 园中楼 2F)

Room C: RuiYun convention room, 2nd floor

(瑞云厅, 园中楼 2F)

Oral Presentation Guidelines

There are three parallel oral sessions during each period. Each paper is allocated 15 minutes, with 10 minutes for presentation and 5 minutes for questions and answers.

Speakers should go to the session rooms at least 15 minutes before their sessions start, introduce themselves to the session chairs and check their presentation materials with the computers and audio-visual equipment.

The computer in each session room can display MS PowerPoint and Adobe PDF files. Speakers can bring their presentation materials on USB drives. If you use other digital storage devices not supported by the computer in the session room, please ask a conference helper to transfer the files.

Technical Program

Conference Schedule

Friday September 20, 2019

12:00 – 21:00	Registration (Lobby, Building 2, Nanlin Hotel)
18:00 – 20:00	Reception Dinner (Room B7-B10, 2st Floor, Building 2, Nanlin Hotel)

Saturday September 21, 2019

08:00 – 17:30	Registration (Lobby, Building 2, Nanlin Hotel)		
09:00 – 09:30	Opening Plenary & Group Photo (Main Conference Room)		
09:40 – 10:30	Keynote Speech: Prof. Xiaoyang Wang Supporting Smart Exploratory Data Analysis (Main Conference Room)		
10:30 – 10:50	Coffee/Tea Break (3 rd floor)		
10:50 – 11:40	Keynote Speech: Prof. Yi Pan Challenges and Improvements in Deep Learning Research (Main Conference Room)		
11:45 – 13:00	Lunch Buffet (YiRan Western Restaurant)		
14:00 – 16:00	Session 1: (Room A)	Session 2: (Room B)	Session 3: (Room C)
16:00 – 16:10	Coffee/Tea Break (3 rd floor)		
16:10 – 18:10	Keynote Panel Opportunities and Challenges: How Cloud Computing and Big Data Lead the New Generation of AI (Main Conference Room)		
19:00 – 21:00	Conference Banquet (Main Conference Room)		

Sunday September 22, 2019

09:00 - 09:50	Keynote Speech: Prof. Yaoxue Zhang Top Ten Big Data (Main Conference Room)		
09:50 – 10:00	Coffee/Tea Break (3 rd floor)		
10:00 – 10:50	Keynote Speech: Prof. Xiaohua Jia A Blockchain-based P2P Storage System with Secure and Verifiable Search (Main Conference Room)		
10:50 – 11:40	Keynote Speech: Prof. Xiaofang Zhou Spatiotemporal Big Search: When Data Meets Knowledge (Main Conference Room)		
11:45 – 13:00	Lunch Buffet (YiRan Western Restaurant)		
13:30 – 15:30	Session 4&5: (Room A)	Session 6: (Room B)	Session 7: (Room C)
15:30 – 15:40	Coffee/Tea Break (2 nd floor)		
15:40 – 17:40	Session 8: (Room A)	Session 9: (Room B)	Session 10: (Room C)
18:00 – 20:00	Dinner (DianChun Chinese Restaurant)		

Note: All the conference rooms are in Building 1, Nanlin Hotel

(南林饭店 1 号楼园中楼).

Main Conference Room: YuanXiangTang Convention Hall, 3rd Floor

(远香堂, 园中楼 3F)

Room A: HanBi meeting room, 1st Floor

(涵碧厅, 园中楼 1F)

Room B: YaoHua convention room, 2nd Floor

(瑶华厅, 园中楼 2F)

Room C: RuiYun convention room, 2nd floor

(瑞云厅, 园中楼 2F)

Keynote Speakers

Prof. Yaoxue Zhang

**Academician of Chinese Academy of Engineering
School of Computer Science and Engineering
Central South University, P.R. China**



Title: Top Ten Big Data

Time: 09:00-09:50 am, September 22, 2019

Location: Main Conference Room

Short Bio:

Professor Yaoxue Zhang received his B.Sc. degree from Northwest Institute of Telecommunication Engineering, China, in 1982, and his Ph.D. degree in computer networking from Tohoku University, Japan, in 1989. Currently, he is a professor with the School of Computer Science and Engineering, Central South University, China, and also a professor with the Department of Computer Science and Technology, Tsinghua University, China. His research interests include computer networking, operat-

ing systems, ubiquitous/pervasive computing, transparent computing, and big data. He has published over 200 technical papers in international journals and conferences, as well as 9 monographs and text-books. Currently, he is serving as the Editor-in-Chief of Chinese Journal of Electronics. He is an ademician of Chinese Academy of Engineering.

