Introduction to Guangzhou University

Guangzhou University is a comprehensive university named after the third largest city in China. In 2000, several universities, including Guangzhou Normal College, South China Construction Institute, Guangzhou University, Guangzhou Education College and Guangzhou Normal Junior College, merged into Guangzhou University. Guangzhou University boasts a history of ninety years, and it is a high-level university that is growing rapidly, with strong support of both Guangdong Province and Guangzhou Municipal Government.

The university has two campuses, the University Town Campus and the Guihuagang Campus in downtown. Rich teaching resources and complete research facilities are available here. The library of Guangzhou University boasts a collection of over 2.9 million books with a total number of 3.04 TB digital resources and equipment worth 558 million RMB.

The university enjoys a comprehensive variety of disciplines including philosophy, law, education, literature, history, science, engineering, economics, administration and arts.

The university boasts a talent team, which is comprised of representatives from “Academics from Chinese Academy of Sciences”, “Academics from Chinese Academy of Engineering”, “National ‘One-Thousand People Plan’ Specially-invited Experts”, “Scholars of Changjiang River” and “Distinguished Youth Awardee of National Natural Science Foundation of China”. These faculty members have undertaken a series of 973 programs, 863 programs, key projects for humanitarian and social science, projects of the national natural science foundation and projects of the national social science foundation.

Guangzhou University now enjoys its own art and performance team which includes the Guangzhou Ballet Troupe and the Guangzhou Singing and Dancing Troupe. It also has a number of students' organizations and cultural projects that are favored by the students.

The university continues to integrate its development with building Guangzhou into a national hub city and it has made great strides in its capacity to serve economic development. For instance, the university has participated in the design of the Hong Kong-Zhuai-Macau Bridge, and the “AVLM Intelligent Centralized Synchro Performance Control System” which has been successfully applied in the sound and image synchronized control of the lights on the banks of the Pearl River.

http://www.gzhu.edu.cn/
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<td>Sponsors, Organizers, and Publishers</td>
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# FINAL PROGRAM OF IEEE ISPA 2017 / IEEE IUCC 2017 / SpaCCS 2017

## AT A GLANCE

### December 12 (Tuesday)

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<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:00-20:00</td>
<td>On-Site Registration</td>
</tr>
<tr>
<td>18:00-20:00</td>
<td>Reception @Guangdong Hotel</td>
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### December 13 (Wednesday)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>08:30-08:50</td>
<td>Opening Ceremony</td>
</tr>
<tr>
<td>08:50-09:40</td>
<td>Keynote 1: Next Generation Grid: Integrating Parallel and Distributed Computing Runtimes from Cloud to Edge Applications, Prof. Geoffrey Fox</td>
</tr>
<tr>
<td></td>
<td>International Conference Hall (Room 1)</td>
</tr>
<tr>
<td>09:40-10:00</td>
<td>Coffee/Tea Break</td>
</tr>
<tr>
<td>10:00-10:50</td>
<td>Keynote 2: Joint Scheduling of Overlapping Phases in the MapReduce Framework, Prof. Jie Wu</td>
</tr>
<tr>
<td></td>
<td>International Conference Hall (Room 1)</td>
</tr>
<tr>
<td>10:50-11:40</td>
<td>Keynote 3: Privacy-Preserving Access Control and Computations of Encrypted Data in the Cloud, Prof. Robert Deng</td>
</tr>
<tr>
<td></td>
<td>International Conference Hall (Room 1)</td>
</tr>
<tr>
<td>12:30-13:30</td>
<td>Lunch @Guangdong Hotel</td>
</tr>
<tr>
<td>13:30-15:30</td>
<td>Keynote DependSys-A R3</td>
</tr>
<tr>
<td></td>
<td>ISPA T1-A R4</td>
</tr>
<tr>
<td></td>
<td>ISPA T1-E R5</td>
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<tr>
<td></td>
<td>ISPA T1-I R6</td>
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<tr>
<td></td>
<td>ISPA T2-C R7</td>
</tr>
<tr>
<td></td>
<td>ISPA T2-G R8</td>
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<tr>
<td></td>
<td>ISPA T3-C R9</td>
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<tr>
<td></td>
<td>IUCC-A R10</td>
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<td></td>
<td>SpaCCS-A R11</td>
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<td></td>
<td>SpaCCS-B R12</td>
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<tr>
<td></td>
<td>TrustData-A R13</td>
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<tr>
<td></td>
<td>SCS R14</td>
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<tr>
<td>15:30-15:50</td>
<td>Coffee/Tea Break</td>
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<tr>
<td>15:50-18:20</td>
<td>DependSys-B R3</td>
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<tr>
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<td>ISPA T1-B R4</td>
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<td></td>
<td>ISPA T1-F R5</td>
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<td></td>
<td>ISPA T1-J +ISSR R6</td>
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<td>ISPA T2-D R7</td>
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<td>ISPA T3-D R9</td>
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<td></td>
<td>IUCC-B R10</td>
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<td></td>
<td>ISPA T3-G +MSDF R11</td>
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<td></td>
<td>SpaCCS-C R12</td>
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<td></td>
<td>TrustData-B +TSP R13</td>
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<tr>
<td></td>
<td>UbiSafe R14</td>
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<tr>
<td>19:00-21:00</td>
<td>Dinner @Guangdong Hotel</td>
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### December 14 (Thursday)

<table>
<thead>
<tr>
<th>Time</th>
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<th>Location</th>
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</thead>
<tbody>
<tr>
<td>08:30-09:20</td>
<td><strong>Keynote 4:</strong> Quantum-Search Algorithms, Quantum Codes and All That,..., Prof. Lajos Hanzo</td>
<td>Multi Function Hall (Room 2)</td>
</tr>
<tr>
<td>09:20-10:10</td>
<td><strong>Keynote 5:</strong> From Personal Big Data to Personal Cyber Buddies in Hyperworld, Prof. Jianhua Ma</td>
<td>Multi Function Hall (Room 2)</td>
</tr>
<tr>
<td>10:10-10:30</td>
<td>Coffee/Tea Break</td>
<td></td>
</tr>
<tr>
<td>10:30-11:20</td>
<td><strong>Keynote 6:</strong> Data Mining and Machine Learning for Analysis of Network Traffic, Prof. Ljiljana Trajkovic</td>
<td>Multi Function Hall (Room 2)</td>
</tr>
<tr>
<td>11:20-12:10</td>
<td><strong>Keynote 7:</strong> Service Placement and Migration in Mobile Edge Clouds, Prof. Kin K. Leung</td>
<td>Multi Function Hall (Room 2)</td>
</tr>
<tr>
<td>12:30-13:30</td>
<td>Lunch @ Guangdong Hotel</td>
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#### December 15 (Friday)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>08:30-09:20</td>
<td><strong>Keynote 8:</strong> Autonomous and Connected Vehicles: A New Challenge for Smart Cities, Prof. Azzedine Boukerche</td>
<td>Multi Function Hall (Room 2)</td>
</tr>
<tr>
<td>09:20-10:10</td>
<td><strong>Keynote 9:</strong> Towards Dataflow-based Graph Accelerator, Prof. Hai Jin</td>
<td>Multi Function Hall (Room 2)</td>
</tr>
<tr>
<td>10:10-10:30</td>
<td>Coffee/Tea Break</td>
<td></td>
</tr>
<tr>
<td>10:30-11:20</td>
<td><strong>Keynote 10:</strong> Security Challenges in Software Defined Networks Policy based Security Architecture for Software Defined Networks, Prof. Vijay Varadharajan</td>
<td>Multi Function Hall (Room 2)</td>
</tr>
<tr>
<td>11:20-12:10</td>
<td><strong>Keynote 11:</strong> Tracking Ubiquitous Radio Signal Activities: Sensing and Security Application Perspectives, Dr. Md Zakirul Alam Bhuiyan</td>
<td>Multi Function Hall (Room 2)</td>
</tr>
<tr>
<td>12:30-14:00</td>
<td>Lunch @ Guangdong Hotel</td>
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## Quick Guide to Meeting Rooms

<table>
<thead>
<tr>
<th>Room Number</th>
<th>Room Name</th>
<th>Floor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room 1</td>
<td>International Conference Hall (国际会议厅)</td>
<td>3F</td>
</tr>
<tr>
<td>Room 2</td>
<td>Multi Function Hall (多功能厅)</td>
<td>3F</td>
</tr>
<tr>
<td>Room 3</td>
<td>Hanjiang Hall (韩江厅)</td>
<td>3F</td>
</tr>
<tr>
<td>Room 4</td>
<td>Qiutang Hall (秋棠厅)</td>
<td>2F</td>
</tr>
<tr>
<td>Room 5</td>
<td>Yinchun Hall (迎春厅)</td>
<td>2F</td>
</tr>
<tr>
<td>Room 6</td>
<td>Yuexiu Hall (越秀厅)</td>
<td>3F</td>
</tr>
<tr>
<td>Room 7</td>
<td>Baiyun Hall (白云厅)</td>
<td>3F</td>
</tr>
<tr>
<td>Room 8</td>
<td>Dinghu Hall (鼎湖厅)</td>
<td>3F</td>
</tr>
<tr>
<td>Room 9</td>
<td>Xiqiao Hall (西樵厅)</td>
<td>3F</td>
</tr>
<tr>
<td>Room 10</td>
<td>Danxia Hall (丹霞厅)</td>
<td>3F</td>
</tr>
<tr>
<td>Room 11</td>
<td>Luofu Hall (罗浮厅)</td>
<td>3F</td>
</tr>
<tr>
<td>Room 12</td>
<td>Hongmei Hall (红梅厅)</td>
<td>2F</td>
</tr>
<tr>
<td>Room 13</td>
<td>Jinju Hall (金菊厅)</td>
<td>2F</td>
</tr>
<tr>
<td>Room 14</td>
<td>Cuizhu Hall (翠竹厅)</td>
<td>2F</td>
</tr>
<tr>
<td>Room 15</td>
<td>Banquet Hall (宴会厅)</td>
<td>2F</td>
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</tbody>
</table>
Welcome Messages from IEEE ISPA 2017 General Chairs

Welcome to the 15th International Symposium on Parallel and Distributed Processing with Applications (ISPA 2017), which is organized by Guangzhou University and Central South University.

It is our great pleasure to organize the ISPA 2017 Conference in Guangzhou, China, 12-15 December 2017. On behalf of the organizing committee of the conference, we would like to express to all participants who will attend the conference, our cordial welcome and great gratitude.

The ISPA 2017 Conference is a forum for presenting leading work on parallel and distributed computing and networking, including architecture, compilers, runtime systems, applications, reliability, security, parallel programming models and much more. During the conference, scientists and engineers in both academia and industry are invited to present their work on concurrent and parallel systems (multicore, multithreaded, heterogeneous, clustered systems, distributed systems, grids, clouds, and large scale machines).

The ISPA 2017 Conference has attracted high-quality research papers which highlight the foundational work that strives to push beyond the limits of existing technologies, including experimental efforts, innovative systems, and investigations that identify weaknesses in existing parallel processing technology.

The ISPA 2017 Conference consists of three tracks: Systems and Architectures Track, Technologies and Tools Track, and Applications Track. Many individuals have contributed to the success of the conference. We would like to express our special appreciation to Prof. Minyi Guo, Prof. Laurence T. Yang, the Steering Committee Chairs, for giving us the opportunity to host this prestigious conference and for their guidance on the conference organization. Special thanks to the Program Chairs, Prof. Geoffrey Charles Fox, Prof. Gregorio Martinez and Prof. Guojun Wang, for their outstanding work on the technical program. Thanks also to Publicity Chairs, Dr. Mianxiong Dong, Dr. Peter Mueller, Dr. Wenbin Jiang for their great job in publicizing this event widely. We would like to give our thanks to all the members of the Organizing Committee and Program Committee members and External Reviewers for their efforts and support. We would also like to give our thanks to Keynote Speakers, Prof. Geoffrey Charles Fox, Prof. Lajos Hanzo, Prof. Azzedine Boukerche, Prof. Jie Wu, Prof. Robert Deng, Prof. Ljiljana Trajkovic, Professor Kin K. Leung, Prof. Vijay Varadharajan, Prof. Hai Jin, Prof. Jianhua Ma, and Prof. Jinjun Chen, for offering insightful and enlightening talks. Last but not least, we would like to thank all the authors who submitted their papers to the conference, and we hope that you will be able to attend this wonderful event!

Executive General Chair
Guojun Wang, Guangzhou University, China

General Chairs
Qinghua Zheng, Xi’an Jiaotong University, China
Albert Zomaya, University of Sydney, Australia
Azzedine Boukerche, University of Ottawa, Canada
Welcome Messages from IEEE ISPA 2017 Program Chairs

On behalf of the Program Committee of the 15th International Symposium on Parallel and Distributed Processing with Applications (IEEE ISPA 2017), we would like to welcome you to join the conference in Guangzhou, China, 12-15 December, 2017.

The IEEE ISPA 2017 Conference is a forum for presenting leading work on parallel and distributed computing and networking, including architecture, compilers, runtime systems, applications, reliability, security, parallel programming models and much more. During the conference, scientists and engineers in both academia and industry are invited to present their work on concurrent and parallel systems (multicore, multithreaded, heterogeneous, clustered systems, distributed systems, grids, clouds, and large scale machines).

The IEEE ISPA 2017 Conference is the next event in a series of highly successful international conferences on parallel and distributed computing and networking, previously held as ISPA 2016 (Tianjin, China, August 2016), ISPA 2015 (Helsinki, Finland, August 2015), ISPA 2014 (Milan, Italy, August 2014), ISPA 2013 (Melbourne, Australia, July 2013), ISPA 2012 (Madrid, Spain, July 2012), ISPA 2011 (Busan, Korea, May 2011), ISPA 2010 (Taipei, Taiwan, September 2010), ISPA 2009 (Chengdu, China, August 2009), ISPA 2008 (Sydney, Australia, December 2008), ISPA 2007 (Niagara Falls, Canada, August 2007), ISPA 2006 (Sorrento, Italy, December 2006), ISPA 2005 (Nanjing, China, November 2005), ISPA 2004 (Hong Kong, China, December 2004), and ISPA 2003 (Aizu, Japan, July 2003).

The ISPA 2017 conference collected research papers on the related research issues from all around the world. This year we received 360 submissions. All submissions received at least three reviews from a high-quality review process. According to the review results, 120 regular papers are selected for oral presentation at the conference, giving an acceptance rate of 33.3%.

We would like to offer our gratitude to Prof. Minyi Guo from Shanghai Jiao Tong University, China, and Prof. Laurence T. Yang from St. Francis Xavier University, Canada, the Steering Committee Chairs. Our thanks also to the General Chairs, Prof. Qinghua Zheng from Xi’an Jiaotong University, China, Prof. Albert Zomaya, from University of Sydney, Australia, and Azzedine Boukerche, from University of Ottawa, Canada, for their great support and good suggestions to make the success of the final program. In particular, we would like to give our thanks to all researchers and practitioners who submitted their manuscripts, and to the Program Committee and the external reviewers that contributed their valuable time and expertise to provide professional reviews working under a very tight schedule. Moreover, we are very grateful to our keynote speakers who have kindly accepted our invitation to give insightful and prospective talks.

Finally, we sincerely hope that the conference will provide a very good opportunity for you to learn from each other. Enjoy the conference, both technically and socially!

Program Chairs
Geoffrey Fox, Indiana University, USA
Gregorio Martinez Perez, University of Murcia, Spain
Guojun Wang, Guangzhou University, China
Welcome Messages from IEEE IUCC 2017 General Chairs

Welcome to the 16th IEEE International Conference on Ubiquitous Computing and Communications (IUCC 2017), which is organized by Guangzhou University and Central South University in Guangzhou, China on 12-15 December 2017. On behalf of the organizing committee of the conference, we would like to express our cordial welcome and great gratitude to all participants who will attend the conference.

IEEE IUCC 2017 is the 16th event in the series of conferences that are devoted to ubiquitous computing and communications. IUCC is now recognized as the regular global event that covers many dimensions of ubiquitous computing, ubiquitous communications, ubiquitous system, services and applications, and ubiquitous media and signal processing. IEEE IUCC 2017 has attracted high-quality research papers which highlight the foundational work that strives to push beyond the limits of existing technologies, including experimental efforts, innovative systems, and investigations that identify weaknesses in existing ubiquitous computing and communications technology. The conference provides a forum for academics and practitioners around the world to exchange ideas for improving the efficiency, performance, reliability, security and interoperability of computing systems and applications.

