Keynote Speech I

Professor M. Jamal Deen
IEEE Fellow
President – Academy of Science, Royal Society of Canada
Distinguished University Professor; Senior Canada Research Chair in
Information Technology
Electrical and Computer Engineering Department & School of Biomedical Engineering
McMaster University, Hamilton, Ontario Canada.

Title: Smart Sensors and Smart Homes: State-of-the-Art and Future Perspectives

Abstract: In the past several decades, we have witnessed a dramatic increase in life expectancy that
was driven, in a large measure, by improvements in public health, nutrition and medicine. This has
resulted in aging population demographics, which when coupled with falling birth rates, are now
posing significant burdens to the socio-economic well-being of many countries. In fact, never before
in human history have we been confronted with such a large aging population, nor have we developed
solid, cost-effective solutions for the healthcare and social needs and well-being of the elderly. Here,
we will describe the role of smart sensors and smart homes in addressing several of the needs in
elderly health and well-being. First, we will discuss our non-invasive, non-intrusive and user friendly
electrocardiogram (ECG) system towards long term monitoring of heart problems. Second, we
describe our walking pattern analysis system based on signals from inertial sensors acquired from
straight walking combined with direction changes and turns. From the walking signals, features such
as speed, acceleration, swing, roll, yaw, turn ratio, bipedal behavior and asymmetry are extracted and
used to characterize and classify individuals in distinct walking ages. The walking analyzer system
has also proven to be a reliable and precise predictive and comparative measure for determining falls
and other health issues in individuals. Third, we discuss a smart joint monitoring system to provide
quantitative assessment on the recovery of an injured joint such as a knee or an ankle. Through this
quantitative monitoring, the rehabilitation process can be shortened or adjusted to the state and rate
of the recovery, thus resulting in an optimized and fast recovery process. These on-body sensors as well
as other sensor systems in the environment, such as a smart sleeping environment, can be used in a
smart medical home. Further, by integrating information technology, wireless communication,
web-based technologies and autonemics, we will be able to develop new, smart and cost-effective
solutions for the health wellness of the elderly. Such a solution would enable elderly to lead
independent lifestyles in their own homes while being continuously monitored for the early detection
of symptoms, so diseases can be treated earlier than in later stages as is currently done; to promote
health wellness; as well as to treat chronic illnesses. Finally, future perspectives and research
challenges related to heart monitoring, walking and falling analyzer, joint monitoring and
rehabilitation, optimized sleeping environment, and autonomic computing will be discussed.

Biography: Dr. M. Jamal Deen was born in Guyana, South America. He completed a Ph.D. degree in
Electrical Engineering and Applied Physics at Case Western Reserve University, Cleveland, U.S.A.
His Ph.D. dissertation was on the design and modeling of a new CARS spectrometer for dynamic
temperature measurements and combustion optimization in rocket and jet engines, and was sponsored
and used by NASA, Cleveland, USA. He is currently Distinguished University Professor, Senior
Canada Research Chair in Information Technology, and Director of the Micro- and Nano-Systems
Laboratory, McMaster University. His current research interests are nanoelectronics, optoelectronics,
nanotechnology and their emerging applications to health and environmental sciences. Dr. Deen’s
research record includes more than 520 peer-reviewed articles (about 20% are invited), two textbooks
on “Silicon Photonics- Fundamentals and Devices” and” Fiber Optic Communications: Fundamentals
and Applications”, 6 awarded patents that have been used in industry, and sixteen best paper/poster/presentation awards. Over his career, he has won more than fifty awards and honors.
As an undergraduate student at the University of Guyana, Dr. Deen was the top ranked mathematics
and physics student and the second ranked student at the university, winning both the Chancellor’s
gold medal and the Irving Adler prize. As a graduate student, he was a Fulbright-Laspau Scholar and
an American Vacuum Society Scholar. He is a Distinguished Lecturer of the IEEE Electron Device
Society for more than a decade. His awards and honors include the Callinan Award as well as the
Electronics and Photonics Award from the Electrochemical Society; the Distinguished Researcher Award from the Province of Ontario; a Humboldt Research Award from the Alexander von Humboldt Foundation; 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 IEEE Canada. In addition, he was awarded the four honorary doctorate degrees in recognition of his exceptional research and scholarly accomplishments, professionalism and service. Dr. Deen has also been elected Fellow status in ten national academies and professional societies including The Royal Society of Canada - The Academies of Arts, Humanities and Sciences (the highest honor for academics, scholars and artists in Canada), IEEE, APS (American Physical Society) and ECS (Electrochemical Society). Currently, he is serving as the elected President of the Academy of Science, The Royal Society of Canada.
Keynote Speech II

