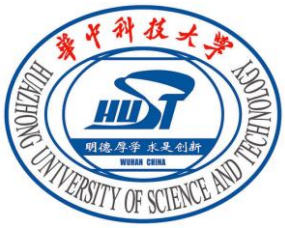
22nd IEEE International Conference on Parallel and Distributed Systems (ICPADS 2016)

December 13-16, 2016, Wuhan, China



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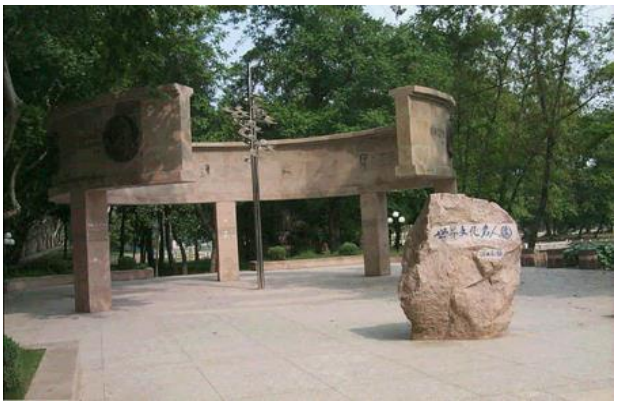
華中科技大學
HUAZHONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

Huazhong University of Science and Technology (HUST) is located in Wuhan, the capital city of Hubei Province, in the middle reaches of the Yangtze River. The campus of HUST is beautifully nestled at the foot of Yujia hill and beside the East Lake with green grass scattered all round in 500 hectares of land. It is a key comprehensive university under the direct leadership of the Ministry of Education of P. R. China.

The University ranks at the top of China's leading universities in comprehensive strength. In the university, there are eleven disciplines: philosophy, economics, law, education, literature, history, agriculture, science, engineering, medicine and management. The University offers a variety of programs, including 85 undergraduate programs, 253 Master programs, 178 doctoral programs and 29 post-doctoral research centers. It has 15 national key disciplines. A number of other leading research centers are located here: 6 National Engineering Research Centers, 4 National Leading Laboratories, 2 National Specialized Laboratories. The University has more than 12, 000 faculty members, of whom over 4, 000 are full time teachers, 22 are academicians of the Chinese Academy of Sciences & the Chinese Academy of Engineering, over 1000 are professors. The number of resident students is over 50, 000, of whom almost 18, 000 are graduate students.

Since 1986, the University has been accepting international students studying in China under Chinese Government Scholarship. It also offers “University Scholarship” to outstanding international students as a means of promoting good attitude, conduct and distinguished performances during their study here. A Language Teaching Center has been established for international students. On the side, an International Students Hostel is fully equipped with good teaching and learning, living and recreational facilities. The University is active in setting up international academic exchanges and co-operation. It has established relations with around 100 foreign universities, research institutes and companies.



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Dec. 14, 2016

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Dec. 15, 2016

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KEYNOTE SPEAKERS

Dec. 14, 2016

Database Meets Deep Learning: Challenges and Opportunities

Beng Chin OOI

National University of Singapore

About the Speaker

Beng Chin OOI is a Distinguished Professor of Computer Science at the National University of Singapore (NUS), and an adjunct Chang Jiang Professor at Zhejiang University. He obtained his BSc (1st Class Honors) and PhD from Monash University, Australia, in 1985 and 1989 respectively. His research interests include database, distributed processing, and large scale analytics, in the aspects of system architectures, performance issues, security, accuracy and correctness. Beng Chin has served as Vice PC Chair for ICDE'00,04,06, PC Chair for ACM SIGMOD'07, Core DB PC chair for VLDB'08, and PC co-Chair for IEEE ICDE'12 and IEEE Big Data'15. He is serving as co-PC chair for IEEE ICDE'18. He was the Editor-in-Chief of IEEE Transactions on Knowledge and Data Engineering (TKDE)(2009-2012), and co-Editor-in-Chief of Journal of Big Data Research (2013-2015). He is serving as a Trustee Board Member and President of VLDB Endowment, and an Advisory Board Member of ACM SIGMOD. Beng Chin was the recipient of ACM SIGMOD 2009 Contributions award, a co-winner of the 2011 Singapore President's Science Award, the recipient of 2012 IEEE Computer Society Kanai award, 2013 NUS Outstanding Researcher Award, and 2014 IEEE TCDE CSEE Impact Award. He is a fellow of the ACM, IEEE, and Singapore National Academy of Science(SNAS).

Summary

Deep learning has recently become very popular on account of its incredible success in many complex data driven applications, such as image classification and speech recognition. The database community has worked on data-driven applications for many years, and therefore should be playing a substantial role in supporting this new wave. However, databases and deep learning are different in terms of both techniques and applications. In this talk, I shall discuss research problems at the intersection of the two fields. In particular, I shall discuss possible improvements for deep learning systems from a database perspective, and analyze database applications that may benefit from deep learning techniques. I shall also present Apache SINGA, a distributed deep learning platform, which has built based on our experience in developing distributed data flow systems.