IEEE IUCC 2017 consists of four Tracks: Ubiquitous Computing Track, Ubiquitous Communications Track, Ubiquitous System, Services and Applications Track, and Ubiquitous Media and Signal Processing Track. Many individuals have contributed to the success of the conference. We would like to express our special appreciation to Prof. Geyong Min and Prof. Laurence T. Yang, the Steering Committee Chairs, for giving us the opportunity to host this prestigious conference and for their guidance on the conference organization. Special thanks to the Program Chairs, Prof. Richard Hill, Dr. Peter Mueller and Prof. Guojun Wang, for their outstanding work on the technical program. Thanks also to Publicity Chairs, Prof. Richard Yu, Dr. Md Zakirul Alam Bhuiyan, Prof. Aniello Castiglione and Prof. Zhipeng Cai, for the great job in publicizing this event for wide. We would like to give our thanks to all the members of the Organizing Committee and Program Committee members and External Reviewers for their efforts and support. We would also like to give our thanks to Keynote Speakers, Prof. Geoffrey Charles Fox, Prof. Lajos Hanzo, Prof. Azzedine Boukerche, Prof. Jie Wu, Prof. Robert Deng, Prof. Ljiljana Trajkovic, Professor Kin K. Leung, Prof. Vijay Varadharajan, Prof. Hai Jin, Prof. Jianhua Ma and Prof. Jinjun Chen, for offering insightful and enlightening talks. Last but not least, we would like to thank all the authors who submitted their papers to the conference, and we hope that you will be able to attend this wonderful event!

Executive General Chair
Guojun Wang, Guangzhou University, China

General Chairs
Xuemin (Sherman) Shen, University of Waterloo, Canada
Yang Xiao, The University of Alabama, USA
Beniamino Di Martino, Second University of Naples, Italy
Welcome Messages from IEEE IUCC 2017 Program Chairs

On behalf of the Program Committee of the 16th IEEE International Conference on Ubiquitous Computing and Communications (IUCC 2017), we would like to welcome you to join the conference in Guangzhou, China, 12-15 December 2017.

The IEEE IUCC 2017 Conference aims at bringing together researchers and practitioners in the world from both academia and industry who are working on ubiquitous computing and communications. The conference will feature keynote speeches, panel discussions and technical presentations, where the technical presentations from both the research community and industry will cover various aspects including ubiquitous computing, ubiquitous communications, ubiquitous system, services and applications, ubiquitous media and signal processing. IEEE IUCC 2017 is the next event in a series of highly successful international conferences on ubiquitous computing and communications, to name a few, previously held as IUCC-16 (Granada, Spain, December 2016), IUCC-15 (Liverpool, UK, August 2015), IUCC-14 (Chengdu, China, December 2014), IUCC-13 (Melbourne, Australia, July 2013), IUCC-12 (Liverpool, England, UK June 2012).

The IEEE IUCC 2017 Conference collected research papers on the related research issues from all around the world. This year we received 75 submissions. All submissions received at least three reviews from a high-quality review process. According to the review results, 24 papers are selected for oral presentation at the conference, giving an acceptance rate of 32%.

We would like to offer our gratitude to Prof. Geyong Min from University of Exeter, UK and Prof. Laurence T. Yang from St. Francis Xavier University, Canada, the Steering Committee Chairs. Our thanks also to the General Chairs, Prof. Xuemin (Sherman) Shen, University of Waterloo, Canada, Prof. Yang Xiao, The University of Alabama, USA and Prof. Beniamino Di Martino, Second University of Naples, Italy, for their great support and good suggestions to make the success of the final program. In particular, we would like to give our thanks to all researchers and practitioners who submitted their manuscripts, and to the Program Committee and the external reviewers that contributed their valuable time and expertise to provide professional reviews working under a very tight schedule. Moreover, we are very grateful to our keynote speakers who have kindly accepted our invitation to give insightful and prospective talks.

Finally, we sincerely hope that the conference will provide a very good opportunity for you to learn from each other. Enjoy the conference, both technically and socially!

Program Chairs
Richard Hill, University of Huddersfield, UK
Peter Mueller, IBM Zurich Research Laboratory, Switzerland
Guojun Wang, Guangzhou University, China
Preface of SpaCCS 2017

The 10th International Conference on Security, Privacy and Anonymity in Computation, Communication and Storage (SpaCCS 2017) is held in Guangzhou, China in December 12-15, 2017, which is jointly organized by Guangzhou University and Central South University.

The SpaCCS conference series provides a forum for researchers to gather and share their research findings, achievements, innovations and perspectives in information security and related fields. Previous SpaCCS conferences were held in Zhangjiajie, China (2016), Helsinki, Finland (2015), Beijing, China (2014), Melbourne, Australia (2013), Liverpool, UK (2012), and Changsha, China (2011).

This year, the conference received 140 submissions. All submissions were reviewed by at least three reviewers based on a high-quality review process. Based on the recommendations of the reviewers and Program Committee members’ discussions, 47 papers were selected for oral presentation at the conference and inclusion in this Springer volume (i.e., an acceptance rate of 33.6%). In addition to the technical presentations, the program includes 12 keynote speeches by world-renowned researchers. We are very grateful to the keynote speakers for their time and willingness to share their expertise with the conference attendees. Here are the list of Keynote Speakers, Prof. Geoffrey Charles Fox, Prof. Lajos Hanzo, Prof. Azzedine Boukerche, Prof. Jie Wu, Prof. Robert Deng, Prof. Ljiljana Trajkovic, Professor Kin K. Leung, Prof. Vijay Varadharajan, Prof. Hai Jin, Prof. Jianhua Ma, Prof. Jinjun Chen, and Xiaofeng Chen. Thank you!

SpaCCS 2017 has been made possible by the joint effort of a large number of individuals and organizations worldwide. There is a long list of people who volunteered their time and energy to put together the conference and deserved special thanks. First and foremost, we would like to offer our gratitude to the Steering Committee Chairs, Prof. Guojun Wang from Guangzhou University, China, and Prof. Gregorio Martinez from University of Murcia, Spain, for guiding the entire process of the conference. We are also deeply grateful to all the Program Committee members for their time and efforts in reading, commenting, debating and finally selecting the papers. We also thank all the external reviewers for assisting the Program Committee in their particular areas of expertise.

We would like to offer our gratitude to the General Chairs, Prof. Robert Deng, Prof. Yang Xiang and Prof. Jose M. Alcaraz Calero, for their tremendous support and advice in ensuring the success of the conference. Thanks also go to: Workshop Chairs, Prof. Georgios Kambourakis, Prof. Ryan Ko and Prof. Sancheng Peng; Publicity Chairs, Prof. Carlos Becker Westphall, Prof. Scott Fowler and Dr. Mir Sajjad Hussain Talpur; Publication Chair, Prof. Fang Qi; Organization Chairs, Prof. Dongqing Xie, Dr. Shuhong Chen and Dr. Xiaofei Xing; Registration Chair, Ms. Pin Liu, and Web Chair, Mr. Yang Shu.

Last but not the least, we would like to thank all the authors, participants, and session chairs for their valuable contributions. Many of them travel long distances to attend this conference and make the final success of SpaCCS 2017 come true.

Volume Editors
Guojun Wang, Guangzhou University, China
Mohammed Atiquzzaman, University of Oklahoma, USA
Zheng Yan, Aalto University, Finland/Xidian University, China
Kim-Kwang Raymond Choo, University of Texas at San Antonio, USA

December 2017
Preface of SpaCCS 2017 Workshops

We would like to welcome you to the 10th International Conference on Security, Privacy and Anonymity in Computation, Communication and Storage (SpaCCS 2017), to be held in Guangzhou, China during December 12-15, 2017. SpaCCS is jointly organized by Guangzhou University and Central South University.

SpaCCS 2017 and its associated symposiums and workshops provide a forum for international and national scholars to gather and share their research findings, ideas and emerging trends in information security research. Previous SpaCCS conferences were successfully held in Zhangjiajie, China (2016), Helsinki, Finland (2015), Beijing, China (2014), Melbourne, Australia (2013), Liverpool, UK (2012), and Changsha, China (2011).

The workshop program this year consists of 11 symposiums and workshops covering a broad range of research topics on security, privacy and anonymity in computation, communication and storage:

1. The 9th IEEE International Symposium on UbiSafe Computing (UbiSafe 2017)
3. The 8th International Workshop on Trust, Security and Privacy for Big Data (TrustData 2017)
4. The 7th International Symposium on Trust, Security and Privacy for Emerging Applications (TSP 2017)
5. The 6th International Symposium on Security and Privacy on Internet of Things (SPIoT 2017)
6. The 5th International Workshop on Network Optimization and Performance Evaluation (NOPE 2017)

SpaCCS 2017 symposiums and workshops attracted 190 submissions from different countries and institutions around the globe. All submissions received at least three reviews by highly quality experts, resulting in 75 papers selected for oral presentation at the conference (i.e. acceptance rate of 39.5%).

In addition to the technical presentations, the workshop program includes 12 keynote speeches by world-renowned researchers. We are very grateful to the keynote speakers for their time and willingness to share their expertise with the conference attendees. Here are the list of Keynote Speakers, Prof. Geoffrey Charles Fox, Prof. Lajos Hanzo, Prof. Azzeddine Boukerche, Prof. Jie Wu, Prof. Robert Deng, Prof. Ljiljana Trajkovic, Professor Kin K. Leung, Prof. Vijay Varadharajan, Prof. Hai Jin, Prof. Jianhua Ma, Prof. Jinjun Chen, and Prof. Xiaofeng Chen. Thank you!

This event would not have been possible without the contributions of many experts who volunteered and devoted their time and expertise to make this happen. We would like to thank the symposium and workshop organizers for their hard work in soliciting high quality submissions, assembling the program committee, managing the peer-review process, and planning the symposium and workshop agenda. We would also like to acknowledge the strong support of the organizing committee of SpaCCS 2017, and in particular the Steering Chairs, Prof. Guojun Wang and Prof. Gregorio Martinez, the General Chairs, Prof. Robert Deng, Prof. Yang Xiang and Prof. Jose M. Alcaraz Calero, and the Program Chairs, Prof. Mohammed Atiquzzaman, Prof. Zheng Yan, and Dr. Kim-Kwang Raymond Choo. We would also like to thank the Workshop Chairs, Prof. Georgios Kambourakis, Prof. Ryan Ko, and Prof. Sancheng Peng; without their support and guidance, this event would not have been possible. We are also grateful to the experts who volunteered their time to act as reviewers and session chairs. Finally, we thank the contributing authors and attendees.
Welcome to SpaCCS 2017 Workshops! We hope you have a wonderful time in Guangzhou, China. Look forward to seeing you at SpaCCS 2017!

**Volume Editors**

*Guojun Wang*, Guangzhou University, China  
*Mohammed Atiquzzaman*, University of Oklahoma, USA  
*Zheng Yan*, Aalto University, Finland/Xidian University, China  
*Kim-Kwang Raymond Choo*, University of Texas at San Antonio, USA

December 2017
Keynote 1: Next Generation Grid: Integrating Parallel and Distributed Computing Runtimes from Cloud to Edge Applications

Speaker: Prof. Geoffrey Fox, Indiana University, USA, Fellow of APS (Physics) and Fellow of ACM (Computing)
Chair: Prof. Minyi Guo, Shanghai Jiao Tong University, China
08:50-9:40, December 13, 2017 (Wednesday)
International Conference Hall (Room 1)

About the Keynote Speaker

Prof. Geoffrey Fox received a Ph.D. in Theoretical Physics from Cambridge University where he was Senior Wrangler. He is now a distinguished professor of Engineering, Computing, and Physics at Indiana University where he is director of the Digital Science Center, and both Department Chair and Associate Dean for Intelligent Systems Engineering at the School of Informatics and Computing. He previously held positions at Caltech, Syracuse University, and Florida State University after being a postdoc at the Institute for Advanced Study at Princeton, Lawrence Berkeley Laboratory, and Peterhouse College Cambridge. He has supervised the Ph.D. of 70 students and published around 1200 papers (over 400 with at least 10 citations) in physics and computing with an h-index of 74 and over 30000 citations.

He is a Fellow of APS (Physics) and ACM (Computing) and works on the interdisciplinary interface between computing and applications. He currently researches the application of computer science from infrastructure to analytics in Biology, Pathology, Sensor Clouds, Earthquake and Ice-sheet Science, Image processing, Deep Learning, Network Science, Financial Systems and Particle Physics. The infrastructure work is built around Software Defined Systems on Clouds and Clusters. The analytics focuses on scalable parallelism. He is expert on streaming data and robot-cloud interactions. He is involved in several projects to enhance the capabilities of Minority Serving Institutions. He has experience in online education and its use in MOOCs for areas like Data and Computational Science.

Summary:

We look again at Big Data Programming environments such as Hadoop, Spark, Flink, Heron, Pregel; HPC concepts such as MPI and Asynchronous Many-Task runtimes and Cloud/Grid/Edge ideas such as event-driven computing, serverless computing, workflow and Services. These cross many research communities including distributed systems, databases, cyberphysical systems and parallel computing which sometimes have inconsistent worldviews. There are many common capabilities across these systems which are often implemented differently in each packaged environment. For example, communication can be bulk synchronous processing or data flow; scheduling can be dynamic or static; state and fault-tolerance can have different models; execution and data can be streaming or batch, distributed or local. We suggest that one can usefully build a toolkit (called Twister2 by us) that supports these different choices and allows fruitful customization for each application area. We illustrate the design of Twister2 by several point studies.
Keynote 2: Joint Scheduling of Overlapping Phases in the MapReduce Framework

Speaker: Prof. Jie Wu, Temple University, USA, IEEE Fellow
Chair: Prof. Laurence T. Yang, St. Francis Xavier University, Canada
10:00-10:50, December 13, 2017 (Wednesday)
International Conference Hall (Room 1)

About the Keynote Speaker

Prof. Jie Wu is Director of the Center for Networked Computing and Laura H. Carnell professor at Temple University. He also serves as Director of International Affairs for the College of Science and Technology. He served as Chair of the Department of Computer and Information Sciences from the summer of 2009 to the summer of 2016 and as Associate Vice Provost for International Affairs from the fall of 2015 to the summer of 2017. Prior to joining Temple University, he was a program director at the National Science Foundation and was a distinguished professor at Florida Atlantic University. His current research interests include mobile computing and wireless networks, routing protocols, cloud and green computing, network trust and security, and social network applications. Dr. Wu regularly publishes in scholarly journals, conference proceedings, and books. He serves on several editorial boards, including IEEE Transactions on Service Computing and the Journal of Parallel and Distributed Computing. Dr. Wu was general co-chair for IEEE MASS 2006, IEEE IPDPS 2008, IEEE ICDCS 2013, ACM MobiHoc 2014, ICPP 2016, and IEEE CNS 2016, as well as program co-chair for IEEE INFOCOM 2011 and CCF CNCC 2013. He was an IEEE Computer Society distinguished visitor, an ACM distinguished speaker, and the chair of the IEEE Technical Committee on Distributed Processing (TCDP). Dr. Wu is a CCF distinguished speaker and a fellow of the IEEE. He is the recipient of the 2011 China Computer Federation (CCF) Overseas Outstanding Achievement Award.