Prof. Yi Pan

Regents' Professor of Georgia State University (USA)

Member of EU Academy of Sciences

Georgia State University, USA



Title: Challenges and Improvements in Deep Learning Research

Time: 10:50-11:40 am, September 21, 2019

Location: Main Conference Room

Abstract:

Neural networks, modeled after the human brain, contain a set of algorithms to recognize patterns via training a data set. Deep learning neural network architectures differ from traditional neural networks because they have more hidden layers and newer training algorithms. Deep learning networks can be trained in an UNSUPERVISED or SUPERVISED manner for both UNSUPERVISED and SUPERVISED learning tasks and hence can be applied in many applications. Deep learning is now producing many remarkable successes in computer vision, automatic speech recognition, natural language processing, audio recognition, bioinformatics and disease prediction and detection. Although various deep learning architectures and novel algorithms have been applied to many big data applications, better explainability, increasing prediction accuracy and speeding up the training process are

still challenging tasks among others. In this research, our focuses are on proposing more effective architectures, intelligently freezing layers, effectively handling high dimensional data, designing encoding schemes, mathematical proofs, optimization of hyper-parameters, embedding logic and reasoning during training, result explanation and hardware support for deep learning. Some of our solutions and preliminary results in these areas will be presented and future research directions will also be identified.

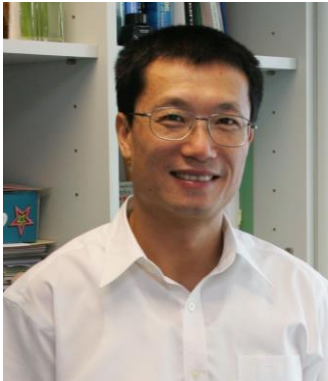
Short Bio:

Dr. Yi Pan is currently a Regents' Professor and Chair of Computer Science at Georgia State University, USA and Member of EU Academy of Sciences. He has served as an Associate Dean and Chair of Biology Department during 2013-2017 and Chair of Computer Science during 2006-2013. Dr. Pan joined Georgia State University in 2000, was promoted to full professor in 2004, named a Distinguished University Professor in 2013 and designated a Regents' Professor (the highest recognition given to a faculty member by the University System of Georgia) in 2015. Dr. Pan received his B.Eng. and M.Eng. degrees in computer engineering from Tsinghua University, China, in 1982 and 1984, respectively, and his Ph.D. degree in computer science from the University of Pittsburgh, USA, in 1991. His profile has been featured as a distinguished alumnus in both Tsinghua Alumni Newsletter and University of Pittsburgh CS Alumni Newsletter. Dr. Pan's current research interests include parallel and cloud computing, big data, and bioinformatics. Dr. Pan has published more than 350 papers including over 180 SCI journal papers and 90 IEEE Transactions papers. In addition, he has edited/authored 43 books. His work has been cited more than 10000 times in GoogleScholar and his current h-index is 53. Dr. Pan has served as an editor-in-chief or editorial board member for 20 journals including 7 IEEE Transactions. He is the recipient of many awards including one IEEE Transactions Best Paper Award, four other international conference or journal Best Paper Awards, 4 IBM Faculty Awards, 2 JSPS Senior Invitation Fellowships, IEEE BIBE Outstanding Achievement Award, NSF Research Opportunity Award, and AFOSR Summer Faculty Research Fellowship. He has organized numerous international conferences and delivered keynote speeches at over 60 international conferences around the world.

