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Man or Machine – Who is More Intelligent? Who is More Exciting?

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ABSTRACT: Simulating and copying the behavior of humans to cooperate with each other pose a big challenge for technologists and scientists who develop machines. This presentation features the educational and entertaining machines developed in the Intelligent Systems Laboratory at the De La Salle University, Philippines. These machines will show cooperative and social behaviors. Hence, this presentation particularly discusses: 1. Robots that can play sports like soccer football, golf, evade and conquer, among others; 2. Robots that can dance live on any type of music and perform group synchronized or choreographed motions; 3. Robot that can water plants in a greenhouse environment. 4. Robot that can assist elderly person in walking and navigating in an outdoor environment; and 5. Robots that can be used for search and rescue operations.

About the Fellow:

Dr. Elmer P. Dadios finished his doctoral degree for an unprecedented two years at Loughborough University (Department of Manufacturing Engineering), United Kingdom in 1996. He was a recipient of various international awards among which were: Best Paper Presentation at the 27th Annual Conferenceof the IEEE Industrial Electronics Society (Denver, USA, 2001); IECON – 2000 Fellows at theIEEE International Conference on Industrial Electronics, Control and Instrumentation (Nagoya, Japan, 2000); Developing Countries Fellow at the IEEE International Conference on Robotics andAutomation (Nagoya, Japan, 1995). He was also a recipient of the Department of Science and Technology 50 Men and Women of Science and Technology (2009); The Department of Science and Technology (DOST) Scholar Achievers (2009); The National Research Council of the Philippines Achievement Award (2010); The National Academy of Science and Technology (NAST) Outstanding Scientific Paper Award (2011). De La Salle University Miguel Febres Cordero Research Award; MERALCO Professional Chair in ECE; Victor T. Lu Professional Chair of Manufacturing Process and Production; Thomas J. Lee Professorial Chair of the Manufacturing Engineering and Management. He is the head mentor of the Philippine Robotics Team that competes in 2009 USA FIRST Robotics Competition and won two prestigious awards: the Highest Rookie Seed Award, and the Rookie All-Star Award. He lead the Philippine Robot Soccer Team in winning First Place for the Millennium Challenge, Second Place for Benchmarking at the FIRA Robot World Cup 2000 in Australia; and Fourth Place at the FIRA ISI ROBOT SOCCER World Championship 2001 in Dubai, UAE. In 1997, he was a recipient of the Japan Society for the Promotion of Science Exchange Scientist Program at Tokyo Institute of Technology, Tokyo, Japan.

Dr. Dadios is the editor of the Journal of Advanced Computational Intelligence and Intelligent Informatics (JACIII) published by FUJI Press Tokyo, Japan; He is a member of the Editorial Board of International Journal of Advanced Robotic Systems published by INTECH Croatia. He is the Organizing Chair of the IEEE TENCON 2012 International Conference. He is the General Chair of the IEEE Technical Sponsored International Conference on Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment, and Management (HNICEM). He is the Program Chair of the 13th International Conference on Mechatronics Technology (ICMT 2009). He was the Publicity Chair of the 2002 IEEE ISIC International Conference held in Vancouver, Canada. He is the Founder and Currently the Chair of the IEEE Computational

Intelligence Society, Philippines. He is currently a member of the IEEE Region 10 Executive Committee. He is the Founder and President of the Mechatronics and Robotics Society of the Philippines. Dr. Dadios Published and Edited 3 Books on Fuzzy Logic: 1) Fuzzy Logic - Controls, Concepts, Theories and Applications", ISBN 978-953-51-0396-7; 2) Fuzzy Logic - Algorithms, Techniques and Implementations", ISBN 978-953-51-0393-6; 3) Fuzzy Logic - Emerging Technologies and Applications", ISBN 978-953-51-0337-0. He had published more than 165 technical papers in Journals and Conference Proceedings majority of which are in IEEE transactions and technical sponsored conferences. He contributed chapters in Books published by CRC Press LLC, USA and InTech Croatia. He has been a consultant for Robotics and Intelligent Systems in the Philippine government and private corporations. Currently, Dr. Dadios is a University Fellow at the De La Salle University and holds the highest faculty rank of Full Professor 10. He is an External Examiner of the University Malaya, Malaysia. He isthe president of the NEURONEMECH Inc. He is a Senior Member of the Institute of Electrical and Electronics Engineer (IEEE). His research interests are: Robotics, Mechatronics, Automation, Intelligent Systems, Neural Networks, Fuzzy Logic, Genetic Algorithms, Evolutionary Computation and IT.