Summary:

MapReduce includes three phases: map, shuffle, and reduce. Since the map phase is CPU-intensive and the shuffle phase is I/O-intensive, both can be conducted in parallel. This talk focuses on joint scheduling optimization of overlapping map and shuffle phases to minimize average job completion time. Challenges arise due to the dependency relationship between the map and shuffle phases since the shuffle phase relies on data emitted by the map phase. Our key observation is that the optimal schedule is trackable in two special cases. The first case is where the job set is pairable, i.e., the jobs are paired to avoid under-utilization of the I/O. The optimal schedule executes pairs of jobs depending on their size from smallest to largest. The second special case is where the job set is unilateral dominant [KNW1], i.e., all jobs are simultaneously map-heavy, balanced, or shuffle-heavy. The optimal schedule executes the unilaterally dependent jobs in size order from smallest to largest. When the job set is a union of a pairable job set and a unilateral dominant [KNW2] job set, we propose an approximation schedule with a bound of 2 that resembles a mixture of the two optimal schedules above. Consequently, an arbitrary job set can be divided into two subsets to approximate the two special cases. Real data-driven experiments validate the efficiency and effectiveness of our algorithms.
Keynote 3: Privacy-Preserving Access Control and Computations of Encrypted Data in the Cloud

Speaker: Prof. Robert Deng, Singapore Management University, Singapore, IEEE Fellow
Chair: Prof. Xiaojiang Du, Temple University, USA
10:50-11:40, December 13, 2017 (Wednesday)
International Conference Hall (Room 1)

About the Keynote Speaker

Prof. Robert Deng is AXA Chair Professor of Cybersecurity, Director of the Secure Mobile Centre, and Dean of Postgraduate Research Programmes, Singapore Management University (SMU). His research interests are in the areas of data security and privacy, cloud security and Internet of Things security. He received the Outstanding University Researcher Award from National University of Singapore, Lee Kuan Yew Fellowship for Research Excellence from SMU, and Asia-Pacific Information Security Leadership Achievements Community Service Star from International Information Systems Security Certification Consortium. He has 26 patents and has published more than 300 papers on cybersecurity. His professional contributions include an extensive list of positions in several industry and public services advisory boards, editorial boards and conference committees. These include the editorial boards of IEEE Security & Privacy Magazine, IEEE Transactions on Dependable and Secure Computing, IEEE Transactions on Information Forensics and Security, Journal of Computer Science and Technology, and Steering Committee Chair of the ACM Asia Conference on Computer and Communications Security. He is an IEEE Fellow.

Summary:

A promising application of cloud computing is IoT (or Cloud of Things) where computationally limited devices, such as body sensors used to monitor patient’s heart rates, blood pressures and glucose levels send data to the cloud for processing. There are known security and privacy concerns relating to the storage and processing of data in the cloud. To address these concerns, in this talk, we present a framework and techniques for efficient sharing and computations of encrypted data in the cloud. We also discuss some applications of the framework and the techniques.
Keynote 4: Quantum-Search Algorithms, Quantum Codes and All That...

Speaker: Prof. Lajos Hanzo, University of Southampton, UK, Fellow of the Royal Academy of Engineering of UK, Fellow of IEEE
Chair: Prof. Geyong Min, University of Exeter, UK
08:30-9:20, December 14, 2017 (Thursday)
Multi Function Hall (Room 2)

About the Keynote Speaker

Prof. Lajos Hanzo, FREng, FIEEE, FIET, RS Wolfson Fellow, received his 5-year Master degree in electronics from the Technical University of Budapest in 1976, his doctorate in 1983 and his Doctor of Sciences (DSc) degree in 2004. During his career in telecommunications he has held various research and academic posts in Hungary, Germany and the UK. Since 1986 he has been with the School of ECS, University of Southampton, UK, where holds the Chair in Telecommunications. His current research interests are featured at (http://www-mobile.ecs.soton.ac.uk).

Summary:

Since Marconi demonstrated the feasibility of radio transmissions, researchers have endeavored to realize the dream of flawless wireless multimedia telecommunications, creating the impression of tele-presence - at the touch of a dialling key...

However, making this dream a reality required 'quantum' leaps both in digital signal processing and in its nano-electronics based implementation, facilitated by advances in science both in Edinburgh and farther afield. This process has been fueled by a huge consumer market. Moore's laws has indeed prevailed since he outlined his empirical rule-of-thumb in 1965, but based on this the scale of integration is set to depart from classical physics obeying the well-understood rules revealed by science and enter into a new world, where the traveler has to obey the sometimes strange new rules of the quantum-world. The quest for quantum-domain communication solutions was inspired by Feynman's revolutionary idea in 1985: particles such as photons or electrons might be relied upon for encoding, processing and delivering information. During the last three decades researchers and engineers often considered a pair of open problems. Firstly, classic systems relying on the efficient processing capability of quantum-search algorithms were considered in the area of quantum-assisted communications, while the branch of quantum-domain communications relies on quantum channels. The latter may simply be constituted by the deleterious effects of the environment perturbing the quantum-state particles. In wireless communications we often encounter large-scale search problems, some of which may be efficiently solved with the aid of bio-inspired random guided algorithms or quantum-search techniques. For example, Grover's algorithm is capable of searching through an N-element data-base with the aid of √N cost-function evaluations. Commencing with a brief historical perspective, a variety of efficient quantum-assisted solutions will be exemplified.
Keynote 5: From Personal Big Data to Personal Cyber Buddies in Hyperworld

Speaker: Prof. Jianhua Ma, Hosei University, Japan
Chair: Prof. Carlos Becker Westphall, Federal University of Santa Catarina, Brazil
09:20-10:10, December 14, 2017 (Thursday)
Multi Function Hall 〈Room 2〉

About the Keynote Speaker

Prof. Jianhua Ma is a professor in the Faculty of Computer and Information Sciences, Hosei University, Tokyo, Japan. He served as the head of Digital Media Department of Hosei University in 2011-2012. His research interests include multimedia, networking, ubiquitous/pervasive computing, social computing, wearable technology, IoT, cyber life and cyber intelligence. Ma is one of pioneers in research on Hyper World and Cyber World (CW) since 1996, and was a co-initiator of the first international symposium on Cyber World in 2002. He first proposed ubiquitous intelligence (UI) towards a smart world (SW), which he envisioned in 2004, and was featured in the European ID People Magazine in 2005. He has conducted several unique CW-related projects including the cyber individual (Cyber-I), which was featured by and highlighted on the front page of IEEE Computing Now in 2011. Ma has published more than 250 papers, co-authored/edited over 15 books and 25 journal special issues, and delivered over 25 keynote speeches at international conferences. He has founded three IEEE Congresses on Cybermatics, Smart World, and Cyber Science and Technology, respectively, as well as IEEE Conferences on Ubiquitous Intelligence and Computing (UIC), Pervasive Intelligence and Computing (PICom), Advanced and Trusted Computing (ATC), Dependable, Autonomic and Secure Computing (DASC), Cyber Physical and Social Computing (CPSCOM), Internet of Things (iThings), and Internet of People (IoP). He is a Chair of IEEE Technical Committee on Cybermatics, and a Chair of IEEE Technical Committee on Smart World.

Summary:

Cyberspace has emerged as an unprecedented digital space in addition to conventional spaces, and further brought about a new global digital environment known as cyberworld. We are undergoing the revolutionary process of cyberization to form the novel cyberworld and reform existing physical, social and mental worlds towards a cyber-enabled hyperworld. Can we successfully adapt to these new worlds to truly benefit from these cyber technologies and live better in the complex and unknown cyber and cyber-integrated new world environments? It appears that human abilities in perception, communication, management, control and cognition will not be sufficient to directly handle so many cyber things and cyber-conjugated physical, social and mental things. This talk presents a novel way to create a group of human-centered or individual-oriented cyber buddies that may help an individual’s activities in the cyber-enabled hyperworld. These personal cyber buddies are expressed as a general notation x-I including Cyber-I, Wear-I, Robo-I, Ambi-I, Web-I, Social-I and Health-I. The main features and functions of these personal cyber buddies are explained, and their future perspectives are discussed.
Keynote 6: Data Mining and Machine Learning for Analysis of Network Traffic

Speaker: Prof. Ljiljana Trajkovic, Simon Fraser University, Canada, IEEE Fellow
Chair: Prof. Li Weigang, University of Brasilia, Brazil
10:30-11:20, December 14, 2017 (Thursday)
Multi Function Hall (Room 2)

About the Keynote Speaker

Prof. Ljiljana Trajkovic received the Dipl. Ing. degree from University of Pristina, Yugoslavia, in 1974, the M.Sc. degrees in electrical engineering and computer engineering from Syracuse University, Syracuse, NY, in 1979 and 1981, respectively, and the Ph.D. degree in electrical engineering from University of California at Los Angeles, in 1986.

She is currently a Professor in the School of Engineering Science at Simon Fraser University, Burnaby, British Columbia, Canada. From 1995 to 1997, she was a National Science Foundation (NSF) Visiting Professor in the Electrical Engineering and Computer Sciences Department, University of California, Berkeley. She was a Research Scientist at Bell Communications Research, Morristown, NJ, from 1990 to 1997, and a Member of the Technical Staff at AT&T Bell Laboratories, Murray Hill, NJ, from 1988 to 1990. Her research interests include high-performance communication networks, control of communication systems, computer-aided circuit analysis and design, and theory of nonlinear circuits and dynamical systems.


Summary:

Collection and analysis of data from deployed networks is essential for understanding modern communication networks. Data mining and statistical analysis of network data are often employed
to determine traffic loads, analyze patterns of users' behavior, and predict future network traffic while various machine learning techniques proved valuable for predicting anomalous traffic behavior. In described case studies, traffic traces collected from various deployed networks and the Internet are used to characterize and model network traffic, analyze Internet topologies, and classify network anomalies.
Keynote 7: Service Placement and Migration in Mobile Edge Clouds

Speaker: Professor Kin K. Leung, Imperial College London, UK, IEEE Fellow
Chair: Prof. Jinjun Chen, Swinburne University of Technology, Australia
11:20-12:10, December 14, 2017 (Thursday)
Multi Function Hall (Room 2)

About the Keynote Speaker

Professor Kin K. Leung received his B.S. degree from the Chinese University of Hong Kong in 1980, and his M.S. and Ph.D. degrees from University of California, Los Angeles, in 1982 and 1985, respectively. He joined AT&T Bell Labs in New Jersey in 1986 and worked at its successor companies, AT&T Labs and Bell Labs of Lucent Technologies, until 2004. Since then, he has been the Tanaka Chair Professor in the Electrical and Electronic Engineering (EEE), and Computing Departments at Imperial College in London. He is the Head of Communications and Signal Processing Group in the EEE Department. His research interests focus on networking, protocols, optimization and modeling of wireless broadband, sensor and ad-hoc networks. He also works on multi-antenna and cross-layer designs for the physical layer of these networks.

He received the Distinguished Member of Technical Staff Award from AT&T Bell Labs (1994), was a co-recipient of the 1997 Lanchester Prize Honorable Mention Award, and was elected as an IEEE Fellow (2001). He received the Royal Society Wolfson Research Merits Award (2004-09), and was elected as member of Academia Europaea (2012). He has published 290 papers and received 45 U.S. patents. His results were applied to AT&T and Lucent products and services, while his work on WiFi technology went through a successful field trial at an airport. In terms of professional activities, he serves as a member (2009-11) and the chairman (2012-15) of the IEEE Fellow Evaluation Committee for Communications Society. He has also served an editor and guest editor for 10 IEEE and ACM journals, and as committee members of many technical conferences.

Summary:

Mobile edge cloud (MEC) is a new cloud computing paradigm, which makes use of small-sized edge clouds to provide real-time services to users. Due to the coexistence of the core (centralized) cloud, users, and one or multiple layers of MECs, an important problem is to decide on which computational entity to place and execute different components of an application. This application (or workload) placement problem is notoriously hard, and therefore, heuristic algorithms without performance guarantees are generally employed.

In this talk, the speaker will first address the application placement problem. The user application and the physical computing system are modeled as an application graph and a physical graph with resource demands or availabilities annotated on them, respectively. It is shown that the
optimal solution or solution with performance bounds can be obtained for specific graph structures.

As the second part of this talk, the speaker will discuss the issues of dynamic service migration in MECs. As users move over time, the MEC components that have been providing service to the users will no longer be able to do so efficiently and service migration to other components is thus required. It is challenging to make these migration decisions in an optimal manner because of the uncertainty in user/MEC mobility as well as possible non-linearity of the migration and transmission costs. The service migration problem can be formulated as the Markov Decision Process (MDP), which captures general cost models and provides a mathematical framework to design the optimal service migration policies. To overcome the computation complexity, the underlying state space is approximated based on the distance between the user and service locations. The effectiveness of the proposed approach is illustrated by simulation using real-world mobility traces of taxis in San Francisco.
Keynote 8: Autonomous and Connected Vehicles: A New Challenge for Smart Cities

Speaker: Prof. Azzedine Boukerche, University of Ottawa, Canada, Fellow of the IEEE, Fellow of The Canadian Academy of Engineering, Fellow of The Engineering Institute of Canada, Fellow of the American Association for the Advancement of Science

Chair: Prof. Hao Wang, Norwegian University of Science & Technology, Norway

08:30-9:20, December 15, 2017 (Friday)
Multi Function Hall (Room 2)

About the Keynote Speaker

Prof. Azzedine Boukerche is a Distinguished University Professor and holds a Senior Canada Research Chair Tier-1 position at the University of Ottawa. He is the Scientific Director of NSERC-DIVA Strategic Research Network and NSERC TRANSIT Research Network, and a Director of PARADISE Research Laboratory at uOttawa. He worked as a Senior Scientist at the Simulation Sciences Division, Metron Corporation located in San Diego. He spent a year at the JPL/NASA-California Institute of Technology where he contributed to a project centered about the specification and verification of the software used to control interplanetary spacecraft operated by JPL/NASA Laboratory. He is a Fellow of IEEE (Computer Science Society), EiC, the Canadian Academy of Engineering and the American Association for the Advancement of Science. He is also a recipient of several international Awards, including Catedra de Excelencia at the University Carlos III of Madrid(UC3M), the IEEE G. Gotlieb Medal Award, the Ontario Premier Researcher Award, and IEEE TCPP, and IEEE ComSoft Technical Achievement Awards.

Summary:

In this presentation, we share results from several major research projects related to the design of "cognitive" cars and smart roads applications through the DIVA Strategic Research Network, the TRANSIT Network and the PARADISE Research Laboratory at the University of Ottawa. First, we will review the main challenges of this work include modeling, simulation and design issues and discuss some results obtained recently. Next, we will talk about LIVE testbed, a convergence of distributed simulation, wireless multimedia and vehicular sensor technologies we are developing at DIVA and PARADISE Research Laboratory for an urban vehicular grid. This testbed will facilitate and enable us to evaluate and design new protocols and applications for future generations of autonomous/connected vehicular and sensor network technologies.
Keynote 9: Towards Dataflow-based Graph Accelerator

Speaker: Prof. Hai Jin, Huazhong University of Science and Technology, China, Cheung Kung Scholars Chair Professor, Fellow of the CCF
Chair: Prof. Kuan-Ching Li, Providence University, Taiwan
09:20-10:10, December 15, 2017 (Friday)
Multi Function Hall 〈Room 2〉

About the Keynote Speaker

Prof. Hai Jin is a Cheung Kung Scholars Chair Professor of computer science and engineering at Huazhong University of Science and Technology (HUST) in China. 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, and the chief scientists of National 973 Basic Research Program Project of Virtualization Technology of Computing System, and Cloud Security. Jin is a Fellow of CCF, senior member of the IEEE and a member of the ACM. He has co-authored 22 books and published over 800 research papers. His research interests include computer architecture, virtualization technology, cluster computing and cloud computing, peer-to-peer computing, network storage, and network security.

Summary:

Existing graph processing frameworks greatly improve the performance of memory subsystem, but they are still subject to the underlying modern processor, resulting in the potential inefficiencies for graph processing in the sense of low instruction level parallelism and high branch misprediction. These inefficiencies, in accordance with our comprehensive micro-architectural study, mainly arise out of a wealth of dependencies, serial semantic of instruction streams, and complex conditional instructions in graph processing. In this talk, we propose that a fundamental shift of approach is necessary to break through the inefficiencies of the underlying processor via the dataflow paradigm. It is verified that the idea of applying dataflow approach into graph processing is extremely appealing for the following two reasons. First, as the execution and retirement of instructions only depend on the availability of input data in dataflow model, a high degree of parallelism can be therefore provided to relax the heavy dependency and serial semantic. Second, dataflow is guaranteed to make it possible to reduce the costs of branch misprediction by simultaneously executing all branches of a conditional instruction. Consequently, we make the preliminary attempt to develop the dataflow insight into a specialized graph accelerator. We believe that our work would open a wide range of opportunities to improve the performance of computation and memory access for large-scale graph processing.
Keynote 10: Security Challenges in Software Defined Networks  
Policy based Security Architecture for Software Defined Networks

Speaker: Prof. Vijay Varadharajan, The University of Newcastle, Australia (FIEE, FBCS, FACS, FIEAust, FIMA)  
Chair: Prof. Zheng Yan, Aalto University, Finland  
10:20-11:20, December 15, 2017 (Friday)  
Multi Function Hall  (Room 2)

About the Keynote Speaker

Prof. Vijay Varadharajan is the Global Innovation Chair Professor in Cyber Security at the University of Newcastle. He is also the Director of Advanced Cyber Security Engineering Research Centre (ACSRC) at the University of Newcastle.