Prof. Xiaohua Jia

IEEE Fellow

City University of Hong Kong, Hong Kong



Title: A Blockchain-based P2P Storage System with Secure and Verifiable Search

Time: 10:00-10:50 am, September 22, 2019

Location: Main Conference Room

Abstract:

There is a great need for a secure and fair platform for people to trade their under-utilized computing resources. On one hand, there are many institutions or individuals that have a lot of unused storage capacities; on the other hand, there are many users that have a large amount of data looking for storage. Peer-to-Peer (P2P) is an ideal model for building such a large-scale distributed storage system. However, traditional P2P systems are notorious for the unfairness and lack of security. This talk discusses the development a secure and verifiable P2P storage system

with encrypted search capability by using the blockchain technology. We will focus on three key design issues of the system: 1) the design an efficient verification scheme that can verify the correctness of the search results over encrypted data; 2) the design a dual index structure that allows both search and update operations to be done efficiently; 3) the design of a new consensus protocol that performs useful proof-of-work and increases the throughput of generating new blocks in the system.

Short Bio:

Xiaohua Jia received his BSc (1984) and MEng (1987) from University of Science and Technology of China, and DSc (1991) in Information Science from University of Tokyo. He is currently the Chair Professor with Dept of Computer Science at City University of Hong Kong. His research interests include cloud computing and distributed systems, data security and privacy, computer networks and mobile computing. Prof. Jia is an editor of IEEE Internet of Things, IEEE Trans. on Parallel and Distributed Systems (2006-2009), Wireless Networks, Journal of World Wide Web, Journal of Combinatorial Optimization, etc. He is the General Chair of ACM MobiHoc 2008, TPC Co-Chair of IEEE GlobeCom 2010 – Ad Hoc and Sensor Networking Symp, Area-Chair of IEEE INFOCOM 2015-2017, Track-Chair of IEEE ICDCS 2019, and General Chair of ACM ICN 2019. He is a Fellow of IEEE (Computer Society) and Distinguished Member of ACM.

Prof. Xiaoyang Wang

School of Compute Science

Fudan University, P. R. China



Title: Supporting Smart Exploratory Data Analysis

Time: 09:40-10:30 am, September 21, 2019

Location: Main Conference Room

Abstract:

Data analysis is experiencing two changes: (1) The data used in analysis is changing from mostly domain-specific data to data from multiple, often unfamiliar, sources; (2) Data analysis practitioners are changing from only computer scientists or statisticians and other technical experts to experts in the application domains. Therefore, how to provide tools that will help user in their analysis tasks has become an important research issue. This talk will discuss the possibility in such tools that are collectively called an "exploratory data analysis system", and report several preliminary attempts and related research questions.

Short Bio:

Xiaoyang Sean Wang is Professor at the School of Compute Science of Fudan University. He earned his PhD degree in Computer Science from the University of Southern California in 1992. Before joining Fudan University in 2011, he was the Dorothean Chair Professor in Computer Science at the University of Vermont between 2003-2011 and Assistant/Associate Professor in the Department of Information and Software Engineering at George Mason University between 1992-2003. During 2009-2011, he served as a Program Director at the National Science Foundation in the Division of Information and Intelligent Systems. He has published widely in the general area of databases and information security, and was a recipient of the US National Science Foundation Research Initiation and CAREER awards. He is currently serving on the IEEE ICDE steering committee, as co-Editor in Chief of the Springer Data Science and Engineering journal, and on the editorial board of IEEE Transactions on Cloud Computing.

Prof. Xiaofang Zhou

IEEE Fellow

University of Queensland, Australia

Soochow University, P. R. China



Title: Spatiotemporal Big Search: When Data Meets Knowledge

Time: 10:50-11:40 am, September 22, 2019

Location: Main Conference Room

Abstract:

Spatial and temporal attributes are ubiquitous for very large amounts of useful data today. Spatiotemporal data becomes widely available thanks to data capturing devices and applications such as GPS receivers, sensors and surveillance technologies, IoT and 5G technologies, and social media apps. Yet our ability to manage and use spatiotemporal data is still limited. In this talk we will review the progresses of spatiotemporal data management and analytics research, with a focus on the emerging trends in data fusion and knowledge-enabled search for large volumes of dynamic spatiotemporal data.