**Professor Stephen S. Yau**
AAAS Fellow, and IEEE Fellow
Director, Information Assurance Center, and
Professor, School of Computing, Informatics, and Decision Systems Engineering
Arizona State University, Tempe, Arizona, USA

**Title:** Challenges and Future Research for Providing Cyber Security Protection in Smart World Environments

**Abstract:** With the rapid advances and growth in various applications of Internet technology, service-based and cloud computing, virtualization technology, wireless technology, smart devices, ubiquitous computing, and IoT (Internet-of-Things), a smart world with various required features managed, controlled and operated by cyber systems will soon be reality. However, cyber security in a smart world environment is extremely important because of the indispensable dependency of the operations and safety of a smart world on the performance of the cyber systems in the environments.

Certain critical areas in smart world environments, which require intensive security protection, will be discussed, and the challenges of providing sufficient cyber security protection in such an environment will be identified. The current state of the art to meet these challenges and future research directions to meet the challenges in these critical areas will be discussed. Specifically, the healthcare services infrastructures and global research and development collaborations of smart world environments will be considered.

**Biography:** Stephen S. Yau is Professor of Computer Science and Engineering in the School of Computing, Informatics, and Decision Systems Engineering, and the director of Information Assurance Center 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 Computer Society of the Institute of Electrical and Electronics Engineers (IEEE) 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 (IFIP), and the IEEE Annual International Computer Software and Applications Conference (COMPSAC) sponsored by IEEE Computer Society. He has served as a honorary chair and general co-chair of the IEEE World Congress on Services and co-located conferences on Service Computing, Cloud Computing, Web Services and Mobile Services.

His current research includes services and cloud computing systems, trustworthy computing, software engineering, internet of things, and ubiquitous computing. He has received many awards and recognitions, including the Tsutomu Kanai Award and Richard E. Merwin Award of the IEEE Computer Society, the IEEE Centennial and Third Millennium Medals, and the Outstanding Contributions Award of the Chinese Computer Federation. He is a Life Fellow of the IEEE and a Fellow of the American Association for the Advancement of Science. He received the B.S. degree from National Taiwan University, and the M.S. and Ph.D. degrees from the University of Illinois, Urbana, all in electrical engineering.
Title: Data and Knowledge Environment and Cybernetics: A Perspective of Granular Computing

Abstract: The apparent facets of cybersystems associate with the way data and perceptions are acquired, sensed, communicated, reflected upon, and used in forming feedback and supporting decision-making. There is also an ongoing evident quest for transparency and interpretability of established constructs and obtained results. We advocate that information granules play a pivotal role in addressing these key challenges. We demonstrate that a framework of Granular Computing along with a diversity of its formal settings offers a sound conceptual and algorithmic environment.

A suitable perspective built with the aid of information granules is advantageous in realizing a suitable level of abstraction and becomes instrumental when forming sound, practical problem-oriented tradeoffs among precision of results, their easiness of interpretation, value, and stability (as lucidly articulated through the principle of incompatibility coined by Zadeh). All those aspects emphasize importance of actionability and interestingness of the produced findings.

Special attention is paid to the construction of information granules and the talk tackles their design issue by emphasizing that the emergence of semantically sound granules has been justified by available experimental evidence. The rationale behind the emergence of information granules of higher type is offered and their unique role in realizing a hierarchy of processing and coping with a distributed nature of available data is presented. In system modeling, information granules are instrumental in the realization of granular constructs involving information granules of increasingly higher type. With this regard, we introduce concepts of granular spaces, viz. spaces of granular parameters of the models and granular input spaces, which play a pivotal role in the discussion here.

The detailed investigations are also reported for several selected classes of problems: (i) building granular auto-encoders in architectures of deep learning, (ii) realization of imputation mechanisms augmented by quantification of quality of imputed data, (iii) construction and analysis of hotspots, (iv) carrying out knowledge transfer, and (v) concept formation and coping with their drift.