Previously he was the Microsoft Chair Professor in Innovation in Computing in Australia at Macquarie University. Before this he was Dean of School of Computing and IT at University of Western Sydney (UWS). Before UWS, Vijay headed Security Research Worldwide for Hewlett-Packard Labs (US/UK) based at European Headquarters at HP Labs Bristol. He led and managed several research projects in UK, US, Germany, France and Italy and under his leadership several security research technologies were transferred into commercially successful HP products generating billions of dollars in revenue. He also headed the Technical Security Strategy Initiative at HP under the Senior Vice President of HP. Before HP, he was Research Manager of Data Security Lab at British Telecom Research Labs. U.K., and was a Lecturer at Reading University and Research Fellow at Plymouth/Exeter Universities.

Vijay was an inaugural Board Member of International Advisors of TCPA, USA, (originally formed by HP, Microsoft, Intel, Sun and Compaq). From 2002, he has been on the Trustworthy Computing Advisory Board at Microsoft, USA until 2015. From 2011 till 2015, he was on the International Security Advisory Board SAP (Germany) and Research and Technology Advisory Board SAP (USA). Vijay was also a member of the Australian Government’s Peak Security Advisory Group for the Minister of Broadband, Communications and Digital Economy, Australia (2008-2013) and a member of the expert ICT Advisory Panel at NSW State Government, Australia (2014-2015). He is a member of the Australian Academy of Science National Committee on Information and Communication Systems (2014 onwards) and a member of the Australian Government Research Council College of Experts in Engineering, Mathematics and Informatics (2011-2013). He has been the Technical Board Director of Computer Science at Australian Computer Society (1999-2006), and Chair of the National Taskforce on E-Security.


Vijay has had several visiting positions at different institutions over the years including Senior Research Scientist at Microsoft Research Cambridge UK and Redmond, Visiting Professor at the Institute of Mathematical Sciences at National University of Singapore, Invited Professor at French National Research Labs (INRIA), Visiting Professor at eScience Institute, Edinburgh University, Invited Professor at the Indian Inst. of Technology Roorkee and Visiting Professor at the Indian Institute of Science in conjunction with a Senior Fellowship from Australian Academy of Science and Indian National Academies, Fellow at British Telecom Research Labs., UK, and a Visiting Professor at the Chinese Academy of Sciences. He also holds a Mercator Fellowship with the German National Science Foundation and Technical University of Darmstadt, Germany.

Vijay is a Fellow of the British Computer Society (FBCS), a Fellow of the IEE (FIEE), a Fellow of the Institute of Mathematics, UK (FIMA), a Fellow of the Australian Institute of Engineers (FIEAust) and a Fellow of the Australian Computer Society (FACS).

**Summary:**

As networks expand in size and complexity, they pose greater administrative and management challenges. Increasingly, current networks are highly heterogeneous with many different devices, from small sensors to network routers to many different clients and servers and peripherals. Furthermore, these devices use different network technologies such as fixed, wireless and mobile networks. In such a complex heterogeneous environment, management of network devices, of mobility of users and devices, the dynamic variation in networks (due to failure of devices and network links), as well as the dramatic increase in security attacks are posing serious challenges.

Software Defined Networks (SDN) is rapidly emerging as a disruptive technology, poised to change communication networks much the same way cloud computing is changing the “compute” world. It is altering the texture of modern networking, moving away from the current control protocols dominant in the TCP/IP Internet stack, towards something more flexible and programmable. It is potentially changing the way networking will be conducted in the future, by enabling devices that are open and controllable by external open software, unlike today’s proprietary network equipment that has protocols embedded into them by the vendors.

In this sense, SDN opens up new avenues of research to realize network capabilities that were impossible or cumbersome before, thereby helping to make future networks more manageable and practicable. Although SDN offers several advantages to deal with complexities in current networks, a critical issue in SDN at present is that of security. Securing networks is becoming more challenging to businesses, especially with bring your own devices (BYOD), increased cloud adoption and the Internet of Things (IoT).

In this talk, we will start by looking at the security challenges that arise in Software Defined Networks (SDNs). We will discuss the various security threats in SDNs, and highlight the characteristics that are unique to SDN which make it suitable to counteract these threats and attacks. Then we will propose a policy based security architecture for a distributed SDN environment. We will discuss the specification of security policies in both intra and inter domain environments, and illustrate them with example scenarios. Our architecture can be used in either reactive or in a proactive mode. In the reactive mode, the first packet of the flow received by switch will trigger the insertion of flow entries in switches in the network. In the proactive approach, the flow tables in the switches are pre-configured by the Controller, thereby reducing the flow
setup times. Then we will describe the implementation of the SDN security architecture and discuss some results. Finally we will conclude the talk by outlining some further work extending the proposed SDN security architecture with IoT devices.
Keynote 11: Tracking Ubiquitous Radio Signal Activities: Sensing and Security Application Perspectives

Speaker: Md Zakirul Alam Bhuiyan, PhD, SMIEEE Assistant Professor
Department of Computer and Information Sciences Fordham University, New York, USA
Chair: Prof. Richard Hill, University of Huddersfield, UK
11:20-12:10, December 15, 2017 (Friday)
Multi Function Hall (Room 2)

About the Keynote Speaker

Md Zakirul Alam Bhuiyan is currently an assistant professor of the Department of Computer and Information Sciences at the Fordham University, NY, USA. Earlier, he worked as an assistant professor at the Temple University. His research focuses on dependable cyber physical systems, WSN applications, big data, cloud computing, and cyber security. He has served as a lead guest editor and associates editor for IEEE TBD, ACM TCPS, INS, FGCS, IEEE IoT journal, Cluster Computing, TJCA, and so on. He has also served as a general chair, program chair, workshop chair, publicity chair, TPC member, and reviewer of international journals/conferences. Currently, he is a general chair for IEEE DASC 2018 (Greece), DependSys 2018 (China), and a program chair for IEEE I-SPAN 2018 (China) and IEEE SmartWorld 2018 (China), and a TPC member of IEEE INFOCOM 2018 (USA). He has received the IEEE TCSC Award for Excellence in Scalable Computing for Early Career Researchers (2016-2017) and the IEEE Outstanding Leadership Award (2016) and Service Award (2017). He is a senior member of IEEE and a member of ACM.

Summary:

Nowadays, wireless signals are ubiquitous and are around of us; some pass through us and some reflect off us. Tracking these signals gives the limit of ISM band radiometric detection to a new level, including motion detection, gesture recognition, localization, and even classification. This research focuses on answers to questions, without interrupting the data communication, how can we leverage wireless radio signals passively for various sensing applications. For example, just raise your hand, finger-swipe the air, your lights will power down; swipe your hand left-to-right or right-to-left, your TV channel will be changed; or just tap your mobile screen to see your heartbeat? All of these, we can achieve with our wireless devices (namely, Wi-Fi, wireless sensor), but without the need of any sensing or additional transmitting unit. We will highlight these signals can extend our senses, enabling us to see moving objects through walls, behind the closed door, and in the dark where even cameras don’t work well and security personnel cannot get in. We will discuss a set of emerging wireless sensing applications that can change our current thoughts on sensing and see how such signals activities can be utilized to penetrate our security. Finally, we cover some basic methods, techniques, challenges how signals are used in such applications.
Keynote: Advances in Securely Outsourcing Computation

Speaker: Prof. Xiaofeng Chen, Xidian University, School of Cyber Engineering
Chair: Dr. Md Zakirul Alam Bhuiyan, Fordham University, New York, USA
13:30-14:20, December 13, 2017 (Wednesday)
Hanjiang Hall (Room 3)

About the Keynote Speaker

Prof. Xiaofeng Chen is currently a vice dean at the School of Cyber Engineering, Xidian University. He is a young scholar of the Yangtze River of Ministry of Education, China. His research interests include cryptography and cloud computing security. He has published more than 100 academic research papers. He serves as the Associate Editor of some famous international journals such as IEEE TPDS and SCN, and the chairs of some international conferences such as AsiaCCS 2016 and NSS 2014. In addition, he won the innovation award of Chinese Association for Cryptologic Research and Youth Science and Technology Award of Shanxi Province in 2016, respectively.

Summary:

Cloud computing, the new term for the long dreamed vision of computing as a utility, offers plenty of benefits for real-world applications. The general construction for securely outsourcing arbitrary functions has been proposed based on the primitives of garbled circuit and full homomorphic encryption. However, this general solution is inefficient for most real applications. In this talk, we introduce the advances of securely outsourcing computations. More specifically, we focus on the state-of-the-art techniques of secure outsourcing computations for different specific functions based on different design tricks.
**2017 IEEE ISPA/IEEE IUCC/SpaCCS Joint Plenary Panel Session:**

**Date:** December 14, 2017  **Time:**  4:00 p.m. – 6:00 p.m.

**Location:** Hanjiang Hall (Room 3).

**Title:** Achieving Trustworthy Cyber Systems: Challenges and Strategies

**Abstract:**
With the rapid progress of information technology and its extensive applications in our daily lives, the quality of cyber systems is becoming more critically important than ever. The increasing pervasiveness and intelligence of various smart devices, various increasingly powerful computing systems and networks, as well as the availability of big data and various machine learning techniques have been used to constitute the cyber systems and infrastructures, which we have to heavily rely upon now and more in the future for various services. How to achieve trustworthy cyber systems is a major objective for researchers and practitioners.

The panelists in this panel have diverse background with outstanding research accomplishments are invited to present their opinions on the challenges and strategies to achieve the objective of having trustworthy cyber systems. The session will then be open for discussions from the floor.

**Chair:** Stephen S. Yau, Arizona State University, USA

**Panelists:**
- M Jamal Deen, McMaster University, Canada
- Geyong Min, University of Exeter, UK
- Zheng Yan, Aalto University, Finland/Xidian University, China
- Hao Wang, Norwegian University of Science & Technology, Norway
- Md Zakirul Alam Bhuiyan, Fordham University, USA

**Biographies:**

*Stephen S. Yau* is Professor of Computer Science and Engineering at Arizona State University (ASU), Tempe, Arizona, USA. He served as the chair of the Department of Computer Science and Engineering at ASU in 1994-2001. Previously, he was on the faculties of Northwestern University, Evanston, Illinois, and University of Florida, Gainesville. He served as the president of the IEEE Computer Society and was on the IEEE Board of Directors and the Board of Directors of Computing Research Association. He served as the editor-in-chief of IEEE COMPUTER magazine. He organized many major conferences, including the 1989 World Computer Congress sponsored by the International Federation for Information Processing, and is currently the general chair of 2018 IEEE World Congress on Services sponsored by IEEE Computer Society. His current research includes services and cloud computing systems, trustworthy computing, software engineering, and internet of things. He received many awards, including the Richard E. Merwin Award of IEEE Computer Society, and the Outstanding Contributions Award of the Chinese Computer Federation. He is a Fellow of the IEEE and the American Association for the Advancement of Science.
M Jamal Deen is currently Distinguished University Professor and Senior Canada Research Chair in Information Technology, McMaster University, Canada. His current research interests are nanoelectronics, optoelectronics, nanotechnology and their emerging applications to health and environmental sciences. He has more than 560 peer-reviewed articles, two textbooks on “Silicon Photonics-Fundamentals and Devices” and “Fiber Optic Communications: Fundamentals and Applications”, 12 patents, six of which have been extensively used in industry. He received many awards and honors, include the Eadie Medal from the Royal Society of Canada, McNaughton Gold Medal (highest award for engineers), the Fessenden Medal and the Ham Education Medal, all from IEEE Canada. In addition, he was awarded four honorary doctorate degrees and a Fellow of ten national academies and professional societies including the Royal Society of Canada, CAE, IEEE, APS (American Physical Society) and ECS (Electrochemical Society). Currently, he is serving as the President of the Academy of Science, The Royal Society of Canada.

Geyong Min is a Chair in High Performance Computing and Networking and the academic lead of Computer Science in the College of Engineering, Mathematics and Physical Sciences at the University of Exeter, UK. His recent research has been supported by European FP6/FP7, UK EPSRC, Royal Academy of Engineering, Royal Society, and industrial partners including Motorola, IBM, Huawei Technologies, INMARSAT, and InforSense Ltd. Prof. Min is the Co-ordinator of two recently funded EU FP7/Horizon-2020 projects. As a key team member and participant, he has made significant contributions to several EU funded research projects on Future Generation Internet. He has published more than 200 research papers in leading international journals including IEEE/ACM Transactions on Networking, IEEE Journal on Selected Areas in Communications, IEEE Transactions on Communications, IEEE Transactions on Wireless Communications, IEEE Transactions on Multimedia, IEEE Transactions on Computers, IEEE Transactions on Parallel and Distributed Systems, and at reputable international conferences, such as SIGCOMM-IMC, INFOCOM, ICDCS, IPDPS, GLOBECOM, and ICC. He is an Associated Editor of several international journals, e.g., IEEE Transactions on Computers. He served as the General Chair/Program Chair of a number of international conferences in the area of Information and Communications Technologies.

Zheng Yan received the BEng degree in electrical engineering and the MEng degree in computer science and engineering from the Xi’an Jiaotong University, Xi’an, China in 1994 and 1997, respectively, the second MEng degree in information security from the National University of Singapore, Singapore in 2000, and the licentiate of science and the doctor of science in technology in electrical engineering from Helsinki University of Technology, Helsinki, Finland in 2005 and 2007. She is currently a full professor at the Xidian University, China and a visiting professor and an academy research fellow at the Aalto University, Finland. Before
joining the academia, she worked as a senior researcher at the Nokia Research Center, Helsinki, Finland for over 10 years (2000-2011). Her research interests are in trust, security and privacy, as well as data mining. She has published more than 170 peer-reviewed papers and solely authored two books about trust management. She is an inventor of 60+ patents. Prof. Yan is currently serving as an associate editor of the IEEE Internet of Things Journal, IEEE Access, Information Sciences, Information Fusion, JNCA, Soft Computing, SCN, etc. She also served as an organization committee member for over 40 international conferences and successfully organized IEEE CIT2014, IEEE TrustCom/ISPA/BigDataSE-2015, EAI MobiMedia2016 and ICA3PP/NSS/IEEE CIT-2017. She is a senior member of the IEEE. Recently, she achieved the IEEE ComSoc TCBD best journal paper award (2017).

**Hao Wang** is an associate professor and the head of Big Data Lab at the Department of ICT and Natural Sciences in Norwegian University of Science & Technology, Norway. He has worked as a researcher in IBM Canada, McMaster, and St. Francis Xavier University before he moved to Norway. He received a Ph.D. degree in 2006 and a B.Eng. degree in 2000, both in computer science. His research interests include big data analytics and industrial internet of things, high performance computing, safety-critical systems, and communication security. He has published 60+ papers in international journals and conferences such as IEEE TVT, GlobalCom 2016, Sensors, IEEE Design & Test, and Computer Communications. He served as a TPC co-chair for IEEE DataCom 2015, IEEE CIT 2017, ES 2017 and reviewers for journals such as IEEE TKDE, TBD, TETC, T-IFS, ACM TOMM. He is a member of IEEE IES Technical Committee on Industrial Informatics. His webpage is www.haowang.no.