Short Bio:

Dr Xiaofang Zhou is an IEEE Fellow and a Professor of Computer Science and Leader of Data Science Research at The University of Queensland. He is a specially appointed Adjunct Professor in Soochow University, where he founded and leads Advanced Data Analytics Lab. He is a Standing Committee member of Chinese Federation of Computer (CCF) Task Force on Big Data, Vice Chair of Chinese Information Processing Society of China (CIPS) Technical Committee on Big Search, past Chair of IEEE Technical Committee on Data Engineering (2015-2018). Professor Zhou has been working in the areas of database systems, data mining, data quality management, intelligent search and big data management and applications. He was a Program Committee Chair for IEEE ICDE 2013, ACM CIKM 2016 and VLDB 2020, a keynote speaker of WISE 2008, CIKM 2016, DEXA 2018 and MDM 2019. He was an Associate Editor of VLDB Journal, IEEE Transactions on Knowledge and Data Engineering, IEEE Transactions on Cloud Computing and WWW Journal. He has published over 300 research papers, and received The Best Paper Award at WISE 2012 & 2013, ICDE 2015 & 2019 and DASFAA 2016.

Keynote Panel

16:10-18:10 pm, September 21, 2019 (Main Conference Room)

Chair



Prof. Wei Zhao
Vice President of American University of Sharjah

Participants



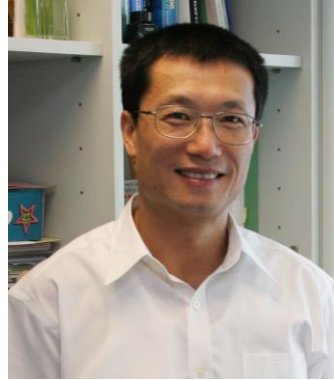
Prof. Weimin Zheng
Former Chairman of CCF
Tsinghua University



Prof. Jianzhong Li
Harbin Institute of Technology



Prof. Changjun Jiang
Tongji University



Prof. Xiaohua Jia
City University of Hong Kong



Prof. Jianhua Ma
Hosei University



Prof. Minyi Guo
Shanghai Jiao Tong University



Prof. Guihai Chen
Nanjing University



Prof. Keqiu Li
Tianjin University



Prof. Kenli Li
Hu'nan University



Prof. Wei Lu
Beijing Jiaotong University

Session Schedule

Session Schedule & Locations, September 21, 2019

Session 1: Cloud Computing and Applications I

Location: Room A

Time: 14:00-16:00 pm, September 21, 2019

- **Communication optimization of compute-intensive clusters based on software-defined networks**
Haifeng Wang and Yunpeng Cao
- **An Adaptive Heuristic for scheduling dynamic and fuzzy jobs on elastic clouds**
Jie Zhu, Han Liu, Haiping Huang
- **PCP-2LSTM: Two Stacked LSTM-based Prediction Model for Power Consumption in Data Centers**
Ziyu Shen, Xusheng Zhang, Binghui Liu, Bin Xia, Zheng Liu, Yun Li and Saiqin Long
- **An adaptive virtual machine placement Gaussian model and method**
Zhihua Li, Shuangli Li and Kaiqing Lin
- **Predicting QoS for Cloud Services through Prefilling-Based Matrix Factorization**
Chengying Mao and Zhuang Zhao
- **Efficient Gradient Descent via Value Staleness Analysis for Heterogeneous Deep Learning Systems**
Enting Guo, Kun Wang and Yan Zhang
- **Decomposition Based Multi-objective Workflow Scheduling for Cloud Environments**
Emmanuel Bugingo, Wei Zheng, Dongzhan Zhang, Yingsheng Qin and Defu Zhang

Session 2: Cloud Computing and Applications II

Location: Room B

Time: 14:00-16:00 pm, September 21, 2019

- **A Coordinated Two-stages Virtual Network Embedding Algorithm Based on Reinforcement Learning**
Cong Wang, Fanghui Zheng, Sancheng Peng, Zejie Tian, Yujia Guo and Ying Yuan
- **Optimization of POM Based on Parallel Supercomputing Grid Cloud Platform**
Hongtao Guan, Xiaofeng Dong, Chen Xue, Zhirong Luo, Hao Yang and Tao Wu
- **Pipe-torch: Pipeline-Based Distributed Deep Learning in a GPU Cluster with Heterogeneous Networking**
Jun Zhan and Jinghui Zhang
- **Model-Aware Parallelization Strategy for Deep Neural Networks' Distributed Training**
Zhaoyi Yang and Fang Dong
- **Resource Waste-aware Dynamic Workflow Scheduling in Multicluster**
Chang Shi, Feng Zhu, Yuqi Li, Jinghui Zhang
- **Probability Distribution based Resource Management for Transient Resource**
Jun Zhou, Dan Feng and Fang Wang
- **Spot price prediction based dynamic resource scheduling for web applications**
Duan Liu, Zhicheng Cai and Yifei Lu
- **Execution Feature Extraction and Prediction for Large-scale Graph Processing Applications**
Fangyuan Li

