FSDM 2016

2016年12月11日至14日，澳门

第二届模糊系统与数据挖掘国际学术会议

The 2nd International Conference on Fuzzy Systems and Data Mining

• 中文版 • English

特邀专家

Prof. Chin-Teng Lin

Department of Electrical Engineering/Department of Computer Science
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Hsinchu 30010, Taiwan

Biography: Dr. Chin-Teng Lin received the B.S. degree from National Chiao-Tung University (NCTU), Taiwan in 1986, and the Master and Ph.D. degree in electrical engineering from Purdue University, USA in 1989 and 1992, respectively. He is currently the Chair Professor of Faculty of Engineering and Information Technology, University of Technology Sydney, Chair Professor of Electrical and Computer Engineering, NCTU, International Faculty of University of California at San-Diego (UCSD), and Honorary Professorship of University of Nottingham. Dr. Lin was elevated to be an IEEE Fellow for his contributions to biologically inspired information systems in 2005, and was elevated International Fuzzy Systems Association (IFSA) Fellow in 2012. He is elected as the Editor-in-chief of IEEE Transactions on Fuzzy Systems since 2011. He also served on the Board of Governors at IEEE Circuits and Systems (CAS) Society in 2005-2008, IEEE Systems, Man, Cybernetics (SMC) Society in 2003-2005, IEEE Computational Intelligence Society (CIS) in 2008-2010, and Chair of IEEE Taipei Section in 2009-2010. Dr. Lin is the Distinguished Lecturer of IEEE CAS Society from 2003 to 2005, and CIS Society from 2015-2017. He served as the Deputy Editor-in-Chief of IEEE Transactions on Circuits and Systems-II in 2006-2008. Dr. Lin was the Program Chair of IEEE International Conference on Systems, Man, and Cybernetics in 2005 and General Chair of 2011 IEEE International Conference on Fuzzy Systems. Dr. Lin is the coauthor of Neural Fuzzy Systems (Prentice-Hall), and the author of Neural Fuzzy Control Systems with Structure and Parameter Learning (World Scientific). He has published more than 200 journal papers (Total Citation: 19,166, H-index: 53, i10-index: 332) in the areas of neural networks, Fuzzy Systems, multimedia hardware/software, and cognitive neuro-engineering, including approximately 101 IEEE journal papers.

Prof. Shu-Cherng Fang

North Carolina State University
Raleigh
USA

Biography: BS (National Tsing Hua University); MA (Johns Hopkins University); PhD (Northwestern University)

Shu-Cherng Fang holds the Walter Clark Chair Professorship in Industrial Engineering and Alumni Distinguished Graduate Professorship at North Carolina State University, USA. He is also Chair Professor and Team Leader of Chair Professors in Mathematical Sciences and Industrial Engineering at Tsinghua University, University Chair at Fudan University, Honorary University Professor of Northeast University, Honorary University Professor of Shanghai University, Graduate University Advisory Professor of the Chinese Academy of Sciences, Honorary University Chair Professor of National Chiao Tung University and Honorary IEEM Chair Professor of National Tsinghua University. Before joining NC State, Professor Fang was Senior Member of Research Staff at Western Electric Engineering Research Center, Supervisor at AT&T Bell Labs, and Department Manager at the Corporate Headquarters of AT&T Technologies. Professor Fang has published over two hundred refereed journal articles. He authored the books of Linear Optimization and Extensions: Theory and Algorithms (Prentice Hall 1993, with S. C. Puthenpura), Entropy Optimization and Mathematical Programming (Kluwer Academic 1997, with J.R. Rajasekera and H.-S. Tsao), and Linear Conic Optimization (Science Publisher 2013, with Wenxun Xing). He currently serves on the editorial board of 24 scientific journals, including Optimization, Journal of Global Optimization, Optimization Letters, Pacific Journal of Optimization, Journal of Management and Industrial Optimization, Journal of Operations and Logistics, International Journal of Operations Research, OR Transactions, Journal of Uncertainties, International Journal of Fuzzy Systems, Iranian Journal of Fuzzy Systems, Journal of Chinese Institute of Industrial Engineers and Journal of the Operations Research Society of China. He is also the Editor-in-Chief of Fuzzy Optimization and Decision Making. Professor Fang has won many awards and has been listed in several major biographic references. His research interests include Nonlinear Programming, Fuzzy Optimization and Decision Making, Soft Computing, and Logistics and Supply Chain Management.