Biography: Witold Pedrycz (IEEE Fellow, 1998) is Professor and Canada Research Chair (CRC) in Computational Intelligence in the Department of Electrical and Computer Engineering, University of Alberta, Edmonton, Canada. He is also with the Systems Research Institute of the Polish Academy of Sciences, Warsaw, Poland. In 2009 Dr. Pedrycz was elected a foreign member of the Polish Academy of Sciences. In 2012 he was elected a Fellow of the Royal Society of Canada. Witold Pedrycz has been a member of numerous program committees of IEEE conferences in the area of fuzzy sets and neurocomputing. In 2007 he received a prestigious Norbert Wiener award from the IEEE Systems, Man, and Cybernetics Society. He is a recipient of the IEEE Canada Computer Engineering Medal, a Cajastur Prize for Soft Computing from the European Centre for Soft Computing, a Killam Prize, and a Fuzzy Pioneer Award from the IEEE Computational Intelligence Society.

His main research directions involve Computational Intelligence, fuzzy modeling and Granular Computing, knowledge discovery and data mining, fuzzy control, pattern recognition, knowledge-based neural networks, relational computing, and Software Engineering. He has published numerous papers in this area. He is also an author of 15 research monographs covering various aspects of Computational Intelligence, data mining, and Software Engineering.

Dr. Pedrycz is intensively involved in editorial activities. He is an Editor-in-Chief of Information Sciences, Editor-in-Chief of WIREs Data Mining and Knowledge Discovery (Wiley), and Int. J. of Granular Computing (Springer). He currently serves on the Advisory Board of IEEE Transactions on Fuzzy Systems and is a member of a number of editorial boards of other international journals.
Keynote Speech IV

Professor Tei-Wei Kuo
ACM Fellow, and IEEE Fellow
Executive Vice President for Academics and Research, National Taiwan University, Taiwan
Editor-in-Chief, the ACM Transactions on Cyber-Physical Systems

Title: User Experience over Smart Mobile Systems

Abstract: Mobile systems are used in scenarios very different from desk-top computers. They are not only used in a highly interactive way with users but also required to respond to different computing needs with respect to users’ visual and sensation needs! In this talk, I shall first address some essential factors that have impacts on user attention. In particular, users’ computing needs are considered based on visual perception, user interactivities, and unperceived activities. I will then present our designs in display management and CPU-GPU load-scaling with objectives to save energy without sacrificing user experiences.

Biography: Prof. Kuo is the Executive Vice President for Academics and Research of the National Taiwan University, Taipei, Taiwan, and a distinguished professor of the Department of Computer Science and Information Engineering. He was the Director of the Research Center for Information Technology Innovation, Academia Sinica between January 20, 2015, and July 31, 2016, and he served as the Program Director of the Computer Science Division of the National Science Council/Ministry of Science and Technology, Taiwan, between 2013 and 2015. Prof. Kuo is the Editor-in-Chief of the ACM Transactions on Cyber-Physical Systems and an Associate Editor of the Journal of Real-Time Systems, IEEE Transactions on Industrial Informatics, and ACM Transactions on Design Automation of Electronic Systems. Prof. Kuo served as the General Chair (2008) and Program Chair (2007) of IEEE Real-Time Systems Symposium (RTSS), where RTSS is the flagship conference in real-time systems in the world. He has over 200 technical papers published in international journals and conferences.

Dr. Kuo is an ACM Fellow and an IEEE Fellow and is now an executive committee member of the IEEE Technical Committee on Real-Time Systems and the Vice Chair of ACM SIGAPP. He served as a member in the IEEE Fellow Evaluation Committee (Computer Society, 2011, 2013). He received the TECO Award in 2015, the Distinguished Research Award from the National Science Council/Ministry of Science and Technology in 2003, 2011, and 2014, the Ten Young Outstanding Persons Award in 2004, and the Young Research Investigators Award from Academia Sinica, Taiwan. The research interests of Prof. Kuo include real-time systems, embedded systems, non-volatile memory storage/memory software designs (such as those of flash memory and PCM), and real-time database systems.
Keynote Speech V

Professor Yingchang Liang
IEEE Fellow
University of Electronic Science and Technology of China, China.