KEYNOTE SPEAKERS

Dec. 14, 2016

IoT: Towards a Connected Era--- Research Direction and Social Impacts

Nei Kato

Tohoku University

About the Speaker

Professor, Tohoku University, Nei Kato received his Bachelor Degree from Polytechnic University, Japan, in 1986, M.S. and Ph.D. Degrees in information engineering from Tohoku University, in 1988 and 1991 respectively. He joined Computer Center of Tohoku University as an assistant professor in 1991, and was promoted to full professor position with Graduate School of Information Sciences, Tohoku University, in 2003. He became a Strategic Adviser to the President of Tohoku University in 2013 and the Director of Research Organization of Electrical Communication (ROEC), Tohoku University in 2015. He has been engaged in research on computer networking, wireless mobile communications, satellite communications, ad hoc & sensor & mesh networks, smart grid, and pattern recognition. He has published more than 300 papers in peer-reviewed journals and conference proceedings. He currently serves as a Member-at-Large on the Board of Governors, IEEE Communications Society, the Chair of IEEE Communications Society Sendai Chapter, a Vice Chair of Fellow Committee of IEEE Computer Society(2016), a member of IEEE Computer Society Award Committee(2015-2016) and IEEE Communications Society Award Committee(2015-2017), the Editor-in-Chief of IEEE Network Magazine(2015.7-), the Associate Editor-in-Chief of IEEE Internet of Things Journal(2013-), an Area Editor of IEEE Transactions on Vehicular Technology(2014-). He has served as the Chairs of many conferences. His awards include Minoru Ishida Foundation Research Encouragement Prize(2003), Distinguished Contributions to Satellite Communications Award from the IEEE Communications Society, Satellite and Space Communications Technical Committee(2005), the FUNAI information Science Award(2007), the TELCOM System Technology Award from Foundation for Electrical Communications Diffusion(2008), the IEICE Network System Research Award(2009), the IEICE Satellite Communications Research Award(2011), the KDDI Foundation Excellent Research Award(2012), IEICE Communications Society Distinguished Service Award(2012), IEICE Communications Society Best Paper Award(2012), Distinguished Contributions to Disaster-resilient Networks R&D Award from Ministry of Internal Affairs and Communications, Japan(2014), Outstanding Service and Leadership Recognition Award 2016 from IEEE Communications Society and Best Paper Awards from IEEE ICC/GLOBECOM/WCNC/VTC. Besides his academic activities, he also serves on the expert committee of Telecommunications Council, Ministry of Internal Affairs and Communications, and as the chairperson of ITU-R SG4 and SG7, Japan. Nei Kato is a Distinguished Lecturer of IEEE Communications Society and Vehicular Technology Society. He is a fellow of IEEE and IEICE.

Summary

The surge in technology developments and the demand for more efficient devices in the past decades has enabled a new form of network paradigm, the Internet of Things (IoT) that allows connected objects or things to remotely sense or be sensed, control or be controlled, and transmit information over the network. IoT applications can be productive in many ways including saving time and money by providing a more efficient automation of mundane tasks, and improving the quality of life through information gathering, analysis, and feedback. As it integrates our physical world and computer/information systems, IoT is the foundation of the future Information and Communications Technology ecosystem, the networked society. Therefore, due to its immense potential, IoT has attracted a great deal of attention from the industry, the academia, and the government alike. In this talk, first, a brief introduction to the history and background, as well as the current trend of IoT, will be presented. Second, the technologies that lay out the foundation of IoT will be introduced. Finally, future research problems and directions will be identified and discussed.

KEYNOTE SPEAKERS

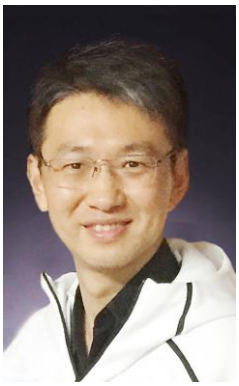
Dec. 15, 2016

On Sensorless Sensing for Internet of Everything

Yunhao Liu

Tsinghua University

About the Speaker



Yunhao Liu, Cheung Kong Professor and Dean of School of Software at Tsinghua University, China. Being an ACM Fellow and an IEEE Fellow, Yunhao serves as the Chair of ACM China Council and also the Associate Editor for IEEE/ACM Transactions on Networking and ACM Transactions on Sensor Network. Yunhao was the Associate Editor-in-Chief for IEEE Transactions on Parallel and Distributed Systems from 2011 through 2014. He served as TPC member for many leading conferences such as ACM MobiCom, IEEE INFOCOM, ACM MobiCom, and PC Co-Chair/Vice Co-Chair for IEEE ICDCS, IEEE MASS, IEEE ICPADS and etc. He was also General Co-Chair for IEEE RTAS 2012, WASA 2010, and Vice General Chair for WWW 2008. Yunhao has published more than 120 papers and received many best paper awards like ACM MobiCom 2014 Best Paper Award, IEEE DCOSS 2011 Best Paper Award, and IEEE ICPADS 2009 Best Paper Award. He also received many prestigious awards including ACM Presidential Award 2012, China National Natural Science Award 2011, and China National Distinguished Young Scholar Award 2011. Yunhao Liu received the BS degree in automation from Tsinghua University, China, in 1995, the MS and PhD degrees in computer science and engineering from Michigan State University, USA, in 2003 and 2004, respectively. He was Assistant Professor and Associate Professor in the Hong Kong University of Science and Technology from 2004-2010, and Joined Tsinghua University as Professor in 2011. His research interests include RFID and sensor network, the Internet and P2PCloud Computing.