Session 3: Big Data and Applications I

Location: Room C

Time: 14:00-16:00 pm, September 21, 2019

- **Improving NoSQL's Performance Metrics via Machine Learning**
Wen Xiong, Kun Yang and Hao Dai
- **Algorithm for mining network-constrained movement patterns between zones from spatiotemporal OD flows**
Xingxing Zhou, Haiping Zhang, Genlin Ji and Guo-An Tang
- **Discovering Hotspots in Dynamic Spatial Networks Using Mobility Data**
Jinping Jia, Shengxi Tan, Genlin Ji and Bin Zhao
- **Mining Group Periodic Moving Patterns from Spatio-temporal Trajectories**
Tantan Shi, Genlin Ji, Yi Liu, Bin Zhao
- **SimG: A Semantic based Graph Similarity Search Engine**
Haijiang Yan, Yuxiang Wang and Xiaoliang Xu
- **Timo: In-Memory Temporal Query Processing for Big Temporal Data**
Xiao Zheng, Hou-kai Liu, Lin-na Wei , Xuan-gou Wu, Zhen Zhang
- **A Hybrid Unsupervised Clustering-Based Anomaly Detection Method**
Guo Pu, Lijuan Wang, Jun Shen, and Fang Dong

Session Schedule & Locations, September 22, 2019

Session 4: Big Data and Applications II

Location: Room A

Time: 13:30-15:30 pm, September 22, 2019

- **Identification of Essential Proteins by Using Complexes and Biological Information on Dynamic PPI Network**
Wei Liu, Liangyu Ma and Ling Chen
- **Leveraging SMOTE in A Two-Layer Model for Prediction of Protein-Protein Interactions**
Huaming Chen, Lei Wang, Chi-Hung Chi and Jun Shen
- **AIDec: An Algorithm for Detecting Allelic Imbalance based on the Sequenom MassArray platform**
Meng Wang
- **Large Area Building detection from Airborne Lidar Data using OSM Trained Superpixel Classification**
Bo Mao, Bingchan Li, Jiayue Sun
- **Application of Improved Grey Theory Prediction Model in medium-term Load Forecasting of Distribution network**
Fei Gao

Session 5: Social Computing and Applications

Location: Room A

Time: 13:30-15:30 pm, September 22, 2019

- **A Two-level Edge-knowledge Learning Genetic Algorithm for Community Detection**
Saisai Liu and Zhengyou Xia
- **Data Placement Cost Optimization and Load Balancing for Online Social Networks**
Yan Yang, Xuejun Li, Hourieh Khalajzadeh, Xiao Liu, Xia Ji and Fulan Qian
- **Switching Strategy of Recommendation Algorithms in Online Dating Platform**
Renzhe Fang, Xingfa Shen, Yan Guo, Jian Yao and Jianhui Qiu