Title: Wireless Big Data: Transforming Cognitive Radios to Smart Networks

Abstract: The future wireless networks are expected to support the explosive growth of mobile data with various types of services. To meet this challenging requirement, wireless networks should be operated in smarter ways in resource utilization, network operation, and service provisioning. In this talk, I will highlight how wireless big data can help to bring intelligence into network design and transform cognitive radios to smart networks.

Biography: Dr Ying-Chang Liang (F’11) is a “National Thousand Talent Program” Professor in the University of Electronic Science and Technology of China (UESTC), China. Before that, he was a Principal Scientist and Technical Advisor in the Institute for Infocomm Research, A*SATR, Singapore. His research interest lies in the general area of wireless networking and communications, with current focus on applying artificial intelligence, big data analytics and machine learning techniques to the design and optimization of wireless networks.

Dr Liang was elected a Fellow of the IEEE in December 2010, and was recognized by Thomson Reuters as a “Highly Cited Researcher” in 2014, 2015 and 2016. He received IEEE Jack Neubauer Memorial Award in 2014, the First IEEE Communications Society APB Outstanding Paper Award in 2012, and the EURASIP Journal of Wireless Communications and Networking Best Paper Award in 2010. He also received the Institute of Engineers Singapore (IES)’s Prestigious Engineering Achievement Award in 2007, and the IEEE Standards Association’s Outstanding Contribution Appreciation Award in 2011, for contributions to the development of IEEE 802.22 standard.

Dr Liang is now serving as the Chair of IEEE Communications Society Technical Committee on Cognitive Networks. He is now an Associate Editor of IEEE Transactions on Signal and Information Processing over Networks, and is an Associate Editor-in-Chief of the World Scientific Journal on Random Matrices: Theory and Applications. He served as Founding Editor-in-Chief of IEEE Journal on Selected Areas in Communications – Cognitive Radio Series, and was the key founder of the new journal IEEE Transactions on Cognitive Communications and Networking. He was on the Editorial Board of IEEE Signal Processing Magazine, an Editor of IEEE Transactions on Wireless Communications from 2002 to 2005, and an Associate Editor of IEEE Transactions on Vehicular Technology from 2008 to 2012, and a (Leading) Guest Editor of five special issues on emerging topics published in IEEE, EURASIP and Elsevier journals. Dr Liang was a Distinguished Lecturer of the IEEE Communications Society and the IEEE Vehicular Technology Society, and has been a member of the Board of Governors of the IEEE Asia-Pacific Wireless Communications Symposium since 2009. He served as Technical Program Committee (TPC) Chair of CROWN’08 and DySPAN’10, Symposium Chair of ICC’12 and Globecom’12, General Co-Chair of ICCS’10 and ICCS’14. He serves as TPC Chair and Executive Vice-Chair of Globecon 2017 to be held in Singapore.
Title: Smart Energy Cyber-Physical System Security: Threat Analysis and Defense Technologies

Abstract: The massive deployment of advanced metering infrastructure (AMI) and home energy management system has mandated a transformative shift of the classical grid into a more reliable smart grid. Despite its importance, the AMI is vulnerable to various cyberattacks such as energy theft and pricing hack. In this talk, I will describe recent advances in cyberthreat analysis and defense technology development in AMI security. I will first show that due to the interdependence between utility pricing and customer energy load, an attacker could tamper smart meters for electricity bill manipulation and energy load unbalancing. I will then discuss some advanced control theoretic and algorithmic techniques to defend against those attacks, including partially observable Markov decision process (POMDP) based detection and cross entropy optimization based Feeder Remote Terminal Unit (FRTU) deployment. I will conclude the talk with some of the ongoing research in this direction.

Biography: Professor Shiyan Hu is the Director of Center for Cyber-Physical Systems at Michigan Tech, and he also held Visiting Professorship at Stanford University from 2015 to 2016. His research interests include Cyber-Physical Systems, Cybersecurity, Computer-Aided Design of VLSI Circuits, and Embedded Systems, where he has published more than 100 refereed papers.