Summary

Yunhao started working on IoT and Sensor Network since early 2000. In the past years, he and his team deployed the world first working sensor network system in the D. L. Coal Mine, the world second largest coal mine, one of the world earliest RFID localization systems called LANDMARC. They implemented the GreenOrbs prototype system in the campus woodland of Zhejiang Forestry University with 330 sensor nodes and each node with several sensors. The system scale reached 400 in April 2010. Later, the Tianmu Mountain deployment includes 200 nodes and was in continuous operation since August 2009 and lasted for more than three years. The deployment area is around 200,000 square meters. From 2011 through 2016, Yunhao and his team conduct TagSys system in the Beijing International Airport and more than 100 thousand RFID tags are used. The resulted publication was awarded MobiCom 2014 Best Paper. In this talk, he is going to share the experience learned from large scale Sensor Network and IoT system deployments, and also discuss the concept Sensorless Sensing they proposed.

KEYNOTE SPEAKERS

Dec. 15, 2016

Theory and Optimization of Multicore Memory Performance

Chen Ding

University of Rochester

About the Speaker

Chen Ding is a Professor of Computer Science at University of Rochester, a research-oriented private university in Rochester, New York. He received Ph.D. from Rice University, M.S. from Michigan Tech, and B.S. from Peking University. His research seeks to understand the composite and emergent behavior in computer systems especially its dynamic parallelism and active data usage and develop software techniques for locality optimization, data management, and program parallelization and optimization. His work received the young investigator awards from NSF and DOE. He co-founded the ACM SIGPLAN Workshop on Memory System Performance and Correctness (MSPC) and was a visiting researcher at Microsoft Research, a visiting associate professor at MIT, a faculty fellow at IBM Center for Advanced Studies. More information about his work can be found at http://www.cs.rochester.edu/~cding/.

Summary

The limit of memory speed, size and cost and hence data capacity and communication is a fundamental problem in computer and information science and engineering. Locality theory is concerned with the universal properties of data usage in applications and memory management in hardware, VM, OS, and other run-time systems. In this talk, I'll review multiple branches of the past research in different areas that culminate in our higher-order theory of locality (HOTL) showing the mathematical relationship between the locality metrics for performance evaluation, system management, and program optimization. Based on the new theory, I'll discuss the recent advances in performance analysis and optimization on current mulitcore processors. This material has been presented internationally including DragonStar lectures at Institute of Computing Technology (ICT) in Beijing and University of Science and Technology of China (USTC), two HPC China conferences, two CCF Advanced Discipline Lectures, a Shonan Meeting in Japan, and an European Union graduate summer school (ACACES) in Italy.

CONFERENCE SCHEDULE

Dec. 13, 2016

10:00 – 18:00 Registration on the lobby of the hotel

14:00 – 15:45 Concurrent Sessions ICPADSW-I & SWON, ISAIR-I, SOWN

Session ICPADSW-I & SOWN: The International Workshop on Parallel and Distributed Systems; The 5th International Workshop on Security & Optimization for Wireless Networks
Session Chair:Yu Zhang

A Categorical Approach in Handling Event-Ordering in Distributed Systems
Dimitrios Sisiaridis, Veronika Kuchta, and Olivier Markowitch

A Molecular Computation Model to Compute Inversion over Finite Field GF (2n)
Yongnan Li, Limin Xiao, and Huawei Tian

A Secure and Reliable Hybrid Model for Cloud-of-Clouds Storage Systems
Dagang Li and Ying Zhou

Coordinated Broadcast-Based Request-Reply and Group Management for Tightly-Coupled Wireless Systems
Manos Koutsoubelias and Spyros Lalis

Dual LWE-Based Fully Homomorphic Encryption with Errorless Key Switching
Zengpeng Li, Chunguang Ma, Gang Du, and Ouyang Weiping

A Secure Data Deduplication Scheme Based on Differential Privacy
Jun Ren, Zhiqiang Yao, Jinbo Xiong, Yuanyuan Zhang, and Ayong Ye

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Title: Wearable 2.0 for Sustainable Health Monitoring: Connecting Human with Clouds and Big Data

Keynote Speaker 2: Yudong Zhang, Nanjing Normal University
Title: Key Techniques in Pathological Brain Detection based on MRI and Artificial Intelligence

Accelerating Learning to Rank via SVM with OpenCL and OpenMP on Heterogeneous Platforms
Huming Zhu, Zheng Luo, Yanfei Wu, Pei Li, Peng Zhang, Shuiping Gou, and L.C. Jiao

Context-Aware Video Object Proposals
Wenjing Geng and Gangshan Wu

Convolutional Neural Network Simplification Based on Feature Maps Selection
Ting Rui, Junhua Zou, You Zhou, Jianchao Fei, and Chengsong Yang

Image Enhancement Based on Bi-Histogram Equalization with Non-Parametric Modified Technology
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Multiple Cartesian K-Medoids for a Fine Quantization
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MrBayes 3.2.6 on Tianhe-1A: A High Performance and Distributed Implementation of Phylogenetic Analysis
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Resources Renting with Reserved and On-Demand Instances for Cloud Workflow Applications
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Session Chair: Huimin Lu

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Chunjuan Bo and Dong Wang

Research on Semi-Supervised Learning for Hyperspectral Remote Sensing Imaging Classification Base on Confidence Entropy
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Steganalysis via Deep Residual Network
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Super Resolving of the Depth Map for 3D Reconstruction of Underwater Terrain Using Kinect
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18:00- 19:30 Banquet

