PREFACE

In the past years, Vietnamese Fuzzy Systems Society (VFSS) organized many fuzzy systems and artificial intelligence conferences such as VJFUZZY'98, MIF'99, VJFUZZY'2001, VJMEDIMAG'2001, Intech/VJFuzzy'2002, AFSS'2004, VN-KR MEDINFO'2005, AICI 2020… with the great contributions of the leading scientists around the world as Michio Sugeno (Japan), Hung T. Nguyen (USA), V. Kreinovich (USA), K. Hirota (Japan), K.P. Adlassnig (Austria), Ario Ohsato (Japan), R.R. Yager (USA), Zenn Z. Bien (KAIST, Korea), Masao Mukaidono (Japan), Takeshi Yamakawa (Japan), Yutaka Hata (Japan), Junzo Watada (Japan), Hsiao-Fan Wang (Taiwan), Nakaji Honda (Japan), Michinori Nakata (Japan), Hiroaki Kikuchi (Japan), Takahiro Yamanoi (Japan), Elie Sanchez (France), Torao Yanaru (Japan), Seizaburo Arita (Japan), Yuying Yang (China), B. De Baets (Belgium), Burhan Turksen (Canada), Erna Surjadi (Indonesia), Berlin Wu (Taiwan), L. M. Brasil (Brasil), Pratit Santiprabhob (Thailand), Honghua Dai (Australia), Christian Kuhn (Germany), Liya Ding (China), W. Pedrycz (Canada), S. Chandra (India), Hideo Eda (Japan), Tu-Bao Ho (Japan), Nguyen Thanh Thuy (Vietnam), Cao Hoang Tru (Vietnam), Nguyen Hoang Phuong (Vietnam), Bui Cong Cuong (Vietnam), Nguyen Cat Ho (Vietnam), Huynh Van Nam (Vietnam), Anh Nguyen (USA)… This conference will bring together leading professors, researchers, engineers and scientists in Artificial Intelligence and Computational Intelligence for an opportunity to present and discuss theoretical and applied research problems as well as to foster research collaborations. The Second International Conference on Artificial Intelligence and Computational Intelligence (AICI 2021) will take place in the Institute of Information Technology, Vietnam Academy of Science and Technology, Hanoi, Vietnam, during 15-16 January, 2021, and be jointly organized by the Institute of Information Technology and VFSS (which belongs to Vietnam Mathematical Society) with the sponsorship of the International Fuzzy Systems Association (IFSA).

There are many directions in Artificial Intelligence and Computational Intelligence which are presented and discussed in this conference. The themes of this conference are "Artificial Intelligence, Big Data, Deep Learning with Biomedical & other Applications". The Artificial intelligence (AI) is wide-ranging branch of computer science concerned with building smart machines capable of performing tasks that typically require human intelligence. AI is an interdisciplinary science with multiple approaches, but advancements in machine learning and deep learning are creating a paradigm shift in virtually every sector of the tech industry. Fuzzy logic directly translates imprecise knowledge into precise terms. Neural networks (and other machine learning techniques) transform this indirectly: first by observing how people make decisions based on their imprecise knowledge and then by looking for a precise model that would lead to the same decisions. There are other directions. All these directions are presented in this conference. Some of the papers directly deal with applications of soft computing to biomedical problems, other papers deal with technical aspects of soft computing – thus eventually making the corresponding techniques better and hopefully, more adequate for biomedical applications. Several papers deal with applications outside biomedicine with the hope that successful applications to different areas can help find good applications to biomedical problems as well. We hope that this conference will help practitioners and researchers to learn more about the artificial intelligence and soft computing techniques and to further develop this important research direction.

The program of this conference consists of seven keynote talks of the leading scientists in the fields of AI, AI in medicine, computational intelligence and deep learning from USA, Canada, Austria, France, Poland, Japan, Vietnam and 28 presentations of the scientists, researchers and Ph.D. students in AI and AI in medicine, Fuzzy systems and computational intelligence and related topics.

The organization of this conference and the publication of this Program & Abstracts were supported by the Institute of Information Technology, Vietnam Academy of Science and Technology, Hanoi, Vietnam. Our thanks to the leadership and staff of the Institute of Information Technology, VAST for providing crucial support. Our special thanks to Prof. Hung T. Nguyen for his valuable advice and constant support.

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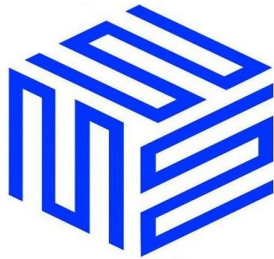## The Second International Conference on Artificial Intelligence and Computational Intelligence

Themes

Artificial Intelligence, Big Data, Deep Learning with Biomedical & other Applications

January 15-16, 2020, Institute of Information Technology, Vietnam Academy of Science and Technology, Vietnam

PROGRAM & ABSTRACTS

Organizers:

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