**Md Zakirul Alam Bhuiyan** is currently an assistant professor of the Department of Computer and Information Sciences at the Fordham University, NY, USA. Earlier, he worked as an assistant professor at the Temple University. His research focuses on dependable cyber physical systems, WSN applications, big data, cloud computing, and cyber security. He has served as a lead guest editor and associates editor for IEEE TBD, ACM TCPS, INS, FGCS, IEEE IoT journal, Cluster Computing, TJCA, and so on. He has also served as a general chair, program chair, workshop chair, publicity chair, TPC member, and reviewer of international journals/conferences. Currently, he is a general chair for IEEE DASC 2018 (Greece), DependSys 2018 (China), and a program chair for IEEE I-SPAN 2018 (China) and IEEE SmartWorld 2018 (China), and a TPC member of IEEE INFOCOM 2018 (USA). He has received the IEEE TCSC Award for Excellence in Scalable Computing for Early Career Researchers (2016-2017) and the IEEE Outstanding Leadership Award (2016) and Service Award (2017). He is a senior member of IEEE and a member of ACM.
A. SESSIONS AND PAPERS IN IEEE ISPA 2017
The 15th International Symposium on Parallel and Distributed Processing with Applications (IEEE ISPA 2017)

Track 1: Systems and Architectures

Session ISPA T1-A: 13:30-15:30, December 13 (Wednesday), Room 4
Chair: Yu-An Chen, University of Southern California, USA
Toward Complex Search for Encrypted Mobile Cloud Data via Index Blind Storage
Yupeng Hu, Wenjia Li, Mengyi Ma, Na Cao, Yonghe Liu, and Zheng Qin
Cooperative game approach for energy-aware load balancing in clouds
Bo Yang, Zhiyong Li, and Shilong Jiang
A Lightweight Privacy Aware Friend Locator in Mobile Social Networks
Tao Peng, Qin Liu, and Guojun Wang
A Routing Scheme for Software-Defined Satellite Network
Linlin Zhang, Xingwei Wang, Min Huang, and Shuang Xu
Target Coverage-Aware Clustering for Directional Sensor Networks
Selina Sharmin, Fernaz Narin Nur, Md. Abdur Razzaque, and Md. Mustafizur Rahman
Quality-aware Directional MAC Protocol for Multi-channel Wireless Sensor Networks
Fernaz Narin Nur, Selina Sharmin, Md. Abdur Razzaque, and Md. Shariful Islam

Session ISPA T1-B: 15:50-18:20, December 13 (Wednesday), Room 4
Chair: Wenjun Jiang, Hunan University, China
An Efficient Scheduling Algorithm for Energy Consumption Constrained Parallel Applications on Heterogeneous Distributed Systems
Jinlin Song, Guoqi Xie, Renfa Li, and Xiaoming Chen
Kai Lei, Mingye Bao, Yi Wang, and Dong Lin
An Efficient Hardware Prefetcher Exploiting the Prefetch Potential of Long-Stride Access Pattern on Virtual Address
Teng Tian, Tianqi Wang, and Xi Jin
Persisting Memcached with VM Memory Snapshot
Dingding Li, Xiaojia Tian, Sihua Huang, Hai Liu, Yong Tang, and Deze Zeng
Online Algorithm for Secure Task Offloading in dynamic networks
Yuchong Luo, Jigang Wu, and Kenli Li
An Adaptive Priority-Based Heuristic Approach for Scheduling DAG Applications with Uncertainties
Wei Zheng, Xinbo Zhang, Lu Tang, Dongzhan Zhang, and Jinjun Chen
Optimization of Virtual Resources Provisioning for Cloud Applications to cope with Traffic Burst
Lei Yang, Ying Feng, and Kenli Li
Energy efficient Cache Management for NVM-based IoT Systems (POSTER)
Yuanchao Xu, and Zeyi Hou

Session ISPA T1-C: 13:30-15:30, December 14 (Thursday), Room 4
Chair: Hen Li, Central South University, China
An Immune-based Optimization Algorithm of Multi-tenant Resource Allocation for Geo-distributed Data Centers
Yazhen Song, Jun Peng, Weirong Liu, Xiaoyong Zhang, Xin Gu, and Wentao Yu
Packet Classification using Community Detection
Guo Li, Dafang Zhang, and Yanbiao Li
CSSP: The Consortium Blockchain Model for Improving the Trustworthiness of Network Software Services
Lei Zhou, and Guojun Wang
QoS-Oriented Capacity Provisioning in Storage Clusters by modeling workload patterns
Cheng Hu, and Yahui Deng
On the vulnerabilities of landmark-based data location approaches: threats, solutions, and challenges
Malik Irain, Jacques Jorda, and Zoubir Mammeri
BINARY: A Bandwidth Variation Pattern-Aware Rate Adaptation for HTTP Adaptive Streaming over 4G Cellular Network
Haipeng Du, Qinghua Zheng, Weizhan Zhang, and Xiang Gao

Session ISPA T1-D: 15:50-18:20, December 14 (Thursday), Room 4
Chair: Yang Xu, Central South University, China
Laius: An 8-bit Fixed-point CNN Hardware Inference Engine
Zhisheng Li, Lei Wang, Shasha Guo, Yu Deng, Qiang Dou, Haifang Zhou, and Wenyuan Lu
A Channel-Aware Expected Energy Consumption Minimization Strategy in Wireless Networks
Nao Wang, Guocai Wang, Tianxiao Xie, and Fangsu Wang
A Routing Strategy with Energy Optimization Based on Community in Mobile Social Networks
Gaocai Wang, Nao Wang and Ying Peng
QoS Promotion for Energy-Efficient Datacenters by Regulating Overloaded Workloads
Cheng Hu, and Yuanhui Deng
A Rate-based Multipath-aware Congestion Control Mechanism in Named Data Networking
Yongbin Liu, Junmao Li, Shangru Zhong, and Kai Lei
Detecting Influential Nodes Incrementally and Evolutionarily in Online Social Networks
Jingjing Wang, Wenjun Jiang, Kenli Li, and Keqin Li
A Privacy-Aware Conceptual Framework for Coordination
Haroon Elahi, Guojun Wang, and Wei Zhang
Rio: Fast B+-Tree based on Remote Accessible Non-Volatile Memory (POSTER)
Songping Yu, Mingzhu Deng, and Yuxuan Xing

Session ISPA T1-E: 13:30-15:30, December 13 (Wednesday), Room 5
Chair: Scott A. King, Texas A&M University, USA
MCS-B: An Energy Efficient Storage System for Astronomical Observation Data Based on Logical Block Replacement Strategy
Chao Sun, Zichao Yuan, Ce Yu, Jian Xiao, and Jizhou Sun
Power Consumption Optimization for Deadline-Constrained Workflows in Cloud Data Center
Chi Zhang, Yuxin Wang, Zhen Feng, and He Guo
A Quantified Forwarding Strategy in NDN by Integrating Ant Colony Optimization into MADM
Ye Zhang, Jiawei Wang, Lirui Gong, Jie Yuan, and Kai Lei
Electro: Toward QoS-Aware Power Management for Latency-Critical Applications
Yanchao Lu, Quan Chen, Yao Shen, and Minyi Guo
An Approach of Spatial Usage Optimization for NVM-based Storage System
Zheng Zhang, Dan Feng, Zhipeng Tan, Jianxi Chen, Wei Zhou, Jianquan Zhang, and Laurence T Yang
Fast Communication-Aware Virtual Machine Dynamic Consolidation for Cloud Data Center
Guangyi Cao, Changshu Zhang, and Wei Liu

Session ISPA T1-F: 15:50-18:20, December 13 (Wednesday), Room 5
Chair: Tao Peng, Guangzhou University, China
Energy Optimization for Task Offloading Based on Auction Mechanism in Ad Hoc Mobile Cloud
Lan Li, Jun Peng, Weirong Liu, Fu Jiang, and Shuo Li
EFC-Dedup: Efficient Erasure-Coded Deduplicated Backup Storage Systems
Wenxiang Chen, Yuchong Hu, Siyang Yin, and Wen Xia
Performance Analysis of Full-Duplex D2D Communications in Multi-tier Heterogeneous Wireless Networks
Shaoqi Xia, Bing Chen, Kun Zhu, Xiangping Zhai, and Shimin Gong
Optimal Cache Management and Routing for Secure Content Delivery in Information-centric Networks with Network Coding
Weixing Chen, Yunpeng Zhao, Xiaomin Wang, and Yangin Zhu
OTR: A Fine-grained Dynamic Power Scaling Pipeline Based On Trace
Sijiang Fan, and Li Shen
An Adjustable Model in Data Collection Scenario for WSN
Dongchao Ma, Cancan Zhang, Xingguo Sun, and Li Ma
EC: Cloud Capacity Allocation for Low Delay Computing on Mobile Devices
Can Wang, Sheng Zhang, Jihyeon Zhang, Zhuchong Qian, and Songlu Lu
A Workload-Specific Memory Capacity Configuration Approach for In-Memory Data Analytic Platforms (POSTER)
Yi Liang, Shilu Chang, and Chao Su

Session ISPA T1-G: 13:30-15:30, December 14 (Thursday), Room 5
Chair: Hao Wang, Norwegian University of Science and Technology, Norway
EGS: An Effective Global I/O Scheduler to Improve the Load Balancing of SSD-based RAID-5 Arrays
Yanjun Lu, Chentao Wu, and Jie Li
An Efficient Framework for Target Search with Cooperative UAVs in a FANET
Xianfeng Li, and Jie Chen
ISpot: Achieving Predictable Performance for Big Data Analytics with Cloud Transient Servers
Fei Xu, Huan Jiang, Haoyue Zheng, and Wujie Shao
Further Exploit the Potential of I/O Forwarding by Employing File Stripping
Jie Yu, Guangming Liu, Wenhui Dong, and Xiaoyong Li
HOTIS: A Hot Data Identification Scheme to Optimize Garbage Collection of SSDs
Jingqi Gu, Chentao Wu, and Jie Li
Pattern-Aware Reliable Virtual Network Function Chain Deployment
Xin Zhang, Zhuchong Qian, Sheng Zhang, and Sanglu Lu

Session ISPA T1-H: 15:50-18:20, December 14 (Thursday), Room 5
Chair: Mingdong Tang, Guangdong University of Foreign Studies, China
LBFM: Multi-dimensional Membership Index for Block-level Data Skipping
Yong Wang, Xiaochun Yun, Yongshuang Wu, Shupeng Wang, and Wang Xi
HDSVM: A High Efficiency Distributed SVM Framework over Data Stream
Yan Hou, Yijie Wang, Xingkong Ma, and Li Cheng
Multi-path Routing for Energy Efficient Mobile Offloading in Software-Defined Networks
Haixiang Hou, Hai Jin, Xiaofei Liao, and Deze Zeng
A New Architecture for Anonymous Use of Services in Distributed Computing Networks
Yuxiang Ma, Yulei Wu, Jingguo Ge, and Jun Li
Deployment Mechanism Design for Cost-Effective Data Uploading in Delay-Tolerant Crowdsensing
Chao Song, Jiqiang Gu, and Ming Liu
An Efficient Racetrack Memory-Based Processing-In-Memory Architecture for Convolutional Neural Networks
Bicheng Liu, Shouzhen Gu, Mingsong Chen, Wang Kang, Jingtong Hu, Qingfeng Zhuo, and Edwin H.-M. Sha
A Joint Optimization of Spectrum Sensing and Energy Harvesting for Cognitive Radio Networks
Xi Cheng, Xiaojiao Jiang, Yuqun Zhang, Yao Deng, Min Fu, Tianlei Zheng, and Xiao Liu

Session ISPA T1-I: 13:30-15:30, December 13 (Wednesday), Room 6
Chair: Yuezhong Wu, Central South University, China
A Modular Abstract Framework for Devising Optimized RSMs based on Load Distribution (SHORT)
Yingyi Yang
Blockchain-based Security Architecture for Distributed Cloud Storage (SHORT)
Jiaxing Li, Zhuosong Liu, Long Chen, Pinghua Chen, and Jiqiang Wu
An Energy Efficient Virtual Machine Placement Algorithm Based on Graph Partitioning in Cloud Data Center (SHORT)
Wenbin Yao, Zhen Guo, and Dongbin Wang
Efficient Decentralized Attribute-Based Encryption with Outsourced Computation for Mobile Cloud Computing (SHORT)
Jiaye Shao, Yanqin Zhu, and Qijin Ji
Joint Optimization of Spectrum Sensing and Energy Harvesting for Cognitive Radio Network (SHORT)
Fu Jiang, Wenni Yi, Shao Li, Baolin Zhu, and Wentao Yu
Secure Beamforming Design with Bidirectional Secondary Transmissions in Wireless Powered Cognitive Radio Networks (SHORT)
Kun Tang, Ronghua Shi, and Entao Luo
TDAG: A Tunable Distributed Data Processing Model for Data Stream (SHORT)
Jintao Tang, Xuelian Lin, Yang Shen, and Tianyu Wo
Fine-Grained Data Committing for Persistent Memory (SHORT)
Tianyue Lu, Yuang Liu, and Mingyu Chen

Session ISPA T1-J: 15:50-18:20, December 13 (Wednesday), Room 6
Chair: Mehdi Gheisari, Guangzhou University, China
The Improved Earliest Deadline First with Virtual Deadlines Mixed Criticality Scheduling Algorithm (SHORT)
Xuebing Zhao, Yehua Wei, and Wenjia Li
Assessment of Reduction of Quality Attacks on Mobile IP Networks (SHORT)
Yu Gang, Tao Li, Jinmao Wei, and Chumbu Liu
Rethinking Energy-Efficiency of Heterogeneous Computing for CNN-Based Mobile Applications (SHORT)
Zhen Wang, Xi Li, Chaos Wang, Zhinan Cheng, Jiachen Song, and Xuehai Zhou
Author Influence Spreading Prediction Based on Co-citation Interest Similarity (SHORT)
Ning Chang, Fang Huang, Yuchen Zhang, Xiangqian Wang, and Wencong Wan
Dynamic detection of academic team communities based on temporal coauthor network (SHORT)
Wencong Wan, Fang Huang, Xiangqian Wang, Yuchen Zhang, and Chengyuan Zhang
A High-Performance Accelerator for Floating-Point Matrix Multiplication (SHORT)
Xun Jia, Guiming Wu, and Xianghui Xie
A novel Optimization Technique for Mastering Energy Consumption in Cloud Data center (SHORT)
Omar Ben Maouia, Hazem Fkaii, Mohamed Jemni, and Christophe Cerin
A Fog-based Hierarchical Trust Mechanism for Sensor-Cloud Underlying Structure (SHORT)
Guangxue Zhang, Tian Wang, Md Zakirul Alam Bhuiyan, and Guojun Wang

Track 2: Technologies and Tools
Session ISPA T2-A: 13:30-15:30, December 14 (Thursday), Room 6
Chair: Yanchao Lu, Shanghai Jiao Tong University, China
Pattern Learning Based Parallel Ant Colony Optimization (SHORT)
Shaocong Mo, Xiaotian Jin, Wenbo Zheng, Xin Jin, Jiangwei Zhou, Tao Zheng, and Pengfei Duan
Alexander Oppermann, Federico Grasso Toro, Artem Yurchenko, and Jean-Pierre Seifert
An Efficient Parallelization Approach for Large-scale Sparse Non-negative Matrix Factorization Using Kullback-Leibler Divergence on Multi-GPU
Hao Li, Keli Li, Jiwu Peng, and Keqin Li
Fault-Driven Reconfiguration Algorithm for Processor Arrays

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Session ISPA T2-B: 15:50-18:20, December 14 (Thursday), Room 6
Chair: Eric McCreath, Australian National University, Australia

Dynamic Load Balancing and Channel Strategy for Apache Flume Collecting Real-time Data Stream
Buqing Shu, Haopeng Chen, and Meng Sun

Exploiting Aperiodic Server to Improve Aperiodic Responsiveness for LET-based Real-time Systems
Bo Wan, Xi Li, Haizhao Luo, Kaiqi Zhou, Xianglan Chen, Beiwei Sun, and Xuehai Zhou

High speed network super points detection based on sliding time window by GPU
Jie Xu, and Jie Liu

Building A Game Benchmark for Cooperative CPU-GPU with Pseudo User-interaction
Zhen Wang, Zhiqun Cheng, Xi Li, Chao Wang, Xianglan Chen, and Xuehai Zhou

A Dataflow-based Runtime Support on a 100P Actual System
Zhichao Su

A Multi-Authority Attribute-Based Encryption Scheme with Attribute Hierarchy
Ke Li, Fang Qi, and Zhe Tang

Implementation and Optimization of the Accelerator Based on FPGA Hardware for LSTM Network
Yiwei Zhang, Chao Wang, Lei Gong, Yuntao Lu, Fan Sun, Chongchong Xu, Xi Li, and Xuehai Zhou