Session 6: Cloud Security and Privacy

Location: Room B

Time: 13:30-15:30 pm, September 22, 2019

- **Research on Privacy Protection with Weak Security Network Coding for Mobile Computing**
Yang Zhang, Pengfei Chen and Hao Long
- **LSTM-BA: DDoS Detection Approach Combining LSTM and Bayes**
Yan Li and Yifei Lu
- **A zero-shot intrusion detection method based on regression model**
Xiao Zhang, Ling Gao, Yang Jiang, Xudong Yang, Jie Zheng and Hai Wang
- **A Minimum Defense Cost Calculation Method for Cyber Physical System**
Bingfeng Xu, Zhicheng Zhong and Gaofeng He
- **An Attribute Revocable CP-ABE Scheme**
Guangli Xiang, Beilei Li, Xiannong Fu and Mengsen Xia, Weiyi Ke
- **An Approach of Code Pointer Hiding Based on a Resilient Area**
Feng Xuwei, Wang Dongxia and Lin Zhechao
- **Network Penetration Identification Method Based on Interactive Behavior Analysis**
Shichang Xuan, Huanhong Wang, Duo Gao, Ilyong Chung, Wei Wang and Wu Yang
- **A semantic k-anonymity privacy protection method for publishing sparse location data**
Xudong Yang, Ling Gao, Hai Wang, Zheng Jie and Guo Hongbo
- **An Anti-Recompression Video Watermarking Algorithm in Bit-stream Domain**
Jing Sun, Xiaoping Jiang, Jin Liu, Fan Zhang, Congying Li

Session 7: Machine Learning & Data Mining I

Location: Room C

Time: 13:30-15:30 pm, September 22, 2019

- **Multi-layer LSTM network statement generation based on mixed input**
Qingqing Liu and Zhengyou Xia
- **A Fusion Method for Word Vector Based on fastText-KdTree**
Yu Dai , Hongcui Hua, Chenyan Ma, Huixue Zhang, Lei Yand
- **Brain Tissue Segmentation Integrating Multi-level Features**
Wu Fei, Li Yifei, Zhu Jian, Zhou Bin, Kong Youyong, Shu Huazhong
- **An Intelligent Bidding Strategy Based on Model-Free Reinforcement Learning for Real-Time Bidding in Display Advertising**
Mengjuan Liu, Jiaxing Li, Wei Yue, Lizhou Qiu, Jinyu Liu, Zhiguang Qin
- **Feature Selection based on the Kullback-Leibler Distance and its application on fault diagnosis**
Yangtao Xue, Li Zhang, Bangjun Wang and Fanzhang Li
- **Modulated Binary Clique Convolutional Neural Network**
Jinpeng Xia, Jiasong Wu, Fuzhi Wu, Youyong Kong, Pinzheng Zhang, Lotfi Senhadji and Huazhong Shu
- **LTSA-LE: A Local Tangent Space Alignment Label Enhancement algorithm**
Chao Tan, Genlin Ji, Yanqiu Cao

Session 8: Machine Learning & Data Mining II

Location: Room A

Time: 15:40-17:40 pm, September 22, 2019

- **A Matrix-Decomposition-based Context Tensor Approach for Personalized Travel Time Estimation**
Xiaopei Li, Fanzhang Li, Xin Dai, Helan Liang
- **Flotation Fault Diagnosis Method Using Statistical Approaches**
Jin Zhang, Zhaohui Tang, Yongfang Xie, Mingxi Ai and Weihua Gui
- **Multi-task Learning Based on Question-Answering Style Reviews for Aspect Category Classification and Aspect Term Extraction**
Hanqian Wu, Zhike Wang, Mumu Liu and Jingyu Huang
- **Multi-feature Fusion Action Recognition Based on Key Frames**
Yuerong Zhao, Ling Gao, Dan He, Hongbo Guo, Hai Wang, Jie Zheng and Xudong Yang
- **Optimization for Mobile Streaming Media Based on Deep Q-learning**
Zixin Zhao, Ling Gao, Jie Ren, Lu Yuan, ChenGuang Qin, Hai Wang and Jie Zheng
- **Short-term Prediction of Generator Blade Ice Fault Based on Multi-ANN**
Cheng Peng, Zhaohui Tang, Qing Chen, Songsong Wang, Xiaohong Zhou and Hao Chi

Session 9: Machine Learning & Data Mining III

Location: Room B

Time: 15:40-17:40 pm, September 22, 2019

- **Defect Detection and Classification for Plain Woven Fabric Based on Deep Learning**
Miao Guan, Zhaozhun Zhong, Yannian Rui, Hongjing Zheng and Xiongjun Wu
- **TW-Co-MFC: Two-level weighted collaborative multi-view fuzzy clustering based on maximum entropy**
Jie Hu, Tianrui Li and Yan Yang, Yi Pan
- **Mild Cognitive Impairment Identification Based on Multi-view Graph Convolutional Networks**
Jin Liu, Dejiao Zeng, Mingming Lu and Jianxin Wang
- **Crowd Counting via Residual Multi-scale Convolutional Neural Network**
Jingang Lu and Li Zhang
- **RTSRGAN: Real-Time Super-Resolution Generative Adversarial Networks**
Xiaoyan Hu, Xiangjun Liu, Zechen Wang, Xinran Li, Wenqiang Peng and Guang Cheng
- **Unsupervised Nonlinear Adaptive Manifold Learning for Global and Local Information**
Jiajun Gao, Fanzhang Li, Bangjun Wang, Helan Liang