Prof. Dr.-Ing. Jianhua Zhang

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Biography: BSc (Jiangxi University of Science and Technology, China); MSc (Beijing University of Technology, China); PhD (Ruhr-University Bochum, Germany)

Jianhua Zhang was born in Shaanxi, China in 1971. He received MSc degree in Control Theory and Applications from Beijing University of Technology, China, in April 1996 and PhD degree in Electrical Engineering under the supervision of Prof J.F. Böhme from Ruhr-Universität Bochum, Germany in Feb. 2005. Between 1999 and 2002 he was a Lecturer at Department of Automation, Beijing University of Technology. Afterwards he worked for three years as Guest Scientist and Scientific

Coworker at Institute of Automation (Prof K. Janschek), Technische Universität Dresden and Signal Theory Group (Prof J.F. Böhme), Ruhr-Universität Bochum, both in Germany, respectively. Between 2005 and 2006 he was appointed Postdoctoral Research Associate at Intelligent Systems Laboratory (Profs D.A. Linkens and M. Mahfouf), Department of Automatic Control and Systems Engineering, University of Sheffield, UK. He has been a Full Professor at Department of Automation, East China University of Science and Technology (ECUST) since Feb. 2007. He was a Visiting Professor and Senior Research Fellow at Control Systems Group (Prof J. Raisch), Technische Universität Berlin, Germany in 2011 (for 6 months), 2012 (for a month), 2014 (for a month), and 2015 (for 2 months). He also had short-term academic visit to University of Dortmund, University of Erlangen-Nürnberg, TU Dresden, CNRS Paris, University of Saarland, University of Duisburg, University of Stuttgart and ETH Zurich. More...

Prof. Xizhao Wang

Big Data Institute
College of Computer Science and Software Engineering
ShenZhen University
ShenZhen 518060, China

Biography: BS and MA (Hebei University); PhD (Harbin Institute of Technology)

Xizhao Wang received his PhD in computer science from Harbin Institute of Technology on September 1998. From 2000 to 2012 Dr. Wang served in Hebei University as a professor and the dean of school of Mathematics and Computer Sciences. From 2013 to now Dr. Wang worked as a professor in Big Data Institute of ShenZhen University since 2013. Prof. Wang's major research interests include uncertainty modeling and machine learning for big data. Prof. Wang has edited 6+ special issues and published 3 monographs, 2 textbooks, and 150+ peer-reviewed research papers. By the Google scholar, the total number of citations is over 3000 and the maximum number of citation for a single paper is over 200. The H-index is 25 up to March 2015. Prof. Wang is on the list of Elsevier 2015 most cited Chinese authors. As a Principle Investigator (PI) or co-PI, Prof. Wang's has completed 30+ research projects. Prof. Wang is an IEEE Fellow, the previous BoG member of IEEE SMC society, the chair of IEEE SMC Technical Committee on Computational Intelligence, and the Chief Editor of Machine Learning and Cybernetics Journal.

Speech Title: Learning from Uncertainty for Big Data
Abstract: Big data refers to the datasets that are so large that conventional database management and data analysis tools are insufficient to work with them. Big data has become a bigger-than-ever problem with the quick developments of data collection and storage technologies. Model simplification is one of the most popular approaches to big data processing. After a brief tutorial of the existing techniques of processing big data, this talk will present some key issues of learning from big data with uncertainty, focusing on the impact of handling uncertainty on the model simplification. It shows that the representation, measure, and handling of the uncertainty have a significant influence on the performance of learning from big data. Some new advances in our Big Data Institute regarding the research on big data analysis and its applications to different domains are briefly introduced.

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Invited Speaker

Prof. Sanjay Misra

Department of Computer and Information Sciences, Covenant University, OTA Nigeria