A High-Performance Accelerator for Large-Scale Convolutional Neural Networks
Fan Sun, Chao Wang, Lei Gong, Yiwei Zhang, Chongchong Xu, Yuntao Lu, Xi Li, and Xuehai Zhou

An approach of anomaly diagnosis with logs for distributed services in communication network information system (POSTER)
Kang Sun, Xing Yu Chen, Luo Ming Meng, Shao Yong Guo, Si Ya Xu, Yue Yue Li, and Xiang Yu Kong

Session ISPA T2-C: 13:30-15:30, December 13 (Wednesday), Room 7
Chair: Naiyang Guan, National University of Defense Technology, China

Parallel Computing in DNNs Using CPU and MIC
Sijiang Fan, Jiawei Fei, and Li Shen

Distributed Fine-Grained Secure Control of Smart Actuators in Internet of Things
Dijamel Eddine Kouicem, Abdelmadjid Bouabdallah, and Hicham Laklouf

Clustering Boundary Cutting for Packet Classification based on Distribution Density
Xia-An Bi, Yanwen Zhou, and Jianping Yu

An Effective Reliability Goal Assurance Method using Geometric Mean for Distributed Automotive Functions on Heterogeneous Architectures
Na Yuan, Guoqi Xie, Renfa Li, and Xiaoming Chen

Load Balancing for Minimizing Deadline Misses and Total Runtime for Connected Car System in Fog Computing
Yu-An Chen, John Walters, and Stephen Crugo

ABP Scheduler: Speeding up Service Spread in Docker swarm
Ye Wu, and Haopeng Chen

Power Control based Broadcast Packet Retransmission Collision Reduction Method in a Wireless Self-organization network (SHORT)
Yupeng Wang, Zelong Yu, Yufeng Li, and Xin Su

Session ISPA T2-D: 15:50-18:20, December 13 (Wednesday), Room 7
Chair: Tian Wang, Huaqiao University, China

Parallel Skyline Computation for Partially Ordered Domains
Bo Yin, and Ke Gu

Session ISPA T2-E: 13:30-15:30, December 14 (Thursday), Room 7
Chair: Haroon Elahi, Guangzhou University, China

Parallel Skyline Computation for Partially Ordered Domains
Bo Yin, and Ke Gu
Tickwerk: Design of a LET-based SoC Support for Temporal Programming
Haizhao Luo, Xi Li, Bo Wan, Guixing Wu, Xianglan Chen, and Chao Wang

Automatically Semantic Annotation of Network Document Based on Domain Knowledge Graph
Yuezhong Wu, Zhihong Wang, Shuhong Chen, Guojun Wang, and Changyun Li

Introduction of Improved Repairing Locality into Secret Sharing Schemes with Perfect Security
Yue Fu, Shuhao Sun, Dagang Li, and Peng Liu

A adaptive filtration based defense framework against DDoS
Jian Zhang, Xiaxia Zhou, Wei Zhang, Qidi Liang, and Fengtao Xiang

Virtual Machine Migration Scheme Based on Score Matrix in Data Centers
Lixin Yin, Juan Luo, Songshang Zou, and Zhangwei Yang

Session ISPA T2-F: 15:50-18:20, December 14 (Thursday), Room 7
Chair: Junchang Wang, Nanjing University of Posts and Telecommunications, China

Automated Performance Modeling Based on Runtime Feature Detection and Machine Learning
Jingwei Sun, Shiyuan Zhan, Guangzhong Sun, and Yong Chen

An Adaptive Android Security Extension against Privilege Escalation Attacks
Yang Xu, Guojun Wang, Ju Ren, and Yaoxue Zhang

Efficient and Customizable Top-k query on Named Data Networking
Liao Zhushu, Zengde Teng, and Jian Zhang

Parallel Symbolic Observation Graph
Hiba Ouni, Kais Klai, Chiheb Amour Abid, and Belhassen Zouari

A flexible communication mechanism for pipeline parallelism
Junchang Wang, Yangfeng Tian, Tao Li, and Xiong Fu

ECCount: Efficient and Consistent Counter for multi-core architectures
Junchang Wang, Wen He, Tao Li, and Fu Xiong

Efficient Task Assignment and Scheduling on MPSOC with STT-RAM based Hybrid SPMs Considering Data Allocation
Weiwei Feng, Shouzhen Gu, Yanqin Yang, Qin Zhuge, and Edwin H.-M. Sha

An Evaluation Methodology of Cloud Service Quality Based on Queuing Model (POSTER)
Gengze Yan, Fanchao Meng, and Dianhui Chu

A Safe and Reliable Anti-lock Wheel Control with Enhanced Forgotten Factor for Brake Operation of Heavy Train (SHORT)
Shuai Zhang, Zhiwu Huang, Yingze Yang, Kai Gao, and Cong Zhu

Research on CPN Model Reduction Focus on Parallel Tested Behaviors (SHORT)
Sun Tao, Zhang Wei, and Wan Xiaoyun

Job Scheduling Optimization of High Performance Computing in Biological Gene Sequencing Based on Workload Analysis (SHORT)
Xiaofei Wu, Liyun Zuo, Yizhen Sun, and Shoubin Dong

FPGA-Accelerated for Constrained High Dispersal Network (SHORT)
Yanliang Chen, Minghua Zhu, Bo Xiao, and Dan Meng

Energy Efficient Resource Management and Task Scheduling for IoT Services in Edge Computing Paradigm (SHORT)
Songyuan Li, and Jiwei Huang

Session ISPA T2-G: 13:30-15:30, December 13 (Wednesday), Room 8
Chair: Yingkai Zhao, Central South University, China

A Greedy-Genetic Local-Search Heuristic for the Traveling Salesman Problem (SHORT)
Mohammad Rashid, and Miguel Mosteiro

Scheduling and Resource Management Allocation System Combined with an Economic Model (SHORT)
Tarek Menouer, and Christophe Cérin

A Novel Non-Retry Transactional Memory Model for Multi-threads Programming (SHORT)
Kun Lu, Changhao Yan, Hai Zhou, Dian Zhou, and Xuan Zeng

A Safe and Reliable Anti-lock Wheel Control with Enhanced Forgotten Factor for Brake Operation of Heavy Train (SHORT)
Shuai Zhang, Zhiwu Huang, Yingze Yang, Kai Gao, and Cong Zhu

Research on CPN Model Reduction Focus on Parallel Tested Behaviors (SHORT)
Sun Tao, Zhang Wei, and Wan Xiaoyun

Job Scheduling Optimization of High Performance Computing in Biological Gene Sequencing Based on Workload Analysis (SHORT)
Xiaofei Wu, Liyun Zuo, Yizhen Sun, and Shoubin Dong

FPGA-Accelerated for Constrained High Dispersal Network (SHORT)
Yanliang Chen, Minghua Zhu, Bo Xiao, and Dan Meng

Energy Efficient Resource Management and Task Scheduling for IoT Services in Edge Computing Paradigm (SHORT)
Songyuan Li, and Jiwei Huang

Session ISPA T2-H: 15:50-18:20, December 13 (Wednesday), Room 8
Chair: Xin Gu, Central South University, China

Delay Compensated Asynchronous Adam Algorithm for Deep Neural Networks (SHORT)
Lei Shan, Naiyang Guan, Canqun Yang, Weixiu Xu, and Minxuan Zhang

Implementing and Evaluating OpenCL on an ARMv8 Multi-Core CPU (SHORT)
Jianbin Fang, Peng Zhang, Tao Tang, Chun Huang, and Canqun Yang

Markov Fluid Queue Model for Rechargeable Sensor Nodes with Abnormal Death (SHORT)
Ping Zhong, Yiwen Zhang, Jianliang Gao, Yiming Zhang, and Jize Yan

Study on Energy Consumption Optimization Strategy for Data Transmission in Wireless Networks (SHORT)
Nao Wang, Guocai Wang, Tianxiao Xie, and Hongjia Wu

A Channel Allocation Scheme for Priority-based Services in High-Speed Railway Wireless Communication Networks (SHORT)
Han Li, Xiaoyong Zhang, Jun Peng, Fu Jiang, Xin Gu, and Shuo Li
A Dynamic Placement Policy of Virtual Machine Based on MOGA in Cloud Environment (SHORT)
Mohan Zhang, Honglin Ren, and Chunhe Xia

A Predictable Servant-based Execution Model for Safety-critical Systems (SHORT)
Bo Wan, Xi Li, Haizhao Luo, Kaiqi Zhou, Xianglan Chen, and Xuehai Zhou

MAPP: A Modular Arithmetic Algorithm for Privacy Preserving in IoT (SHORT)
Mehdi Gheisari, Guojun Wang, and Md Zakirul Alam Bhuiyan

A Cooperative Replica Placement Strategy for MP2P-CDN (SHORT)
Yayuan Tang, Kehua Guo, Zhonghe Liang, and Dengchao Liu

CODE: Incorporating Correlation and Dependency for Task Scheduling in Data Center (SHORT)
Geng Jinkun

Track 3: Applications

Session ISPA T3-A: 13:30-15:30, December 14 (Thursday), Room 8
Chair: Zhicheng Cai, Nanjing University of Science and Technology, China

Flexible Light Curves Generation System for Astronomical Catalogs
Kun Li, Ce Yu, Chao Sun, Siyuan Huang, and Qinlong Kang

Parallel Huffman Decoding: Presenting a Fast and Scalable Algorithm for Increasingly Multicore Devices
Beau Johnston, and Eric McCreath

Using Deep Neural Networks to Simulate Human Body
Yinglong Dai, Guojun Wang, and Shong Chen

WiCount: A Deep Learning Approach for People Count Using WiFi Signals
Shangqing Liu, Yanchao Zhao, and Bing Chen

"Second Degree Social Connections ": Research on Friend-Matching Privacy Preserving Model in Mobile Social Networks
Entao Luo, Guojun Wang, Roger Cottrell, and Tayyba Anwar

Session ISPA T3-B: 15:50-18:20, December 14 (Thursday), Room 8
Chair: Jun Peng, Central South University, China

General Algorithm for Fault-tolerant Virtual Machine Assignments
Jigang Wu, Zinan He, Yaoguo Zhang, Renfei Guo, and Siew Kei Lam

Hidden Markov Model based Spot price prediction for Cloud Computing
Duan Liu, Zhicheng Cai, and Xiaoping Li

A Trajectory Privacy-Preserving Scheme Based on Dual K Mechanism for Continuous Location-Based Services
Shaobo Zhang, Guojun Wang, and Qin Liu

Achieving Flow-Oriented Reliable Services in Cloud Computing
Yunhao Mu, Qin Liu, Junhai Zhou, Kang Xie, and Guojun Wang

A Density-Based Clustering Approach for Optimal Energy Replenishment in WRSNs
Xin Gu, Jun Peng, Xiaoyong Zhang, Kaiyang Liu, and Yijun Cheng

Detection of Vehicle Steering Based on Smartphone
Zhiping Qi, Zhenchao Ouyang, Jianwei Ni, and Yu Liu

Refactoring the Molecular Docking Simulation for Heterogeneous, Manycore Processors Systems
Junshi Chen

Semi-supervised Learning based Fake Review Detection (POSTER)
Huaxun Deng, Linfeng Zhao, Ning Lup, Yuan Liu, Guibing Guo, Xingwei Wang, Zhenhua Tan, Shuang Wang, and Fucai Zhou

Session ISPA T3-C: 13:30-15:30, December 13 (Wednesday), Room 9
Chair: Jie Xu, South East University, China

Segmentation and Classification of Calcification and Brain Hemorrhage
Muhammad Arif, and Guojun Wang

Device-free and Robust User Identification in Smart Environment using WiFi Signal
Ruiyu Zheng, Yanchao Zhao, and Bing Chen

Understanding Users’ Coupon Usage Behaviors in E-Commerce Environments
Jiawei He, and Wenjun Jiang

Phishing Emails Detection Using CS-SVM
Weina Niu, Xiaoqing Tang, Guowu Yang, Zhiyuan Ma, and Zhongliu Zhuo

A Reliable Scheduling Algorithm for Render Cluster System
Qian Li, Weiguo Wu, and Lei Wang

Wi-Fi Signal Coverage Distance Estimation in Collapsed Structures
Muhammad Faizan Khan, Guojun Wang, and Md Zakirul Alam Bhuiyan

Session ISPA T3-D: 15:50-18:20, December 13 (Wednesday), Room 9
Chair: Saqib Ali, Guangzhou University, China


Flow Migrations in Software Defined Networks: Consistency, Feasibility, and Optimality
Yang Chen, Huanyang Zheng, and Jie Wu

Mengxian Li, Wenjun Jiang, and Kenli Li

Congestion prediction of Urban traffic Employing SRBDP
Pengcheng Jiang, Lei Liu, Lizhen Cui, Hui Li, and Yuliang Shi

A cGANs-based scene reconstruction model using Lidar point cloud
Zhencnau Ouyang, Yu Liu, Changjie Zhang, and Jianwei Niu

Data-Driven QoE Analysis on Video Streaming in Mobile Networks
Qingyong Wang, Hong-Ning Dai, Hao Wang, and Di Wu

Point-of-Interest Recommendations: Capturing the Geographical Influence from Local Trajectories
Yangkai Shi, and Wenjun Jiang

Unleash the Power for Tensor: A Hybrid Malware Detection System Using Ensemble Classifiers
Jieqiong Hou, Minhui Xue, and Haifeng Qian

RSDDSACC: A Reliable Data Distribution Solution Assisted by Cloud Computing (SHORT)
Wei Zhang, Huiling Shi, and Longquan Zhou

Session ISPA T3-E: 13:30-15:30, December 14 (Thursday), Room 9
Chair: Hafiz ur Rahman, Guangzhou University, China

Joint Resource Optimization of Shared Electric Bicycles in Smart Cities
Peng Liu, Yue Ding, Tingting Fu, and Dagang Li

CuSNMF: A Sparse Non-negative Matrix Factorization Approach for Large-Scale Collaborative Filtering
Recommender Systems on Multi-GPU
Hao Li, Kenli Li, Jiwu Peng, and Keqin Li

Projective Hard Thresholding Pursuit for Nonnegative Sparse Recovery
Xiaoay Zhang, Hao Jiang, and Tao Sun

Live Migration Planning of Virtual Machines in Hybrid SDN
Yao Qin, Hua Wang, and Fangjin Zhu

Towards Efficient Incremental Representation for Short Texts in Social Media (SHORT)
Zhilin Zhang, Zhiwei Xu, Xuying Meng, Mengjie Guo, and Limin Liu

Attribute-Based Encryption with Personalized Search (SHORT)
Qiang Zhang, Guojun Wang, and Qin Liu

Session ISPA T3-F: 15:50-18:20, December 14 (Thursday), Room 9
Chair: Zhibin Zhou, Central South University, China

Data-driven influence learning in social networks (SHORT)
Feng Wang, Wenjun Jiang, and Guojun Wang

Accelerating the Parallelization of Lattice Boltzmann Method by Exploiting the Temporal Locality (SHORT)
Song Liu, Nianjun Zou, Yuanzhen Cui, and Weiguo Wu

A Smartphone-based Online Pedestrian Positioning Approach for Both Structured and Open Indoor Spaces (SHORT)
Wenping Yu, Yuwei Xu, Jianzhong Zhang, Chao Ma, and Jingdong Xu

A Novel Parallel Image Encryption Scheme Using Chaos (SHORT)
Chong Fu, Gao-Tian Zhang, Mai Zhi, Li-Ying Cong, and Wei-Min Lei

SW-AES: Accelerating AES Algorithm on the Sunway TaihuLight (SHORT)
Lianpeng Li, Jiurui Fang, Junlei Jiang, Lin Gan, Weijie Zheng, Haohuan Fu, and Guangwen Yang

A Hierarchical VDB Scheme with Scalable Verification and Tampered Record Localization (SHORT)
Zhiwei Zhang, Xiaofeng Chen, Jie Li, Jiashen Ma, and Yang Xiang

Mining trip attractive areas using large-scale taxi trajectory data (SHORT)
Linjiang Zheng, Dong Xia, Xin Zhao, and Weining Liu

