Griffith UNIVERSITY
Queensland, Australia

Dr. Jun Jo
Associate Professor
School of Information & Communication Technology

ICT EDUCATION IN THE 4TH INDUSTRIAL REVOLUTION ERA

15 April 2021 (Thursday)
1.30 PM
GOOGLE MEET

- What is IR 4.0
- Current application of disruptive technologies
- Skills & knowledge crucial for IR 4.0
- Relevant ICT Programmes to embrace IR 4.0

STUDY ABROAD UNIT

Speaker Profile: Dr Jun Jo

Associate Professor, School of Information & Communication Technology, Griffith University
Chair, International Robot Olympiad Committee
President, Australian Robotics Association
Director, Griffith Robotics Lab.

Assoc. Professor **Jun Jo** was awarded his PhD degree from the University of Sydney in 1994. For his PhD research, he studied Artificial Intelligence and Knowledge Representation techniques, and created an autonomous design system called EDGE. Dr Jo worked as a Postdoctoral Research Fellow at the Key Centre of Design Computing in the University of Sydney until he joined Griffith University in 1996. He has conducted many research projects in various areas including Computer Vision, Robotics, UAVs, Sensor Networks, Drones, eHealth and eLearning. He has published over 150 refereed publications.

Dr Jo has organised the International Robot Olympiad event twice in Australia, in 2006 and 2010. Dr Jo is currently taking the positions of the Chair of International Robot Olympiad Committee (IROC) and the President of Australian Robotics Association (ARA). Dr Jo is also the Program Director for Bachelor of Intelligent Digital Technologies (BIDT) degree program at Griffith University, Australia.

ICT Education in the 4th Industrial Revolution Era.

The world is now facing a rapid technological shift in the Information and Communications Technology space, known as the '4th industrial revolution' (4IR). The 4IR is characterised by the merging of disruptive technologies like AI, UAVs, IoTs, etc. with the physical lives of humans. The key to the 4IR lies in the advances in communication and connectivity that allows technologies to be embedded within societies and even in the human body.

Students these days no longer have to go to the library to obtain information. They can access the Internet and search for information, anytime and at any place simply by using their smartphones. So much so that most learning these days are not done through educational institutes, but through online communities such as Facebook, Github, Youtube and the like. Inspired by these means, enabled individuals, especially students, are now spending time developing innovative products quickly without wasting time learning the hidden mechanisms behind many of the technologies they employ.

Many of these technologies are openly available and include advanced tools such as AI libraries, APIs and Frameworks. Furthermore, many public databases are available, such as Kaggle but also government released data. If motivated enough, students can access these once very scarce types of data, for example satellite imagery, then use this data to design practical systems, for example a bushfire detection program. They can make facial recognition, detection and tracking programs with only a few lines of codes utilising public library functions developed by Google or Microsoft. Programming languages are getting more comprehensive and intuitive to use. Not only this, advanced technologies are becoming more and more accessible, to the point where we'll soon need no technical skills at all to design some sort of useful program (perhaps just requiring explaining the program to your phone)!

The question then remains, in an information-enabled era, what place do current educational institutes have to play? Are we ready to provide the right skills and relevant knowledge to smoothly transition into the 4IR era? In this talk, we will review the current ICT programs in the context of the recent exponential technological changes and then discuss how to best prepare for the upcoming 4IR age.