Prof. Hu is an ACM Distinguished Speaker, an IEEE Computer Society Distinguished Visitor, an invited participant for U.S. National Academy of Engineering Frontiers of Engineering Symposium, a recipient of ACM SIGDA Richard Newton DAC Scholarship, and a recipient of National Science Foundation (NSF) CAREER Award. He was invited to compose a Keynote Paper presenting an authoritative review of CAD for CPS in IEEE Transactions on CAD in 2016. His research was featured in the Front Cover of IEEE Transactions on Nanobioscience in March 2014 and highlighted in various public media such as IEEE Spectrum and Communications of ACM. His ultra fast slew buffering technique has been widely deployed in industry for designing over 50 microprocessor and ASIC chips such as IBM flagship chips POWER 7 and 8.

Prof. Hu is the Chair for IEEE Technical Committee on Cyber-Physical Systems. He is the Editor-In-Chief of IET Cyber-Physical Systems: Theory & Applications. He is an Associate Editor for IEEE Transactions on Computer-Aided Design, IEEE Transactions on Industrial Informatics, and IEEE Transactions on Circuits and Systems. He is also a Guest Editor for 7 IEEE/ACM Transactions such as IEEE Transactions on Computers and IEEE Transactions on Big Data. He has held various chair positions in IEEE/ACM conferences. He is a Fellow of IET.
Title: Cybermatics: Cyber Science and Technology for Cyber-enabled Worlds

Abstract: Cyberspace is evolving to become an integral part of our daily life, and affects our lives in many ways every day. Cyber world refers to a complete new digital world on the cyberspace where digital things, i.e., cyber entities, reside and function under a global communication and computational infrastructure. Following the trends of Computerization and Informatization, the next emerging trend is Cyberization, in which numerous cyber entities will be synthesized or generated by computers, and almost all ordinary things/entities in physical, social and mental worlds may also be cyberized to possess corresponding cyber entities as mappings, counterparts or components existing in the cyber-enabled worlds. It is thus necessary to establish a holistic and trans-disciplinary field, which we have called Cybermatics, to build systematic knowledge about new phenomena, behaviors, properties and practices in the cyberspace, cyberization and cyber-enabled hyper worlds. Cybermatics can be regarded as Cyber Science and related cyber technologies, which cover five basic aspects: (1) Cyber Physical Computing; (2) Cyber Social Computing; (3) Cyber Intelligence/Mind; (4) Cyber Life/Creature; (5) Cyber Security/Safety. Cybermatics can be seen as a more comprehensive field to aggregate diverse emerging research areas including smart things, IoT, cyber physical systems, social networking, green computing, cloud/fog computing, big data, hybrid intelligence, digital brain, digital clone, Web science, Internet science, cyber ecology, cyber privacy, etc.

Biography: Jianhua Ma is a professor in the Faculty of Computer and Information Sciences, Hosei University, Tokyo, Japan. He has more than 30 years’ experience in networking and computing. His research interests include multimedia, networks, ubiquitous/pervasive computing, IoT, social computing, cyber life and cyber intelligence. Ma is a pioneer in research on Cyber World (CW), and a co-initiator of the first international symposium on Cyber World. 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. 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. Ma has published more than 250 papers, co-authored/edited over 15 books and 25 journal special issues, delivered over 25 keynote speeches at international conferences, organized many international conferences and co-founded IEEE conferences on Smart World (SW), Cyber Science and Technology (CyberSciTech), Cyber Physical and Social Computing (CPSCom), Ubiquitous Intelligence and Computing (UIC), Dependable, Trust and Secure Computing (DASC), and the Internet of Things (iThings). He is a Chair of IEEE SMC Technical Committee on Cybermatics for Cyber-enabled Worlds, and a Chair of IEEE CIS Technical Committee on Smart World.
Keynote Speech VIII

Professor Yuanshun Dai
Director, National-Local Joint Laboratory in Next Generation Network and Big-Data Technology
Dean, School of Computer Science & Engineering
University of Electronic Science and Technology of China, China
Dean, School of Cyberspace Security
University of Electronic Science and Technology of China, China
Vice Director, the Youth Committee of the 1000-Talents Plan

Title: Bionic Autonomic Nervous Systems for Large-Scale Networking Systems

Abstract: Large Scale Networking System (LSNS) enables integration of services and resources across distributed heterogeneous dynamic devices and provides users with high intelligence, high flexibility, high performance and smooth network communication. LSNS is an important support for the smart city, which integrates Cloud Computing, Big Data, Internet of Things into an organic whole. The BANS is analogous to the autonomic nervous system in biology. The biological autonomic nervous system controls the extremely complicated animal’s body in an involuntary manner. It will endow the computer system with similar autonomous capability, by emulating the organization of the components of biological nervous system.

