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Keynote Speaker 1 :

Kukjin Chun, Ph.D

Kukjin Chun received the Ph.D. degree in Electrical and Computer Engineering from the University of Michigan in 1986 and joined Washington State University for 3 years. He is now a professor at Seoul National University in Korea since 1989 and served department head and the director of Inter-university Semiconductor Research Center at SNU.



He has served as a general chair of IEEE SENSORS 2015, Editorial Board of the Journal of Micromechanics and Microengineering, a member of the International Steering Committee Member for the IEEE International Conference on Solid-State Sensors, Actuators, and Microsystems in 2007-2013. He is now the Director of IEEE Region 10, IEEE Board of Directors and MGA Board in 2017-2018. He is a member of The National Academy of Engineering of Korea from 2007 and the Fellow of Institute of Physics, UK from 1999. He received the Order of Science and Technology Merit of Korea in 2017 and the Headong Awards of Institute of Electronics Engineers of Korea in 2013.

Abstract

Extending the opportunity with miniaturization

MEMS(Microelectromechanical Systems) technology is micrometer-scale devices that integrate electrical, mechanical, optical, biological, thermal and chemical elements. MEMS technology also provides fabrication platform for the realization of small structures in three-dimension on many different substrates such as semiconductor materials, polymers and ceramics. They are usually fabricated by similar process to microelectronics, so that they provide significant cost advantages when batch fabricated. They also have the advantages of monolithically integrated with Integrated Circuits for higher performance. A few MEMS devices and systems will be addressed for automotive, mobile transceiver and bio applications including a monolithic capacitive pressure sensor, an Inertial-grade differential resonant accelerometers, a point-of-care immune detection system, a LEGO like topology insensitive rivet packaging, a locomotion of a micro-robot, a portable microscopic system, Single Pole Multi Through RF MEMS micro switch and FBAR technology for band pass filter.

Keynote Speaker 2 :

Prof. Chun Che (Lance) Fung

Lance C.C. Fung is an Emeritus Professor at the School of Engineering and IT, Murdoch University from October 2015, where he worked since 2003. He held positions as Associate Dean of Research and Postgraduate Research Director. Previously, he lectured at Singapore Polytechnic and Curtin University from 1982-1988 and 1989-2003 respectively. He received his Bachelor of Science degree with 1st Class Honours and Master of Engineering degree from the University of Wales, and a PhD degree from the University of Western Australia in 1994. In addition to teaching and collaborating with many universities in the Asia Pacific Region, he has supervised over 30 doctoral students from Australia and the Asia-Pacific region. Lance has published over 320 articles in international journals and conference proceedings in the areas of intelligent systems, cybernetics, power systems, image processing, data mining, knowledge management and Web technology. He has been active IEEE volunteers for over 20 years and is the current chair of the IEEE Conference Quality Committee, IEEE Technical Program Integrity Committee and Chair-elect of the IEEE New Initiatives Committee. He has served in many executive positions in the IEEE Region 10, Australia Council, Western Australia Section, Chapters, as well as Chair and members of organising committee of many IEEE conferences. His profile can be found at <http://profiles.murdoch.edu.au/myprofile/lance-fung/>.



Abstract

Optimal Document Clustering with Feature Selection and Centroid Allocation

Effective Document clustering system aims to improve the tasks of documents analysis, grouping, and retrieval. Its performance depends on documents preparation and allocation of centroids in the clusters. Optimal document clustering is a combinatorial NP-hard optimization problem and it becomes necessary to utilize non-traditional methods to look for optimal or near-optimal solutions. This research investigated supervised and unsupervised feature selection methods as well as two centroid allocation methods to improve the document clustering process.

Keynote Speaker 3 :

Dr. Kurnianingsih

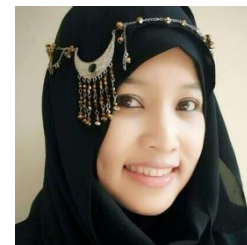
Dr. Kurnianingsih received a Doctor degree at Department of Electrical Engineering and Information Technology from the Universitas Gadjah Mada, Yogyakarta, Indonesia, in 2018. Kurnianingsih received a B.Eng from the Informatics Engineering Department at Sekolah Tinggi Teknologi Telkom, Bandung and a M.Eng from the Electrical Engineering Department at North Sumatera University. Her current research focuses on machine learning and computational intelligence in the health context.

In 2003, Dr. Kurnianingsih started working as a lecturer in the Department of Electrical Engineering, Politeknik Negeri Semarang, Semarang, Indonesia. Prior to joining Politeknik Negeri Semarang, she was with Information Technology (IT) Consultant, IKIN as a Testing Manager. She currently serves as Associate Editor for the International Journal of Advances in Intelligent Informatics (IJAIN) and Associate Editor for the Jurnal INFOTEL.

In 2015, Dr. Kurnianingsih received grants from the Indonesian Ministry of Education Directorate General of Higher Education to have an opportunity to join research collaboration (called sandwich-like program) at Umeå Universitet, in Umeå, Sweden for several months. This program was intended to enhance the quality of the research project through exchange of experience and information between the multidisciplinary supervisors and scientists.

Dr. Kurnianingsih is a member of IEEE, IEEE Engineering in Medicine and Biology Society (EMBS), IEEE Young Professionals (YP), IEEE Women in Engineering (WIE), IEEE SIGHT, IEEE Sensors Council. She is also a member of the Indonesian Association for Pattern Recognition (INAPR).

Since 2016 till present, she serves as Chair of IEEE Indonesia Young Professionals. In 2018, Dr. Kurnianingsih is appointed to be a Coordinator at IEEE Region 10 (Asia-Pacific Region) Electronics Communications and Information Management (ECIM).



Abstract

Towards A New Paradigm for the Design of Assistive Technology in Smart Home Care

A large proportion of older people aged 60 years or more live independently at home. These vulnerable older people are in great need of new tools and technology to support their independent living and promote their wellbeing. Frail older people and those who have physical limitations independently need assistive technologies to control their surrounding environment. Designing and developing personalised assistive technologies is important to maximise older people's interaction with the technology. User-centred designs allow older people to more easily incorporate personalised technology into their daily lives. This talk addresses recommender and reflexive system as our novel paradigm on assistive technology. How the markets accept the technology, and the implications of the technology integration are discussed.