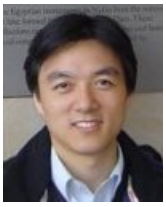
Biography:Sanjay Misra is full Professor of Computer Engineering at Covenant University, Ota, Nigeria. He has 21 years of wide experience in academic administration and researches in various universities in Asia, Europe and Africa. He is Ph.d. in Information and Know. Engg (Software Engineering) from University of Alcala, Spain and M.Tech.(Software Engineering) from Motilal Nehru National Institute of Technology, India. He is a software engineer and previously held academic positions at FUT Minna - Nigeria (as Head Department of Computer Engineering and Cyber security), Atilim University - Turkey, Subharati University and UP Technical University - India. He is also visiting/Collaborative professor at the University of Alcala – Spain(since 2011-), UCV- Valparaiso – Chile(since 2013-), UNICEN, Tandil – Argentina(since 2011-), and Atilim University – Turkey(since 2011-). His current researches cover the areas of software quality, software process improvement, software project management, object oriented technologies, XML, SOA, Web services, cognitive informatics, artificial intelligence, neural network, health Informatics, e-learning, cloud computing and cyber security. Prof Sanjay is coordinating/working/collaborating with several research groups (as visiting/adjunct professor/collaborative researcher) in various universities and industry around the world (Spain, Argentina, Turkey, Singapore, Chili, Brazil, Mexico, Norway, France, South Africa, Malaysia, Nigeria, Myanmar, Vietnam, India). He has author/coauthor in more than 180 papers- (with colleagues from nearly 20 countries) and majority the publications are in ISI Web of Sciences and got several awards for outstanding publications. Recently, Institute of Engineering and Technology(IET), United Kingdom awarded him '2014 IET Software Premium Award' for Best Paper published in last two years. He has delivered 30 plenary and keynote speeches (IEEE, Springer, Elsevier sponsored conferences) and 33 invited talks (workshops/seminars/lecture) in various universities and institutions in more than 40 Countries. He is editor in chief of the book series on Advances in IT Personals and Project management (IGI Global), author of 1 book and editor (one of) in 20 Lecture Notes in Computer Science (Springer), 5 IEEE conference proceedings. He is General Chair of 6th IEEE ICAST: 2014 and founder chair of 3 annual international workshops: Software Engineering Process and Applications (SEPA), Springer (2009-2016), Tools and Techniques in Software Development Process, IEEE (2009-2016), Software Quality, IEEE (2009), LNCS (2011-2016) and Software Metrics and Measurement, IEEE (2009). Presently, he is Editor in chief editor of International Journal of Physical Sciences, founder EIC of Covenant Journal of ICT and International Journal of Computer Science and Software Technology, and also serving as editor, associates editor and editorial board members of many journals (more than 20) of international repute.

Prof. Lazim Abdullah

School of Informatics and Applied Mathematics, Universiti Malaysia Terengganu, Malaysia

Biography: Lazim Abdullah is a professor of computational mathematics at the School of Informatics and Applied Mathematics, Universiti Malaysia Terengganu. He holds a B.Sc (Hons) in Mathematics from the University of Malaya, Kuala Lumpur in June 1984 and the M.Ed in Mathematics Education from University Sains Malaysia, Penang in 1999. He received his Ph.D. from the Universiti Malaysia Terengganu, (Information Technology Development) in 2004. More...

Speech Title: A New Integrated SAW-TOPSIS based on Interval Type-2 Fuzzy Sets for Decision Making
Abstract: Uncertainty and fuzziness of the real world problem could be represented by interval type-2 fuzzy sets where additional degrees of flexibility in decision making environment are presumed. This paper aims to propose an integrated method of interval type-2 fuzzy simple additive weighting (IT2 FSAW) and interval type-2 fuzzy technique for order preference by similarly to ideal solution (IT2 FTOPSIS). The IT2 FSAW is used to determine weight for each criterion, while IT2 FTOPSIS method is used to obtain the final ranking for the attributes. A numerical example is used to illustrate the proposed method. In essence, the integrated method is equipped with interval type-2 fuzzy sets in contrast to type-1 fuzzy sets.



Dr. Wenwu Wang

Centre for Vision Speech and Signal Processing, Department of Electronic Engineering, University of Surrey, UK

Biography: Wenwu Wang (M'02–SM'11) received the B.Sc. degree in automatic control, M.E. degree in control science and control engineering, and Ph.D. degree in navigation guidance and control from Harbin Engineering University, Harbin, China, in 1997, 2000, and 2002, respectively. He joined Kings College, London, U.K., in May 2002, as a Postdoctoral Research Associate and transferred to Cardiff University, Cardiff, U.K., in January 2004. More...

Speech Title: Sparse analysis model based dictionary learning and signal reconstruction
Abstract: Sparse representation has been studied extensively in the past decade in a variety of applications, such as denoising, source separation and classification. Earlier effort has been focused on the well-known synthesis model, where a signal is decomposed as a linear combination of a few atoms of a dictionary. However, the analysis model, a counterpart of the synthesis model, has not received much attention until recent years. The analysis model takes a different viewpoint to sparse representation, and it assumes that the product of an analysis dictionary and a signal is sparse. Compared with the synthesis model, this model tends to be more expressive to represent signals, as a much richer union of subspaces can be described. This talk focuses on the analysis model and aims to discuss the two main challenges: analysis dictionary learning (ADL) and signal reconstruction. More...


4. Uncertainty-based learning for Big Data
Any impact of uncertainty on big data learning?
Including uncertainty's
representation, measure, and processing
What role it plays?
How does it influent the big data reduction?
Why does it work?