Dec. 14, 2016

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Chair: Hai Jin

09:30-10:30 Keynote I
Chair: Hai Jin

Database Meets Deep Learning: Challenges and Opportunities
Beng Chin OOI

10:30-10:50 Break

10:50-11:50 Keynote II
Chair: Xipeng Shen

IoT: Towards a Connected Era--- Research Direction and Social Impacts
Nei Kato

12:00-13:30 Lunch

14:00-15:45 Concurrent Sessions MSUC-I, BDMSS-I, MCPDA-I, PDAA-I

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Session Chair: Long Zheng

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A Hybrid Approach Based on Collaborative Filtering to Recommending Mobile Apps
Xia Wu and Yanmin Zhu

Bat with Good Eyesight: Using Acoustic Signal and Image to Achieve Accurate Indoor Localization
Rui Xi, Yujun Li, Daibo Liu, Siwei Luo, and Mengshu Hou

Delay Tolerant Routing for Cognitive Radio Vehicular Ad Hoc Networks
Jing Wang, Huyin Zhang, and Xing Tang

Distributed Optimal Source Coding Rate Allocation for Data Aggregation in Wireless Sensor Networks
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Drone-Based Wireless Relay Using Online Tensor Update
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Session Chair: Yu Zhang

A Unified Access Manner for Storage-Class Memory
Yuchuan Tian and Fang Wang

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Session Chair: Wenbin Jiang

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Session Chair: Chen Yu

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Accelerating Deep Learning with Shrinkage and Recall
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An Energy-Efficient Implementation of LU Factorization on Heterogeneous Systems
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Asynchronous Progress Design for a MPI-Based PGAS One-Sided Communication System
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Session Chair: Yanmin Zhu

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Yiwei Zhuo, Hongzi Zhu, and Hua Xue

NoiseSense: A Crowd Sensing System for Urban Noise Mapping Service
Zhaokun Qin and Yanmin Zhu

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Ailun Song, Xiaofeng Gao, Fan Wu, Linghe Kong, and Guihai Chen

Physical Object Model for Smart Environments with Temporal Capability
Yuanzheng Wen and Muthucumaru Maheswaran

ppNav: Peer-to-Peer Indoor Navigation for Smartphones
Zuwei Yin, Chenshu Wu, Zheng Yang, Nicholas Lane, and Yunhao Liu

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Session Chair: Bo Mao

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Improving Write Performance of LSMT-Based Key-Value Store
Weitao Zhang, Yinlong Xu, Yongkun Li, and Dinglong Li

Lifting Wavelet Compression Based Data Aggregation in Big Data Wireless Sensor Networks
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Session Chair: Haikun LIu

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Johannes Langguth, Qiang Lan, Namit Gaur, Xing Cai, Mei Wen, and Chun-Yuan Zhang

Exploiting Longer SIMD Lanes in Dynamic Binary Translation
Ding-Yong Hong, Sheng-Yu Fu, Yu-Ping Liu, Jan-Jan Wu, and Wei-Chung Hsu

Increasing Lifetime and Security of Phase-Change Memory with Endurance Variation
Wen Zhou, Dan Feng, Yu Hua, Jingning Liu, Fangting Huang, and Pengfei Zuo

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Mingquan Zhang, Zhihua Gan, Jizan Zhang, and Zhimin Gu

Lightweight Dependency Checking for Parallelizing Loops with Non-Deterministic Dependency on GPU
Hongyuan Liu, King Tin Lam, Huanxin Lin, Cho-Li Wang, and Junchao Ma

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Large Page Address Mapping in Massive Parallel Processor Systems
Yichun Sun, Xiaodong Yi, and Hengzhu Liu

Session PDAA-II: Parallel/Distributed Algorithms and Applications

Session Chair: Long Zheng

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ICE: A General and Validated Energy Complexity Model for Multithreaded Algorithms
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Parallel Gene Upstream Comparison via Multi-Level Hash Tables on GPU
Andrew Todd, Huan Truong, Justin Deters, John Long, Gavin Conant, and Michela Becchi

PFrauDetector: A Parallelized Graph Mining Approach for Efficient Fraudulent Phone Call Detection
Josh Jia-Ching Ying, Ji Zhang, Che-Wei Huang, Kuan-Ta Chen, and Vincent S. Tseng

PIE: A Pipeline Energy-Efficient Accelerator for Inference Process in Deep Neural Networks
Yangyang Zhao, Qi Yu, Xuda Zhou, Xuehai Zhou, Xi Li, and Chao Wang

18:00- 19:30 Reception

Dec. 15, 2016

09:00-10:00 Keynote I
Chair: Hai Jin

On Sensorless Sensing for Internet of Everything
Yunhao Liu

10:00-10:20 Break

10:20-11:20 Keynote II
Chair: Hai Jin

Theory and Optimization of Multicore Memory Performance
Chen Ding

12:00-13:30 Lunch

14:00-15:45 Concurrent Sessions MSUC-III, BDMSS-III, MCPDA-III, PDAA-III

Session MSUC-III: Mobile, Sensor, and Ubiquitous Computing

Session Chair: Daqiang Zhang

PUZZLE: Enhancing Throughput by Covering Neighbor's Blanks
Jiayue Li

QoE-Driven Cross-Layer Design for Device-to-Device Video Delivery
Lingbao Ye, Yahui Hu, Hongyan Tan, and Liming Wang

Smart-DJ: Context-Aware Personalization for Music Recommendation on Smartphones
Chengkun Jiang and Yuan He

