The 7th International Conference on

Control, Automation and Robotics (ICCAR 2021)

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Special Session Topic: Recent Advances in Intelligent Control of Mechatronics Systems

Chair: Joint Ph.D. student Kangkang Sun, Politecnico di Milano, Italy

Photo of Chair:

Bio: Kangkang Sun is currently pursuing the Ph.D. degree in control science and engineering with the Research Institute of Intelligent Control and Systems, Harbin Institute of Technology, Harbin, China, and also a joint Ph.D. student with the Department of Mechanical Engineering, Politecnico di Milano, Milan, Italy. He was a Research Associate with the Department of Biomedical Engineering, City University of Hong Kong, Hong Kong, from December 2018 to March 2019. He is a member of Technical Committee on Nonlinear Circuits and Systems for IEEE Circuits and Systems Society. He currently serves as a Reviewer of Mathematic Reviews of America. He served as a Session Chair for 12th International Conference on Advanced Computational Intelligence (ICACI2020). He was awarded the outstanding contribution award in reviewing for Control Engineering Practice, ISA Transactions, and Artificial Intelligence. His current research interests include intelligent control, robust control, mechatronics systems, and their applications.

Intelligent control of Mechatronics Systems has been an exciting subfield of engineering and new results at both the theoretical and practical levels continue to be developed by numerous researchers and practicing engineers. This motivates us to organize a special

session at the 7th International Conference on Control, Automation and Robotics (ICCAR 2021, http://iccar.org/) to show some of these recent advances in intelligent control of mechatronics systems.

We believe that ICCAR 2021 is a suitable forum for presenting some new results in this field, and expect that through organization of some special topic invited sessions, we will entice more graduate students to be interested in advanced intelligent control of mechatronics systems.

Topics include, but are not limited to:

- Intelligent-based digital control, servo control, sequence control, and process control;
- Learning intelligent control based modelling, identification, planning, and optimization for advanced robotic systems;
- Fuzzy adaptive control for mechatronics systems;
- Neural network control for mechatronics systems;
- Fault tolerant control for mechatronics systems;
- Optimal control based reinforcement learning, adaptive dynamic programming, and deep learning for mechatronics systems;
- Fault detection and isolation for mechatronics systems.