The Risk Assessment of Breast Tumors Based on Text Data of Ultrasound Reports (SHORT)
Lan Xiang, Qiao Pan, Chunru Yu, Yuanyuan Zhang, and Dehua Chen

A Scalable Framework of Testbed for SDN Simulation with Multiple Controllers (SHORT)
Xu Chen, Chao Song, Yongqiang Qi, Xili Dai, and Ming Liu

A Novel Approach of Constructing Chinese Handwriting Mobile System and Data Service for Elementary Education Domain (SHORT)
Ye Lu, Qingcheng Li, Jiaxin Liu, and Tao Li

Session ISPA T3-G: 15:50-18:20, December 13 (Wednesday), Room 11
Chair: Entao Luo, Central South University, China

On-Demand Processing for Remote Sensing Big Data Analysis (SHORT)
Zhenchun Huang, Aorun Zhong, and Guoqing Li

A Three-Level Parallel Algorithm for MrBayes 3.2 (SHORT)
Mingjie Zhao, Qiang Ren, Yilin Wang, Ruikang Deng, Mingming Ren, Gang Wang, and Xiaoguang Liu

A Recommendation of Pension Service Based On Trusted Network (SHORT)
Xinxin Dong, Chunshen Li, and Dianhui Chu

Protein quantitative based on simulated annealing algorithm (SHORT)
Jun Tang, and Yanqin Yang

A Trajectory Prediction Method with Sparsity Data (POSTER)
Hengfei Fan, and Wenbin Yao
A Shortest-Response-Time Assured Microservices Selection Framework (POSTER)
Xiaodong Liu, Songhao Jiang, Xiaofang Zhao, and Yan Jin
Streaming Graph Partitioning for Large Graphs with Limited Memory (POSTER)
Qi Li, and Jiang Zhong
### Session IUCC-A: 13:30-15:30, December 13 (Wednesday), Room 10
**Chair: Shuhong Chen, Guangzhou University, China**

- **EBD-MLE: Enabling Block Dynamics under BL-MLE for Ubiquitous Data**
  - Ke Huang, Xiaosong Zhang, Xiaofen Wang, Xiaojian Du, and Ruonian Zhang
- **Mitigation of a Broadcast Storm Problem in a Vehicular Ad Hoc Network (VANETs)**
  - Etienne Alain Feukeu, and Tranos Zuva
- **Visible Nearest Neighbor Search for Objects Moving on Consecutive Trajectories**
  - Xinyuan Luo, Ke Chen, Guifeng Pang, Lidan Shou, and Gang Chen
- **Malware Analysis and Detection in Enterprise Systems**
  - Tebogo Mokoena
- **A Service Scheduling Policy for Improving Playback Quality of Mesh-based P2P VoD Systems**
  - Guowei Huang, Lingjing Kong, and Keke Wu
- **Internet Performance Analysis of South Asian Countries using End-to-end Internet Performance Measurements**
  - Saqib Ali, Guojun Wang, Roger Cottrell, and Sara Masood

### Session IUCC-B: 15:50-18:20, December 13 (Wednesday), Room 10
**Chair: Richard Hill, University of Huddersfield, UK**

- **Non-contact Measurement of Pose in the Earth Frame using a Mobile Phone**
  - Zhen Wang
- **Reinforcement Learning Control for Water-Efficient Agricultural Irrigation**
  - Lijia Sun, Xiangxiang Yang, Jiang Hu, Dana Porter, Thomas Marek, and Charles Hillyer
- **A Reliable Soil Moisture Sensing Methodology for Agricultural Irrigation**
  - Xiangxiang Yang, Lijia Sun, Jiang Hu, Dana Porter, Thomas Marek, and Charles Hillyer
- **The PSO-SVM-based Method of the Recognition of Plant Leaves**
  - Wei Liu, Jialun Lin, Zhiyang Li, and Danning Liang
- **SenseLE: Exploiting Spatial Locality in Decentralized Sensing Environments**
  - Nicolae Vladimir Bozdog, Marc X. Makkes, Alexandru Uta, Roshan Bharath Das, Aart Van Halteren, and Henri Bal
- **Performance Evaluation for WiFi DCF Networks from Theory to Testbed**
  - Ze Chen, Ding Fu, Yayu Gao, and Xiaojun Hei
- **A Service-reliability-based Resource Mapping Method in Smart Grid Virtual Networks**
  - Liqian Sun, Xingyu Chen, Feng Qi, Shaoyong Guo, Siyu Xu, Yueyue Li, and Xiangyu Kong
- **Enabling Community Health Care with Microservices (POSTER)**
  - Richard Hill, Dharmendra Shadija, and Mo Rezai

### Session IUCC-C: 13:30-15:30, December 14 (Thursday), Room 10
**Chair: Muhammad Arif, Guangzhou University, China**

- **Estimating Gradient Direction of Atmospheric Pressure using Pressure Sensor Array**
  - Kensaku Kawaeuchi, and Jan Rekimoto
- **Insecurity of Cheng et al.’s Efficient revocation in ciphertext-policy attribute-based encryption based cryptographic cloud storage**
  - Changji Wang, Jiayuan Wu, and Yuan Yuan
- **PCA-based Anomaly Correction for Traffic Matrix in an IP Backbone Network**
  - Zhida Tang, Mengling Yu, Wei Liu, Liang Ou, and Jun Wu
- **Comparison between CAN and CAN FD: A Quantified Approach**
  - Yong Xie, Pengcheng Huang, Wei Liang, and Yifan He
- **OFL: A language for Cloud Orchestration**
  - Flora Amato, Aniello Castiglione, Francesco Moscat, Vincenzo Moscato, and Nicola Mazzocca
- **Implementation of an Integrated Ambient Intelligence System**
  - Dat Do, Scott A. King, Alaa Sheta, and Jiaqi Hu

### Session IUCC-D: 15:50-18:20, December 14 (Thursday), Room 10
**Chair: Fang Qi, Central South University, China**

- **Feature Selection and Intrusion Detection in Cloud Environment based on Machine Learning Algorithms (SHORT)**
  - Amir Javadpour, Sanaz Kazemi Abbarian, and Guojun Wang
- **Graph-based Quantum Parallel Teleportation in Quantum Wireless Multi-hop Networks (SHORT)**
  - Huanmei Qi, Tailong Xiao, and Ying Guo
- **Who should be my co-author? Recommender System to Suggest a List of Collaborators (SHORT)**
  - Karim Alinani, Guojun Wang, Annadil Alinani, and Dua Hussain Narejo
Quantification of Brain Tissue Volume by Fuzzy-Possibilistic Clustering Technique: Case Study on Alzheimer’s Disease (SHORT)

Lilia Lazli

SLIP: A Cost-effective Infrastructure for a Smart Environment (SHORT)

Vinay Datta Pinnaka, Scott King, and Ajay Katangur
C. SESSIONS AND PAPERS IN SpaCCS 2017

The 10th International Conference on Security, Privacy and Anonymity in Computation, Communication and Storage (SpaCCS 2017)

Session SpaCCS-A: 13:30-15:30, December 13 (Wednesday), Room 11
Chair: Rui Chang, Information Engineering University, China

- Optimized Analysis Based on Improved Mutation and Crossover Operator for Differential Evolution Algorithm
  Zhenlan Liu, Jian-bin Li, and Qiang Song

- Revisiting Localization Attacks in Mobile App People-Nearby Services
  Jialin Wang, Hanni Cheng, Minhui Xue, and Xiaojun Hei

- Lengthening Unidimensional Continuous-variable Quantum Key Distribution with Noiseless Linear Amplifier
  Yu Cao, Jianwu Liang, and Ying Guo

- Research on Internet of Vehicles’ Privacy Protection Based on Tamper-Proof with Ciphertext
  Qifan Wang, Guihua Duan, Entao Luo, and Guojun Wang

- An Attack to an Anonymous Certi cateless Group Key Agreement Scheme and its Improvement
  Xuefei Cao, Lanjun Dang, Kai Fan, and Yulong Fu

- A Space Efficient Algorithm for LCIS Problem
  Daxin Zhu, and Xiaodong Wang

Session SpaCCS-B: 13:30-15:30, December 13 (Wednesday), Room 12
Chair: Tan Saw Chin, Multimedia University, Malaysia

- Improving the Efficiency of Dynamic Programming in Big Data Computing
  Xiaodong Wang, and Daxin Zhu

- Traceable and Complete Fine-Grained Revocable Multi-Authority Attribute-Based Encryption Scheme in Social Network
  Yanmei Li, Fang Qi, and Zhe Tang

- The All Seeing Eye: Web to App Intercommunication for Session Fingerprinting in Android
  Efthimios Alepis, and Constantinos Patsakis

- An Efficient Hierarchical Identity-Based Encryption Scheme for the Key Escrow
  Yuanlong Li, Fang Qi, and Zhe Tang

- An Improved Pre-Copy Transmission Algorithm in Mobile Cloud Computing
  Xinlei Huang, Nao Wang, and Gaocai Wang

- Motivation of DDOS Attack-Aware Link Assignment between Switches to SDN Controllers

Session SpaCCS-C: 15:50-18:20, December 13 (Wednesday), Room 12
Chair: Constantinos Patsakis, University of Piraeus, Greece

- TIM: A Trust Insurance Mechanism for Network Function Virtualization Based on Trusted Computing
  Guangwu Xu, Yankun Tang, Zheng Yan, and Peng Zhang

- Personalized Semantic Location Privacy Preservation Algorithm Based on Query Processing Cost Optimization
  Mengzhen Xu, Hongyun Xu, and Cheng Xu

- Smartphone Bloatware: An Overlooked Privacy Problem
  Haroon Elahi, Guojun Wang, and Xu Li

- An ECC-Based off-line Anonymous Grouping-proof Protocol
  Zhibin Zhou, Pin Liu, Qin Liu, and Guojun Wang

- PCSD: A Tool for Android Malware Detection
  Bo Leng, Jianbin Li, Yang Xu, Liang She, Wuqiang Gao, and Quanrun Zeng

- Authorship Analysis of Social Media Contents Using Tone and Personality Features
  Athira Usha, and Sabu M. Thampi

- Privacy-Preserving Handover Authentication Protocol from Lightweight Identity-Based Signature for Wireless Networks
  Changji Wang, Shengyi Jiang, and Yuan Yuan

- Spatial Outlier Information Hiding Algorithm Based on Complex Transformation
  Zhaoyu Shou, Akang Liu, Simin Li, and Xiwai Cheng

Session SpaCCS-D: 13:30-15:30, December 14 (Thursday), Room 11
Chair: Haitao Yu, Guilin University of Technology, China

- A Reputation Model Considering Repurchase Behavior and Mechanism Design to Promote Repurchase
  Yuan Liu, Jin Bai, Guibing Guo, Xingwei Wang, and Zhenhua Tan
Chinese Named Entity Recognition Based on B-LSTM Neural Network with Additional Features
Liubo Ouyang, Yuan Tian, Hui Tang, and Boyun Zhang

Amplified Locality-Sensitive Hashing for Privacy-preserving Distributed Service Recommendation
Lianyong Qi, Wanchun Dou, Xuyun Zhang, and Shui Yu

Learn to Accelerate Identifying New Test Cases in Fuzzing
Weiwei Gong, Gen Zhang, and Xu Zhou

Service Selection Based on User Privacy Risk Evaluation
Mingdong Tang, Sumeng Zeng, Jianxun Liu, and Buqing Cao

An Efficient Lattice-Based Proxy Signature with Message Recovery
Faguo Wu, Wang Yao, Xiao Zhang, and Zhiming Zheng

Session SpaCCS-E: 15:50-18:20, December 14 (Thursday), Room 11
Chair: Yaokai Feng, Kyushu University, Japan
FABAC: A Flexible Fuzzy Attribute-Based Access Control Mechanism
Yang Xu, Wujiang Gao, Quanrun Zeng, Guojun Wang, Ju Ren, and Yaoxue Zhang

Security Analysis and Improvement of An Anonymous Attribute-Based Proxy Re-encryption
Hongtian Yin, and Leyou Zhang

Relacha: Using Associative Meaning for Image Captcha Understandability
Songjie-Wei, Qianqian-Wu, and Milin-Ren

Identification of Natural Images and Computer Generated Graphics Based on Multiple LBPs in Multicolor Spaces
Fei Peng, Xiao-hua Hu, and Min Long

A Formal Android Permission Model Based on the B Method
Lu Ren, Rui Chang, Qing Yin, and Yujia Man

S-SurF: An Enhanced Secure Bulk Data Dissemination in Wireless Sensor Networks
Jian Shen, Tianqian Miao, Qi Liu, Sai Ji, Chen Wang, and Dengzhi Liu

MCloT: Efficient Monitoring Framework for Cloud Computing Platforms
Jijun Zeng, Zhenyue Long, Guiquan Shen, Lihao Wei, and Yunkai Song

Secure Vibration Control of Flexible Arms based on Operators' Behaviors
Jiantao Li, Hua Deng, and Wenjun Jiang

Session SpaCCS-F: 13:30-15:30, December 14 (Thursday), Room 12
Chair: Lei Zhou, Central South University, China
A New Color Image Encryption Scheme Based on Chaotic Hénon Map and Lü System
Chong Fu, Gao-yuan Zhang, Bei-li Gao, Jing Sun, and Xue Wang

A Distributed Authentication Protocol using Identity-based Encryption and Blockchain for LEO Network
Shuai Li and Meilin Liu, and Songjio Wei

A Detection System for Distributed DoS Attacks Based on Automatic Extraction of Normal Mode and Its Performance Evaluation
Yaokai Feng, Yoshiaki Hori, and Kouichi Sakurai

A Unified Model for Detecting Privacy Leakage on Android
Xueqi Ren, Xinming Wang, Hua Tang, Zhaoxu Ma, Jiechao Wu, and Gansen Zhao

Multi-party Security Computation with Differential Privacy Over Outsourced Data
Ping Li, Heng Ye, and Jin Li

REW-SMT: A New Approach for Rewriting XACML Request with Dynamic Big Data Security Policies
Ha Xuan Son, Tran Khanh Dang, and Fabio Massacci

Session SpaCCS-G: 15:50-18:20, December 14 (Thursday), Room 12
Chair: Yupeng Hu, Hunan University, China
Decoupling Security Services from IaaS Cloud through Remote Virtual Machine Introspection
Huailue Zhou, Haihe Ba, Jiechun Ren, Yongjun Wang, Zhiying Wang, and Yunshi Li

Privacy Preserving Hierarchical Clustering over Multi-Party Data Distribution
Mina Sheikhalishahi, and Fabio Martinelli

Improving MQTT by Inclusion of Usage Control
Antonio La Marra, Fabio Martinelli, Paolo Mori, Athanasios Rizos, and Andrea Saracino

Using JSON to Specify Privacy Preserving-enabled Attribute-based Access Control Policies
Que Nguyen Tran Tho, Tran Khanh Dang, Huy Luong Van, and Ha Xuan Son

Comprehensive Diversity in Recommender Systems
Tranos Zuva, and Raoul Kwuimi

Towards Intelligent System Wide Information Management for Air Traffic Management
Li Weigang, Alessandro F. Leite, Vitor F. Ribeiro, Jose A. Fregnani, and Italo R. de Oliveira

Mouna Jouini, and Latifa Ben Arfa Rabai
D. SESSIONS AND PAPERS IN UbiSafe 2017

The 9th IEEE International Symposium on UbiSafe Computing (UbiSafe 2017)

Session UbiSafe: 15:50-18:20, December 13 (Wednesday), Room 14
Chair: Mina Sheikhalishahi, Istituto di Informatica e eleamatica del CNR, Italy

MTIV: A Trustworthiness Determination Approach for Threat Intelligence
Lei Li, Xiaoyong Li, and Yali Gao

Performance Characterization and Optimization for Intel Xeon Phi Coprocessor
Xiaoli Hu, Chao Li, Huiheng Zhang, Hongbo Zhang, and Ya Zhou

Secure Transfer Protocol between App and Device of Internet of Things
Zhaojie Xu, and Xiaoyong Li

Rogue Access Points Detection Based on Theory of SemiSupervised Learning
Xiaoyan Li, and Xiaoyong Li

Phishing Detection Method Based on Borderline-Smote Deep Belief Network
Jiahua Zhang, and Xiaoyong Li