Smartphone Virtualization
Tzi-cker Chiueh, Houcheng Lin, Ares Chao, Anthony, Tan-Gen Wu, Chieh-Min Wang, and Yu-Sung Wu

TIP: Time-Efficient Identification Protocol for Unknown RFID Tags Using Bloom Filters
Yuming Qian, Zongjian He, and Daqiang Zhang

Poster:
Resource Scheduling Based on Improved FCM Algorithm for Mobile Cloud Computing
Wu Hong-Qiang, Li Xiao-Yong, Fang Bin-Xing, and Wang Yi-Ping

Session BDMSS-III: Big Data and Massive Storage Systems

Session Chair: Chentao Wu

Optimizing Data Placement of MapReduce on Ceph-Based Framework under Load-Balancing Constraint

Edwin H.-M. Sha, Yutong Liang, Weiwen Jiang, Xianzhang Chen, and Qingfeng Zhuge

ScalaRDF: A Distributed, Elastic and Scalable In-Memory RDF Triple Store
Chunming Hu, Xixu Wang, Renyu Yang, and Tianyu Wo

SLA-DO: A SLA-Based Data Distribution Strategy on Multiple Cloud Storage Systems
Chang Guo, Ying Li, and Zhonghai Wu

Utilizing SSD to Alleviate Chunk Fragmentation in De-Duplicated Backup Systems
Longxin Lin, Kun Xiao, and Wenjie Liu

Wamalloc: An Efficient Wear-Aware Allocator for Non-Volatile Memory
Jiashun Zhu, Sumin Li, and Linpeng Huang

Poster:
The Implementation of Supporting Uniform Data Distribution with Software-Dened Storage Service on Heterogeneous Cloud Storage
Wei-Hsun Cheng, Chun-I Chiang, Chao-Tung Yang, Shuo-Tsung Chen, and Jung-Chun Liu

Zero-Chunk: An Efficient Cache Algorithm to Accelerate the I/O Processing of Data Deduplication
Hongyuan Gao, Chentao Wu, Jie Li, and Minyi Guo

Session MCPDA-III: Multicore Computing and Parallel/Distributed Architecture

Session Chair: Dingding Li

Machine Learning Approach for the Predicting Performance of SpMV on GPU
Akrem Benatia, Weixing Ji, Yizhuo Wang, and Feng Shi

Parallelizing Back Propagation Neural Network on Speculative Multicores
Yaobin Wang, Hong An, Zhiqin Liu, Tao Liu, and Dongmei Zhao

Selectively GPU Cache Bypassing for Un-Coalesced Loads
Chen Zhao, Fei Wang, Zhen Lin, Huiyang Zhou, and Nanning Zheng

Speeding Up Virtualized Transaction Logging with vTrans
Yong Tang, Lingxiao Chen, Jiwei Liu, and Dingding Li

Study of Neocortex Simulations with GENESIS on High Performance Computing Resources
Sean McDaniel, David L. Boothe, Joshua C. Crone, Song J. Park, Dale R. Shires, Alfred B. Yu, and Michela Taufer

System-Level Scalable Checkpoint-Restart for Petascale Computing
Jiajun Cao, Kapil Arya, Rohan Garg, Shawn Matott, Dhabaleswar K. Panda, Hari Subramoni, Jérôme Vienne, and Gene Cooperman

Poster:
Using Supercomputer to Speed up Neural Network Training
Yue Yu, Jinrong Jiang, and Xuebin Chi

Session PDAA-III: Parallel/Distributed Algorithms and Applications

Session Chair: Long Zheng

Reverse Engineering of Dynamic Parallel Program Behavior from Execution Traces
Shin-Chieh Tsai, Chiu-Ping Chang, and Chung-Ta King

Scalable Single-Source SimRank Computation for Large Graphs
Xingkun Gao, Nianyuan Bao, Jie Liu, Jie Tang, and Gangshan Wu

suCAQR: A Simplified Communication-Avoiding QR Factorization Solver Using the TBLAS Framework
Weijian Zheng, Fengguang Song, Lan Lin, and Zizhong Chen

Tapas: An Implicitly Parallel Programming Framework for Hierarchical N-Body Algorithms
Keisuke Fukuda, Motohiko Matsuda, Naoya Maruyama, Rio Yokota, Kenjiro Taura, and Satoshi Matsuoka

Timed Dataflow: Reducing Communication Overhead for Distributed Machine Learning Systems
Peng Sun, Yonggang Wen, Ta Nguyen Binh Duong, and Shengen Yan

Towards Scalable Subgraph Pattern Matching over Big Graphs on MapReduce
Bo Suo, Zhanhuai Li, Qun Chen, and Wei Pan

Towards Seamless Resynchronization for Active-Active Database Clustering
Xiang Gao and Tzi-cker Chiueh

Understanding Software Platforms for In-Memory Scientific Data Analysis: A Case Study of the Spark System
Xuechen Zhang, Ujjwal Khanal, Xinghui Zhao, and Stephen Ficklin

15:45-16:05 Break

16:05-17:50 Concurrent Sessions PWC-I, CPS-I, STC-I, CCS-I

Session PWC-I: P2P and Web-Based Computing

Session Chair: Yu Zhang

A Peer-to-Peer File Sharing System over Named Data Networking
Jian Shi, Xuewei Piao, Lihua Li, Yunbo Xun, and Kai Lei

