NEW FACULTY IN DATA SCIENCE & AI (2016-2017)
A leading scientist in Brain-Computer Interface (BCI), known for his original contributions to brain computer interface algorithms and groundbreaking work in BCI medical applications. Prof Guan Cuntai joined the School of Computer Science and Engineering in Nov 2016. Prior to joining Nanyang Technological University, he was the founding department head of the Neural & Biomedical Technology Department and Principal Scientist at the Institute for Infocomm Research and A*STAR of Singapore. He was also the Program Leader of Neuro-Technology for A*STAR and has made significant contributions in establishing medical technology research, development and commercialisation.

His research interests include Brain-computer Interfaces, Neural & Cognitive Engineering, Machine Learning, Data Science and Neuro-technology. His primary interest is to develop brain-computer interfaces by using machine learning, data analytical and signal processing methods in real-world applications. He also looks into new BCI paradigms, advanced algorithms and innovative uses in medical fields.

He has published over 290 scientific papers in journals and conferences, and also holds 19 patents and patent applications. His technologies have been transferred to several companies in Singapore and US. He played leadership roles in international and national professional bodies. He has also initiated and co-established the Rehabilitation Research Institute of Singapore while serving as its Co-Director. He is on the editorial boards of multiple international journals.

He is the recipient of the Annual BCI Research Award in USA, the IES Prestigious Engineering Achievement Award in Singapore, the Achiever of the Year for Research Award and has been featured on BBC, CNBC, CNA, Straits Times and other major news channels.
Svetlana (Lana) Obraztsova, a well-established figure in applications of Game Theory methods to Computational Social Choice, has joined the Nanyang Technological University in the first quarter of 2017. Lana’s previous appointments were with the Hebrew University of Jerusalem, Tel-Aviv University, and the National Technical University of Athens.

Svetlana’s (Lana) work has been recognized with Best Paper award and nomination at the International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS), a key gathering of researchers in Artificial Intelligence. She has also been invited as a tutorial speaker at the International Joint Conference on Artificial Intelligence (IJCAI) and AAMAS.

Lana’s rich knowledge and skills set are exemplified by her concurrently obtaining two PhDs: from Steklov Mathematical Institute (Russia) in 2011, and from the Nanyang Technological University in 2012. Lana’s primary research interests are in Computational Social Choice, where she studies complex and hybrid voting systems, the effects of selfish and manipulative behaviour, and the impact that the strategic nature of voters and candidates may have on election outcomes. Her passion is in linking theoretical models with real world human behaviour, seeking positive social impact.
Lin Guosheng recently joined the School of Computer Science and Engineering, Nanyang Technological University. Previously he was a research fellow at the Australian Centre for Robotic Vision affiliated with the University of Adelaide.

Guosheng completed his Ph.D. in computer science at the University of Adelaide in 2014, and his B.S. and M.S. degrees at the South China University of Technology in 2007 and 2010, respectively. His research includes developing machine learning algorithms for computer vision applications, with his recent work mainly focusing on deep learning and structured learning methods for visual scene understanding and object recognition.

Guosheng is the recipient of a Google Ph.D. Fellowship in 2014.
Xavier Bresson is a leading researcher in the field of graph deep learning, a new framework that combines graph theory and deep learning techniques to tackle complex data domains in neuroscience, genetics, social science, physics, and natural language processing.

He received US$2.5M from the highly competitive Singaporean NRF Fellowship in 2016 to develop these new techniques. Along this line, he has also organized international workshops with Facebook, NYU and USI, including the upcoming 2018 UCLA workshop on new deep learning techniques, and has delivered tutorials at CVPR’17 and NIPS’17 conferences.

On the teaching side, he was the main investigator in 2015 of the first course on deep learning at EPFL, Switzerland, which is now fully part of the undergraduate and graduate programs. He also designed a highly praised three-day data training on deep learning and standard techniques for various companies.

Xavier has published more than 60 peer-reviewed papers, including NIPS, ICML, JMLR, the top venues in machine learning. He was awarded several research grants in the USA and Hong Kong and has multiple consulting experiences with Nestle to design industrial deep learning techniques.
Lu Shijian, an active researcher in the areas of image and video analytics, cognitive vision and machine learning, just joined the School of Computer Science and Engineering (SCSE), Nanyang Technological University of Singapore in mid 2017. Previously he was a senior scientist working in the Institute for Infocomm Research, A*STAR Singapore, leading a team focusing more on translational research and development.