Research on Similarity Record Detection of Device Status Information Based on Multiple Encoding Field
Ziwen Liu, Liang Fang, Lihua Yin, Yunchuan Guo, and Fenghua Li

Security Review and Study of DoS Attack on DNS in the International Roaming EPC_LTE Network
Ya'nan Tian, Wen'an Zhou, and Wenlong Liu

A SYN Flood Detection Method Based on Self – similarity in Network Traffic
Daxiu Zhang, Xiaojian Zhu, and Lu Wang

Annotating Network Service Fault based on Temporal Interval Relations
Leonard Kok, Sook-Ling Chua, Chin-Kuan Ho, Lee Kien Foo, and Mohd Rizal Bin Mohd Ramly

E. SESSIONS AND PAPERS IN ISSR 2017

The 9th IEEE International Workshop on Security in e-Science and e-Research (ISSR 2017)

Session ISSR: 15:50-18:20, December 13 (Wednesday), Room 6
Chair: Mehdi Gheisari, Guangzhou University, China

An Anonymous Identity-Based Authentication Scheme in Vector Network
Jie Yu, and Mangui Liang

F. SESSIONS AND PAPERS IN TrustData 2017

The 8th International Workshop on Trust, Security and Privacy for Big Data (TrustData 2017)

Session TrustData-A: 13:30-15:30, December 13 (Wednesday), Room 13
Chair: Li Weigang, University of Brasilia, Brazil

Two Improved Anonymous Authentication Methods for PCS
Chun-lin Jiang, Shi-lan Wu, and Ke Gu

Multi-Match Segments Similarity Join Algorithm Based on MapReduce
Heng Xiao, and Xianchun Zhou

GPU-accelerated Histogram Generation on Smart-phone and Webbrowser
Hai Jiang, Xianyi Zhu, Yi Xiao, Jiawei Luo, and Yan Zheng

An Efficient Message Routing Algorithm Using Overhearing in Community Opportunistic Networks
Junhui Zhou, Qin Liu, Siwang Zhou, and Yaping Lin

A Reversible Watermarking for 2D Vector Map Based on Triple Differences Expansion and Reversible Contrast Mapping
Fei Peng, Zhen-Jie Yan, and Min Long

Game Theoretical Analysis on System Adoption and Acceptance: A Review
Yaoqiang Xiao, Zhiyi Wang, Jun Cao, and Jin Yuan

A Novel Bivariate Entropy-based Network Anomaly Detection System
Christian Callegari, and Michele Pagano

The Full Provenance Stack: Five Layers for Complete and Meaningful Provenance
Ryan K L Ko, and Thye Way Phua
Session **TrustData-B**: 15:50-18:20, December 13 (Wednesday), Room 13  
Chair: Muhammad Faizan Khan, Guangzhou University, China  
Neural Network based Web Log Analysis for Web Intrusion Detection  
Kai Ma, Rong Jiang, Mianxiong Dong, Yan Jia, and Aiping Li

**G. SESSIONS AND PAPERS IN TSP 2017**

The 7th International Symposium on Trust, Security and Privacy for Emerging Applications (TSP 2017)

Session TSP: 15:50-18:20, December 13 (Wednesday), Room 13  
Chair: Muhammad Faizan Khan, Guangzhou University, China  
Code Abstractions for Automatic Information Flow Control in a Model-Driven Approach  
Kazman Katkalov, Kurt Stenzel, and Wolfgang Reif  
WaybackVisor: Hypervisor-based Scalable Live Forensic Architecture for Timeline Analysis  
Manabu Hirano, Takuma Tsuzuki, Seishiyo Ikeda, Naoga Taka, Kenji Fujisawa, and Ryotaro Kobayashi  
Cloud Ownership and Reliability – Issues and Developments  
Isaac Odun-Ayo, Nicholas Omoregbe, Modepe Oduvani, and Olasupo Ajayi  
A Trust-based Service Self-Organizing Model for Cloud Market  
Wenjuan Li, Jian Cao, Jiyi Wu, and Keyong Hu  
A Reliable Resource Scheduling for Network Function Virtualization  
Daoqiang Xu, Yefei Li, Ming Yin, Xin Li, Hao Li, and Zhuzhong Qian  
On Global Resource Allocation in Clusters for Data Analytics  
Daoqiang Xu, Yefei Li, Songyun Wang, Xin Li, and Zhuzhong Qian  
An Automatic Generation Method for Condition Expressions of CPN Model Focus on Tested Behaviors  
Tao Sun, Linjing Zhang, and Huiping Ma

**H. SESSIONS AND PAPERS IN SPIoT 2017**

The 6th International Symposium on Security and Privacy on Internet of Things (SPIoT 2017)

Session SPIoT: 15:50-18:20, December 14 (Thursday), Room 10  
Chair: Fang Qi, Central South University, China  
Analysing the Resilience of the Internet of Things against Physical and Proximity Attacks  
He Xu, Daniele Spagnuola, Keith Mayes, Peng Li, and Ruchuan Wang  
Ensuring IoT/M2M System Security under the Limitation of Constrained Gateways  
Kuan-Lin Chen, and Fachun Joseph Lin  
Spatial Reconfigurable Physical Unclonable Functions for the Internet of Things  
Armin Babaei, and Gregor Schiele  
Localizing Wireless Jamming Attacks with Minimal Network Resources  
Jing Yang Koh, and Pengfei Zhang

**I. SESSIONS AND PAPERS IN NOPE 2017**

The 5th International Workshop on Network Optimization and Performance Evaluation (NOPE 2017)

Session NOPE: 13:30-15:30, December 14 (Thursday), Room 13  
Chair: Syed Qasim Rizvi, Guangzhou University, China  
An Architecture of Urban Regional Health Information System and Its Data Conversion Algorithm  
Jinfu Chen, Lin Zhang, Ackah-Arthur Hilary, Omari Michael, and Jiaxiang Xi  
CCN Hotspot Cache Placement Strategy Based on Genetic Algorithm  
Hongjia Wu, Nao Wang, and Gaocai Wang  
The Impact of Routing Protocols on the Performance of a Mobility Model in Mobile Ad Hoc Network
J. SESSIONS AND PAPERS IN DependSys 2017

The 3rd International Symposium on Dependability in Sensor, Cloud, and Big Data Systems and Applications (DependSys 2017)

Session DependSys-A: 13:30-15:30, December 13 (Wednesday), Room 3
Chair: Md Zakirul Alam Bhuiyan, Fordham University, USA

- Password Recovery for ZIP Files Based on ARM-FPGA Cluster
  Xu Bai, Lei Jiang, Jiajia Yang, Qiong Dai, and Md Zakirul Alam Bhuiyan

- Comparison of Different Centrality Measures to Find Influential Nodes in Complex Networks
  Fanpeng Meng, Yijun Gu, Shunshun Fu, Mengdi Wang, and Yuchen Guo

- An FPGA-based Algorithm to Accelerate Regular Expression Matching
  Jiajia Yang, Lei Jiang, Xu Bai, Qiong Dai, Majing Su, and Md Zakirul Alam Bhuiyan

- A Collaborative Filtering Recommendation Algorithm Based on Score Classification
  Jiachang Hao, Kun Niu, Zichao Meng, Shuo Huang, and Bing Ma

- FluteDB: An Efficient and Dependable Time-Series Database Storage Engine
  Chen Li, Jianxin Li, Jinghai Si, and Yangyang Zhang

- Attacks on the Anti-Collusion Data Sharing Scheme for Dynamic Groups in the Cloud
  Milton Ganesh S, Vijayakumar Pandi, Jegatha Deborah L, and Md Zakirul Alam Bhuiyan

Session DependSys-B: 15:50-18:20, December 13 (Wednesday), Room 3
Chair: Qin Liu, Hunan University, China

- Research on Coupling Reliability Problem in Sensor-Cloud System
  Yuzhu Liang, Tian Wang, Md Zakirul Alam Bhuiyan, and Anfeng Liu

- An On-demand Monitoring Approach for Cloud Computing Systems
  Zhenyue Long, Jiun Zeng, Hong Zou, and Yunkui Song

- Security on "A Lightweight Authentication Scheme with User Untraceability"
  Niranchana Radhakrishnan, Marimuthu Karuppiah, Vijayakumar Pandi, and Md Zakirul Alam Bhuiyan

- A Security Scheme of Big Data Identity for Cloud Environment
  Rongxin Bao, Xu Yuan, Zhikui Chen, and Yujie Zhang

- A Compact Construction for Non-monotonic Online/Offline CP-ABE scheme
  Junqi Zhang, Qingfeng Cheng, Fushan Wei, and Xinglong Zhang

- RPS-TSM: A Robot Perception System Based on Temporal Semantic Map
  Haoyue Wang, Yangyang Zhang, Jianxin Li, Richong Zhang, and Md Zakirul Alam Bhuiyan

- MediBchain: A Blockchain Based Privacy Preserving Platform for Healthcare Data
  Abdullah Al Omar, Mohammad Shahriar Rahman, Anirban Basu, and Shin Sakuki Kiyomoto

- The Art of Using Cross-Layer Design in Cognitive Radio Networks
  Qusay Medhat Sallih, Md Afratfatur Rahman, Md Zakirul Alam Bhuiyan, and Zafril Rizal M Azmi

Session DependSys-C: 13:30-15:30, December 14 (Thursday), Room 3
Chair: Tarek Menouer, University of Paris 13, France

- A Quality Model for Evaluating Encryption-as-a-Service
  Jin Wu, Zhiqiang Zhu, and Songhui Guo

- Forensic Detection for Image Operation Order: Resizing and Contrast Enhancement
  Shangde Guo, Xin Liao, Sujin Guo, Xiong Li, and P Vijayakumar

- A Framework for Preventing the Exploitation of IoT Smart Toys for Reconnaissance and Exfiltration
  Jeffrey Haynes, Maribette Ramirez, Thaier Hayajneh, and Md Zakirul Alam Bhuiyan

- Security and Attack Vector Analysis of IoT Devices
  Marc Capelliuppo, Jimmy Liranzo, Md Zakirul Alam Bhuiyan, Thaier Hayajneh, and Guojun Wang

- Security Solution of RFID Card through Cryptography
  Md. Alam Hossain, Nazmul Hossain, Afridi Shahid, and Shawon S. M. Rahman

- Grouping Users for Quick Recommendations of Text Documents based on Deep Neural Network
K. SESSIONS AND PAPERS IN SCS 2017


Session SCS: 13:30-15:30, December 13 (Wednesday), Room 14
Chair: Gaocai Wang, Guangzhou University, China
On-Street Car Parking Prediction in Smart City: A Multi-Source Data Analysis in Sensor-Cloud Environment
Walaa Alajali, Sheng Wen, and Wanlei Zhou
A Weight-bind-based Safe Top-k Query Processing Scheme in Two-tiered Sensor Networks
Xiaoyan Kui, Shigeng Zhang, Wei Li, Ping Zhong, Xingbo Ma, and Huakun Du
A Floorplanning Algorithm for Partially Reconfigurable FPGA in Wireless Sensor Network
Jinyu Wang, Weiguu Wu, Zhaonan Qin, and Dongfang Zhao
CO-TDMA: a TDMA Protocol for Collecting Data and OAP at the Same Time
Hao He, Weidong Yi, Ming Li, and Xiawei Jiang
Cloud-assisted Data Storage and Query Processing at Vehicular Ad-hoc Sensor Networks
Yongguan Lai, Lv Zheng, Tian Wang, Fang Yang, and Qifeng Zhou
EFAV-MERD: Expected Forwarding Area Volume and Residual Distance Mathematical Expectation
Routing Protocol for UASNs
Haitao Yu, Qingwen Wang, Nianmin Yao, Yan Chu, Maojie Zhou, and Yingrui Ma

L. SESSIONS AND PAPERS IN WCSSC 2017

The 2nd International Workshop on Cloud Storage Service and Computing (WCSSC 2017)

Session WCSSC: 15:50-18:20, December 14 (Thursday), Room 13
Chair: Guihua Duan, Central South University, China
Fast Truss Decomposition in Memory
Yuxuan Xing, Nong Xiao, Yutong Lu, Ronghua Li, Songping Yu, and Siqi Gao
Pyramid: Revisiting Memory Extension with Remote Accessible Non-Volatile Main Memory
Songping Yu, Minghua Deng, Yuxuan Xing, Nong Xiao, Fang Liu, and Wei Chen
Fully Decentralized Multi-Authority ABE Scheme in Data Sharing System
Xiehua Li, and Ziyu Huang
Malware Variants Detection Using Density Based Spatial Clustering with Global Opcode Matrix
Zejun Niu, Zheng Qin, Jixin Zhang, and Hui Yin
Research on Graph Processing Systems on a Single Machine
Yuxuan Xing, Siqi Gao, Nong Xiao, Fang Liu, and Wei Chen
3D Model Reconstruction with Sequence Image of Aircraft
Huabo Sun, Yang Jiao, Chun Wang, and Jingru Han
Construction Research on Information Platform for Small and Medium-sized Enterprises Based on Cloud Storage Technology
Shulan Yu, Yongzheng Tang, and Chunfeng Wang
XoT: A Flexible Block I/O Data Transfer Protocol for Xen
Jin Zhang, Yuxuan Li, Chengjun Sun, Huaxiang Yang, Jiacheng Wu, and Xiaoli Gong

M. SESSIONS AND PAPERS IN MSDF 2017

The 1st International Symposium on Multimedia Security and Digital Forensics (MSDF 2017)

Session MSDF: 15:50-18:20, December 13 (Wednesday), Room 11
Chair: Entao Luo, Central South University, China
Detecting Spliced Face using Texture Analysis
Divya S. Vidyadharan, and Sabu M. Thampi
N. SESSIONS AND PAPERS IN SPBD 2017

The 2017 International Symposium on Big Data and Machine Learning in Information Security,
Privacy and Anonymity (SPBD 2017)

Session SPBD: 15:50-18:20, December 14 (Thursday), Room 12
Chair: Yupeng Hu, Hunan University, China
Distribution Network Topology Reconstruction Method Based on Lasso and Its Supplementary Criterions
Xiaoyu Li, Shufang Li, Wenqi Li, Shiming Tian, and Mingming Pan
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Paul Yoo, Cranfield University, UK
**Map of Conference Venue**

**Guangdong Hotel, Guangzhou, China - A Four-Star Hotel**

Address: 309 Dongfengzhong Road, Guangzhou, China (Metro Line 2 Memorial Hall Station, Exit D)


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**Public Transportation**

(1) **From Guangzhou Baiyun International Airport (IATA: CAN) to Guangdong Hotel:** Take a taxi (around RMB100); or first take north extension of metro line 3 (get off at JIAHEWANG station), then take metro line 2 (get off at JININTANG station), take off at Sun Yat-sen Memorial Hall Station, Exit D2, then walk around 500m to the hotel. Similar for the return trip.

**广州白云国际机场到广东大厦:** 大约31.7公里，乘坐地铁3号线北延段，经过3站，到达嘉禾望岗站，再乘坐地铁2号线（嘉禾望岗方向），经过10站，到达纪念堂站下车，然后从D2出口再步行约500米，到达广东大厦。或乘坐出租车（约100元）；返程类似。

(2) **From Guangzhou Railway Station to Guangdong Hotel:** Take a taxi (around RMB20); or take metro line 2 (get off at JININTANG station), take off at Sun Yat-sen Memorial Hall Station, Exit D2, then walk around 500m to the hotel. Similar for the return trip.

**广州火车站到广东大厦:** 从广州火车站乘坐地铁2号线（嘉禾望岗方向），2站后到达纪念堂站下车，然后从D2出口再步行约500米，到达广东大厦。或乘坐出租车（约20元）；返程类似。

(3) **From Guangzhou South Railway Station (High Speed Rail Station) to Guangdong Hotel:** Take a taxi (around RMB67); or take metro line 2 (JIAHEWANGGANG DIRECTION), after 13 stops later, take off at Sun Yat-sen Memorial Hall Station, Exit D2, then walk around 730m to the hotel. Similar for the return trip.

**广州南站到广东大厦:** 从广州南站（高铁站）乘坐地铁2号线（嘉禾望岗方向），13站后到达纪念堂站下车（约30分钟），然后从D2出口再步行730米，到达广东大厦。或乘坐出租车（约67元）；返程类似。
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