A Potential Field Based Framework for Publish/Subscribe Service in P2P Cloud
Jiangfeng Li, Zhenyu Liao, Zehong Zhou, Jian Xu, Qinpei Zhao, and Chenxi Zhang

A Weighted Network Model Based on Node Fitness Dynamic Evolution
Xiaoheng Deng, You Wu, Deng Li, and Honggang Zhang

An Efficient Parallel Approach of Parsing and Indexing for Large-Scale XML Datasets
Kunfang Song, Hongwei Lu, and Xiao Qin

DMNS: A Framework to Dynamically Monitor Simulated

Network
Lun Li, Zhiyu Hao, Yongzheng Zhang, Yaqiong Peng, Xin Deng, and Zhenxi Sun

DOCO: An Efficient Event Matching Algorithm in Content-Based Publish/Subscribe Systems
Jingli Yang, Jing Fan, and Shouda Jiang

Session CPS-I: Cyber-Physical Systems

Session Chair: Long Zheng

A Comparison of Road-Network-Constrained Trajectory Compression Methods
Yudian Ji, Hao Liu, Xiaoying Liu, Ye Ding, and Wuman Luo

A Complicated Task Solution Scheme Based on Node Cooperation for Wireless Sensor Networks
Jinfang Jiang, Guangjie Han, and Chunsheng Zhu

A Reliable Depth-Based Routing Protocol with Network Coding for Underwater Sensor Networks
Boyu Diao, Yongjun Xu, Qi Wang, Zhao Chen, Chao Li, Zhulin An, and Guangjie Han

An Optimized RM Algorithm by Task Affinity on Multi-Core Processor
Ying Li, Jianwei Niu, Jiong Zhang, Mohammed Atiquzzaman, and Xiang Long

Efficient Privacy-Preserving kNN Query in Mobile Sensing Systems
Shiming He, Ying Li, Kun Xie, Xin Su, and Weini Zeng

FPGA-Based Parallel Implementation of SURF Algorithm
Wenjie Chen, Shuaishuai Ding, Zhilei Chai, Daojing He, Weihua Zhang, Guanhua Zhang, Qiwei Peng, and Wang Luo

Poster:
Accomplishing Information Consistency under OSPF in General Networks
Jianhui Lv, Xingwei Wang, Min Huang, Fuliang Li, Keqin Li, and Hui Cheng

An Optimized RPL Protocol for Wireless Sensor Networks
Zhenfei Wang, Liying Zhang, Zhiyun Zheng, and Junfeng Wang

Session STC-I: Security and Trustworthy Computing

Session Chair: Haikun Liu

A Provably Secure Blind Signature Based on Coding Theory
Siyuan Chen, Peng Zeng, and Kim-Kwang Raymond Choo

A Users Collaborative Scheme for Location and Query Privacy
Zhu Haitao, Zhang Lei, Feng Weimiao, and Ma Chunguang

An Approach of Anti-Eavesdropping Linear Network Coding in Wireless Network
Zuoting Ning, Dafang Zhang, and Kun Xie

Automatic Security Bug Classification: A Compile-Time Approach
Tie Du, Long Zheng, Shaopeng Chen, and Hai Jin

Baseline Is Fragile: On the Effectiveness of Stack Pivot Defense
Fei Yan, Fan Huang, Lei Zhao, Huirong Peng, and Qian Wang

CC-Paxos: Integrating Consistency and Reliability in Wide-Area Storage Systems
Yili Gong, Chuang Hu, Wentao Ma, and Wenjie Wang

Session CCS-I: Cloud Computing and Services

Session Chair: Wenbin Jiang

A Field-Based Model for Representing Dynamic and Evolving Features of Cloud Services
Fu Hou and Xinjun Mao

A Game-Theoretic Analysis of Pricing Strategies for Competing Cloud Platforms
Bing Shi, Yalong Huang, Jinwen Wang, and Shengwu Xiong

A Task Scheduling Method for Energy-Efficient Cloud Video Surveillance System Using a Time-Clustering-Based Genetic Algorithm
Dongping Fu, Yonghua Xiong, Chengda Lu, Min Wu, and Keyuan Jiang

An Energy-Aware Ant Colony Algorithm for Network-Aware Virtual Machine Placement in Cloud Computing
Chuangen Gao, Hua Wang, Linbo Zhai, Yanqing Gao, and Shanwen Yi

An Online Auction for Deadline-Aware Dynamic Cloud Resource Provisioning
Kai He, Chuanhe Huang, Zongpeng Li, Aiwu Shi, and Jiaoli Shi

Authenticated Spatio-Textual Similarity Joins in Untrusted Cloud Environments
Han Yan, Xiang Cheng, Sen Su, Qiying Zhang, and Jianliang Xu

Benchmarking Sentiment Analysis Approaches on the Cloud
Richard O. Sinnott and Shucheng Cui

Data Dissemination Protocols Based on Opportunistic Sharing for Data Offloading in Mobile Social Networks
Na Jiang, Longjiang Guo, Jinbao Li, Meirui Ren, Sisi Cheng, and Xiaodan Guo

18:00- 19:30 Reception

Dec. 16, 2016

09:00-11:15 Concurrent Sessions PWC-II, CPS-II, STC-II, CCS-II

Session PWC-II: P2P and Web-Based Computing

Session Chair: Dingding Li

DScheduler: Dynamic Network Scheduling Method for

MapReduce in Distributed Controllers
Tianxiao Liu, Yi Liu, Ping Song, and Depei Qian