Shijian received his B. Eng., M.Eng. and Ph.D. in Electrical and Computer Engineering from Shaanxi University of Science and Technology, Xi’an Jiaotong University, and National University of Singapore in 1998, 2001 and 2005 respectively.

His primary research interests are image and video analytics, visual intelligence and their applications to various image and vision problems, with a focus on several topics in object detection and recognition, mobile video analytics and semi-supervised learning. He has led to deliver several projects in document image understanding, scene text detection and recognition, satellite image analytics and perception for autonomous driving.

The works of Shijian have won a number of international benchmarking competitions in the areas of document image enhancement, scene text detection and recognition, as well as handwriting recognition. The scene text detection technology developed by him has been deployed and used in daily operations in local industrial establishments in Singapore.
Known for his unusually varied research and the ability to recognise interdisciplinary connections, Zinovi Rabinovich has joined the Nanyang Technological University in the first quarter of 2017. Zinovi is rejoining the academia after an engagement with the industrial research and development department of Mobileye Vision Technologies Ltd., a world leader in Autonomous Driving and Advanced Driver Assistant Systems. Prior to that he was employed as a Postdoctoral Research Fellow by the Bar-Ilan University of Israel and the University of Southampton of The United Kingdom.

Zinovi received his M.Sc and Ph.D in Computer Science from the Hebrew University of Jerusalem in 2002 and 2008, respectively, and a dual Mathematics and Computer Science B.Sc. degree from the same university in 1998. His research revolves around behaviour control of intelligent agents by external means, such as persuasion, manipulation, or environment adjustments. Specific contribution instances of his research include, among others, information disclosure as means for security, behaviour altering parasites in swarms, and a model of behaviour cultivation in learning agents.

Zinovi’s pursuits also include educating young researchers. He’s a long-standing speaker at conference tutorials of AAMAS and IJCAI.
Considered one of the world’s rising researchers in natural language processing, Shafiq joined the School of Computer Science and Engineer (SCSE), NTU in July 2017 from Qatar Computing Research Institute, where he was a research scientist in the Language Technology group.

Shafiq received his Ph.D. in computer science from the University of British Columbia, Canada in 2013 and his M.Sc. in computer science from the University of Lethbridge, Canada in 2008.

His research focuses on developing scalable machine learning models for language processing tasks including discourse analysis, conversation modeling, multilingual and multimodal processing, machine translation, question answering, summarization and sentiment analysis.

One methodology emphasized throughout his research is to first identify the inherent semantic structures in a given problem before proceeding to develop structured machine learning models to exploit such structures effectively. His work has relied on deep learning for better representation of the input text and on probabilistic graphical models and reinforcement learning for capturing long range dependencies in the output. Shafiq is also interested in multidisciplinary research and has developed predictive models for a number of data mining tasks in social networks and health science.

Shafiq is a recipient of NSERC Canada Graduate (Doctoral) Scholarship and Microsoft Research Excellent Intern award.
Dr. Mahardhika Pratama received his PhD degree from the University of New South Wales, Australia in 2014. He completed his PhD in 2.5 years with a special approval of the UNSW higher degree committee due to his outstanding PhD research achievement.

Before joining NTU, he was a lecturer at the Department of Computer Science and IT, La Trobe University, Melbourne, Australia from 2015 till 2017. Prior to joining La Trobe University, he was with the Centre of Quantum Computation and Intelligent System, University of Technology, Sydney, Australia as a postdoctoral research fellow of Australian Research Council Discovery Project.

Dr. Pratama received various competitive research awards in the past 5 years, namely the Prestigious Engineering Achievement Award by the Institution of Engineer, Singapore (IES) in 2011 and the UNSW high impact publication award in 2013 and 2014.

On top of producing over 64 high-quality papers in journals and conferences, Dr. Pratama has also been invited to edit a book and the delivering of keynote speeches in international conferences.

He has led five special sessions and two special issues in prestigious conferences and journals and currently serves as an editor-in-chief of International Journal of Business Intelligence and Data Mining and a consultant at Lifebytes, Australia.

Recently, he has also been appointed as a world-class professor by the Government of Indonesia. Dr. Pratama is a member of IEEE, IEEE Computational Intelligent Society (CIS) and IEEE System, Man and Cybernetic Society (SMCS), and Indonesian Soft Computing Society (ISC-INA). His research interests involve machine learning, computational intelligent, evolutionary computation, fuzzy logic, neural network and evolving adaptive systems.

Dr. Mahardhika Pratama (Assistant Professor)
• Data Stream Analytics and Fuzzy Machine Learning