LSNS and IoT can be complementary, the realization of intelligent LSNS needs to achieve real-time collection of various types of data (such as visual information, auditory information and other perceptual information), and based on the feedback of these information to provide users with more intelligent and user-friendly data services. LSNS can better integrate IoT into the cloud environment in the construction of various types of intelligent cloud (such as campus cloud, enterprise cloud, etc.), and provide intelligent sensing functions for these environments.

These technologies constitute a typical large-scale networking system environment, in the construction process of smart city, how to make these systems work together to achieve the urban intelligence is a great challenge. If we use the human cognitive behavior as an analogy, the Internet of Things constitute the human perception organs, the infrastructure of the cloud composes the human body, the big data forms the human brain. However, these separated parts do not work together in a coordinated manner. So we have to endow large-scale networking system independent, collaborative features, Bionic Autonomic Nervous System (BANS) might be the answer.

Biography: Professor Dai serves as the Director of “National-Local Joint Laboratory in Next Generation Network and Big-Data Technology”, Dean of School of Computer Science & Engineering and Dean of School of Cyberspace Security in University of Electronic Science and Technology of China, Vice Director of the Youth Committee of the 1000-Talents Plan, etc.

He focuses his research mainly on Cloud Computing and Large Scale Network Systems. He published more than 140 articles, including 83 SCI journal papers and 45 IEEE/ACM Transactions papers. According to JCR high-quality journal ranking report, there are 57 papers located at the first/second rank. He made the top three in “Safety, Risk, Reliability and Quality” field of "2015 Most Cited Chinese Researchers List" issued from Elsevier. His research achievements had also been applied into practice, such as NASA’s ANTS project, Cloud Computing, and Big Data Analysis, etc. His future work will further develop this research area and focus more on low energy consumption in large-scale network systems.
Title: Urban Computing: Enabling Urban Intelligence with Big Data

Abstract: Urban computing is a process of acquisition, integration, and analysis of big and heterogeneous data generated by a diversity of sources in cities to tackle urban challenges, e.g. air pollution, energy consumption and traffic congestion. Urban computing connects unobtrusive and ubiquitous sensing technologies, advanced data management and analytics models, and novel visualization methods, to create win-win-win solutions that improve urban environment, human life quality, and city operation systems. Urban computing is an inter-disciplinary field where computer science meets urban planning, transportation, economy, the environment, sociology, and energy, etc., in the context of urban spaces. In this talk, I will overview the framework of urban computing, discussing its key challenges and methodologies from computer science’s perspective. This talk will also present a diversity of urban computing applications, ranging from big data-driven environmental protection to transportation, from urban planning to urban economy. The research has been not only published at prestigious conferences but also deployed in the real world. More details can be found on http://research.microsoft.com/en-us/projects/urbancomputing/default.aspx

Biography: Dr. Yu Zheng is a research manager from Microsoft Research, passionate about using big data to tackle urban challenges. One of his project, entitled Urban Air, has been deployed with the Chinese Ministry of Environmental Protection, predicting air quality for over 300 Chinese cities. He publishes referred papers frequently as a leading author at prestigious conferences and journals, such as KDD, VLDB, AI, and IEEE TKDE, where he has received five best paper awards. Those papers have been cited for over 11,000 times (H-Index 50). His book, titled “Computing with Spatial Trajectories”, has been used as a text book in universities world-wide and awarded the Top 10 Most Popular Computer Science Book authored by Chinese at Springer. Zheng currently serves as the Editor-in-Chief of ACM Transactions on Intelligent Systems and Technology, and has served as chair on over 10 prestigious international conferences—most recently, as the program co-chair of ICDE 2014. In 2013, he was named one of the Top Innovators under 35 by MIT Technology Review (TR35) and featured by Time Magazine for his research on urban computing. In 2014, he was named one of the Top 40 Business Elites under 40 in China by Fortune Magazine, because of the business impact of urban computing he has been advocating since 2008. In 2016, Zheng was named ACM Distinguished Scientist for his contribution to spatio-temporal data mining and urban computing. Zheng is also a Chair Professor at Shanghai Jiao Tong University, an Adjunct Professor at Hong Kong University of Science and Technology, and Hong Kong Polytechnic University.