Session 10: Edge Computing and Miscellaneous

Location: Room C

Time: 15:40-17:40 pm, September 22, 2019

- **ScaRL: Service Function Chain Allocation Based on Reinforcement Learning in Mobile Edge Computing**
Qizhen Jin, Shuxin Ge, Jiabin Zeng, Xiaobo Zhou and Tie Qiu
- **Task Offloading for Social Sensing Applications in Mobile Edge Computing**
Jingya Zhou, Jianxi Fan, Jin Wang, and Jiahao Zhu
- **Computation Tasks Offloading Scheme Based on Multi-cloudlet Collaboration for Edge Computing**
Qingyong Wang, Yingchi Mao, Yichao Wang and Longbao Wang
- **Light-Weight Rate Adaptation in Passive Sensing System**
Ruiqin Bai, Jumin Zhao, Dengao Li and Xiaoyu Lv
- **Energy-efficient Link Scheduling with Load Constraints in Dual-Hop 60GHz Wireless Networks**
Weihong Xu, Wenjia Wu, Yingnan Yang and Ming Yang
- **CBFSketch: A scalable sketch framework for high speed network**
Haiting Zhu, Yuan Zhang, Lu Zhang, Gaofeng He and Linfeng Liu
- **Performance Analysis of BBR Congestion Control Protocol Based on NS3**
Hao Zhang, Haiting Zhu, Yu Xia, Lu Zhang, Yuan Zhang and Yingying Deng

Tips

1. Time: September 20-22, 2019

2. Venue: Nanling Hotel, No. 20, Gunxiu Ln., Shiquan St., Suzhou

3. Registration:

Location: Lobby, 1st floor, building 2, Nanlin Hotel

(南林饭店 2 号楼山水楼一楼大厅)

Open Time: 12:00-21:00, September 20, 2019

4. Traffic:

Suzhou Nanlin Hotel (Nanlin Fandian) is located on Shiquan Street, the famous entertainment and bar street in Suzhou, adjacent to the busy commercial district and Soochow University. Nanlin Hotel is 6.5 km from Suzhou Railway Station, 18.6 km from Suzhou North Railway Station, 40.8 km from Sunan Shuofang International Airport, and 82.9 km from Shanghai Hongqiao International Airport.

(1) Suzhou Railway Station: Subway Line 4 (Suzhou Railway Station) → Sanyuanfang Station → exit to Shiquan Street → 10-minute walk to Nanlin Hotel;

(2) Suzhou North Railway Station: Subway Line 2 (Suzhou North Railway Station) → Suzhou Railway Station, transfer to Line 4 → Sanyuanfang Station → exit to Shiquan Street → 10-minute walk to Nanlin Hotel;

(3) Sunan Shuofang International Airport: Airport bus → Suzhou Railway Station, transfer to subway Line 4 (Suzhou Railway Station) → Sanyuanfang Station → exit to Shiquan Street → 10-minute walk to Nanlin Hotel;

(4) Shanghai Hongqiao International Airport: Train → Suzhou Railway Station, transfer to subway Line 4 (Suzhou Railway Station) → Sanyuanfang Station → exit to Shiquan Street → 10-minute walk to Nanlin Hotel;

5. Contact Us: Zhe Yang, 18915560848

Useful Telephone Numbers

Suzhou International Dialing Code: 86-512

Directory Enquiries: 114

Emergency Service (Police): 110

Emergency Service (Fire): 119

Emergency Service (Ambulance): 120

Pudong International Airport, English (24 hours): 021-96990

Hongqiao Airport, English (24 hours): 021-96990

Nanlin Hotel: 0512-68017888, 0512-68015000