Garlic Cast: Lightweight and Decentralized Anonymous Content Sharing
Chen Qian, Junjie Shi, Zihao Yu, Ye Yu, and Sheng Zhong

SHSA: A Method of Network Verification with Stateful Header Space Analysis
Yufan Yang, Xinli Huang, Shang Cheng, Shiyun Chen, and Peijin Cong

Virtual Path Assignment Based on Load Balancing for SDNs
Xiaomao Wang, Chuanhe Huang, Kai He, Xiying Fan, and Bin Fu

Poster:
Modeling Traffic of Big Data Platform for Large Scale Datacenter Networks
Zhen Xie, Zheng Cao, Zhan Wang, Dawei Zang, En Shao, and Ninghui Sun

Study of Intra- and Interjob Interference on Torus Networks
Xu Yang, John Jenkins, Misbah Mubarak, Xin Wang, Robert B. Ross, and Zhiling Lan

Session CPS-II: Cyber-Physical Systems

Session Chair: Long Zheng

Hierarchically Social-Aware Incentivized Caching for D2D Communications
Wenting Zhi, Konglin Zhu, Yuan Zhang, and Lin Zhang

HMF: Heatmap and WiFi Fingerprint-Based Indoor Localization with Building Layout Consideration
Xiting Liu, Banghui Lu, Jianwei Niu, Lei Shu, and Yuanfang Chen

mtCloudSim: A Flow-Level Network Simulator for Multi-Tenant Cloud
Junjie Xie and Yuhui Deng

PROAR: A Weak Consistency Model for Ceph
Jiayuan Zhang, Yongwei Wu, and Yeh-Ching Chung

TaxiCast: Efficient Broadcasting of Multimedia Advertisements in Vehicular Ad-Hoc Networks
Peng Liu, Jia Xu, Biao Xu, and Tingting Fu

Very Low-Resolution Face Recognition via Semi-Coupled Locality-Constrained Representation
Tao Lu, Wei Yang, Yanduo Zhang, Xiaolin Li, and Zixiang Xiong

Watch Traffic in the Sky: A Method for Path Selection in Packet Transmission between V2V from Macro Perspective
Wen Cui, Xiaoqing Gong, Chen Liu, Dan Xu, Zhuang Yin, Xiaojiang Chen, and Dingyi Fang

Poster:
Optimized Virtual Network Functions Migration for NFV
Jing Xia, Zhiping Cai, and Ming Xu

Session STC-II: Security and Trustworthy Computing

Session Chair: Yu Zhang

Multi-User Location Correlation Protection with Differential Privacy
Lu Ou, Zheng Qin, Yonghe Liu, Hui Yin, Yupeng Hu, and Hao Chen

Opportunistic Probe: An Efficient Adaptive Detection Model for Collaborative Intrusion Detection
Dali Zhu, Na Pang, Gang Li, and Wenjing Rong

Outsourcing Large-Scale Systems of Linear Matrix Equations in Cloud Computing
Jian Zhang, Yang Yang, and Zhibo Wang

RuleCache: A Mobility Pattern Based Multi-Level Cache Approach for Location Privacy Protection
Qiuwei Yang and Pan Kong

Towards a Framework to Facilitate the Mobile Advertising Ecosystem
Gong Chen, Shouling Ji, and John A. Copeland

Session CCS-II: Cloud Computing and Services

Session Chair: Haikun LIu

Efficient Snapshot KNN Join Processing for Large Data Using MapReduce
Yupeng Hu, Chong Yang, Cun Ji, Yang Xu, and Xueqing Li

Game Theoretic Energy Allocation for Renewable Powered In-Situ Server Systems
Junlong Zhou, Jianfei Chen, Kun Cao, Tongquan Wei, and Mingsong Chen

GDSW: A General Framework for Distributed Sliding Window over Data Streams
Huan Chen, Yijie Wang, Yuan Wang, and Xingkong Ma

Improving the Performance of Data Sharing in Dynamic Peer-to-Peer Mobile Cloud
Wenhua Xiao, Weidong Bao, Xiaomin Zhu, Wen Zhou, and Peizhong Luy

On Autonomous Service Migrations in the Cloud for Mobile Accesses
Yang Wang, Shuibing He, Fuji Ren, Lujia Wang, and Chengzhong Xu

Secure Conjunctive Multi-Keyword Search for Multiple Data Owners in Cloud Computing
Hui Yin, Zheng Qin, Jixin Zhang, Wenjie Li, Lu Ou, Yupeng Hu, and Keqin Li

VNF Placement in Hybrid NFV Environment: Modeling and Genetic Algorithms
Jiuyue Cao, Yan Zhang, Wei An, Xin Chen, Yanni Han, and Jiyan Sun

Poster:
Implementation of an Energy Saving Cloud Infrastructure with Virtual Machine Power Usage Monitoring and Live Migration on OpenStack
Tsung-Yueh Wan, Chun-I Chiang, Chao-Tung Yang, Shuo-Tsung Chen, and Jung-Chun Liu

CONFERENCE VENUE & TRANSPORTATION

Conference Venue

The registration, venue and some accommodations have been arranged in Optics Valley Kingdom Plaza Hotel Wuhan, China.

Optics Valley Kingdom Plaza Hotel Wuhan

Wujiawan No. 1 Luoyu Road, Wuhan 430074, China

http:// http://www.whkingdom.com/

Transportation

How to get to Optics Valley Kingdom Plaza Hotel:

From the international airport of WUHAN: by taxi, you will pay about from 120 to 180 RMB;
From the WUHAN railway station: by taxi, you will pay about 80RMB;
From the WUCHANG railway station: by taxi, you will pay about 50RMB;
From the HANKOU railway station: by taxi, you will pay about 100RMB.

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Track #8: Parallel / Distributed Algorithms and Applications

Keiji Kimura, Waseda University, Japan

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Luwei Cheng, Facebook, USA
Xiaoning Ding, New Jersey Institute of Technology, USA
Yu-Chee Tseng, Dept. of Computer Science, National Chiao Tung University, Taiwan
Kanta Matsuura, Institute of Industrial Science, The University of Tokyo, Japan

Jérôme François, Interdisciplinary Centre for Security, Reliability and Trust - University of Luxembourg, Luxembourg
Xiao Qin, Auburn University, USA
Song Fu, University of North Texas, USA
Sang-Yoon Chang, Advanced Digital Sciences Center, Singapore
Jiangtao Yin, University of Massachusetts Amherst, USA

Track #7: Multicore Computing and Parallel / Distributed Architecture

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Bin Ren, Pacific Northwest National Laboratory, USA
Jidong Zhai, Tsinghua University, China
Adwait Jog, College of William and Mary, USA
Dong Li, University of California, Merced, USA
Yi Yang, NEC Laboratories America
Shuaiwen Song, Pacific Northwest National Lab, USA
Seyong Lee, Oak Ridge National Laboratory, USA
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Saurabh Gupta, Oak Ridge National Laboratory, USA

Track #8: Parallel / Distributed Algorithms and Applications

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Jiang Xu, Hong Kong Universtiy of Science and Technology, China
Reiji Suda, The University of Tokyo, Japan
Takahiro Katagiri, Nagoya University, Japan
Akihiro Hayashi, Rice University, USA
Aleksandar Prokopec, École Polytechnique Fédérale de Lausanne, Switzerland
Lei Lu, VMware, USA
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Sriram Krishnamoorthy, Pacific Northwest National Lab, USA
Qiang Guan, High Performance Computing Division 5(HPC-5), Los Alamos National Laboratory, USA
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華中科技大學 Huazhong University of Science & Technology

Computer Science & Technology

计算机科学与技术学院

Ministry of Education Key Laboratory of Service Computing Technology and System & Hubei Province Key Laboratory of Cluster and Grid Computing Laboratory

School of Computer Science and Technology is one of major schools of HUST. It has four departments, namely, Department of Computer Science and Engineering, Department of Computer Science, Department of Computer Science and Application, and Department of information security, two institutes including Institute of Theory of Computer Science and Institute of Database and Multimedia Technology, and the University Computation Center, four Laboratories including the Key Laboratory of Services Computing Technology and System (SCTS), Ministry of Education (MOE), the Key Laboratory of Cluster and Grid Computing (CGCL), Hubei Province, the National Specialized Laboratory of Storage System, the Key Laboratory of Information Storage System, Ministry of Education, etc.

The SCTS, and concurrently the CGCL, is part of the national key discipline of computer system architecture and the key discipline of computer software and theory in Hubei Province, enjoying academic freedom and advanced research capabilities of international standards. The research areas that SCTS & CGCL is engaged in mainly include Computing System Virtualization, Grid Computing, Peer to Peer Computing, Image Processing, System Security, etc.

SCTS & CGCL Currently has 7 professors, 15 associate professors, among them there are altogether 1 leading scientist from National 973 Basic Research Project, 1 awarded with National Outstanding Youth, 1 selected as National Class Talent of "New Century Hundred-Thousand-Myriad Talents Plan", 2 awarded with "Plan of Supporting New Century Talent". Now there are 130 full-time PhD candidates and graduate students. SCTS & CGCL is the main node of ChinaGrid, CNGrid Wuhan node, 985 Innovation and Technology Platform. The total value of its research instrument adds up to over RMB90 million Yuan. It has about 2,000m^2 work space.

SCTS & CGCL has been undertaking about 40 significant research projects, including projects from 973 basic research project scheme, National Science & Technology Pillar Program, key projects from MOE, National Outstanding Youth Foundation, National Natural Science Foundation of China (NSFC), National 863 Hi-Tech R&D Program and some international cooperation, and CNGI projects supported by National Development and Reform Commission. Now SCTS & CGCL is playing a leading role in the "Changjiang Scholar and Innovative Team Development Plan" from MOE, and Hubei Natural Science Fund Innovative Team.

SCTS & CGCL has composed more than 10 monographs and teaching materials, and contributed over 400 papers to domestic and international periodicals and conferences which have been indexed more than 100 times by SCI and EI. SCTS & CGCL has obtained 25 national invention patents and 52 national software copyrights, and filed in more than 40 national invention patents. It has also won many other honors for its invention of technology, like 1 second prize of National Science and Technology Progress, 1 second prize of National Technology Invention, 1 fourth prize of National Natural Science, 1 first prize for both technology invention and technology advancement from MOE, 1 first prize for both technology advancement and technology invention respectively from the of Hubei Provincial Government.

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Abiding by the HUST motto of "Commend moral, Advocate knowledge, Seek truth, and Make innovations", SCTS & CGCL keeps follows the principle of "Opening, Communication, Unification and Competition" principle, aiming at becoming a top-ranking and internationally renowned base for research and development and talent training.

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