FLINS //2022

The 15th International FLINS Conference on Machine learning, Multi agent and Cyber physical systems

August 26-28,2022,Tianjin,China

Special Session on

Knowledge Enhanced Machine Learning for Imbalanced Data

https://flins2022.scievent.com/

FLINS2022 is the fifteenth in a series of conferences on computational intelligence systems with focus on Machine learning, Multi agent and Cyber physical systems. The conference will be held in Tianjin, China.

FLINS 2022 proceedings will be again published as a book by the World Scientific and it will be again included in the ISI proceedings as previous ones, as well as be included in EI Compendex for indexing. Moreover, special issues of SCI indexed journals will be devoted to a strictly refereed selection of extended papers presented at FLINS 2022.

Scope and Motivation

Data Imbalance is a common problem in real world and has been widely studied using machine learning algorithms in the context of classification and regression tasks. Although many methods have been proposed, there are still some key limitations. One limitation is that the imbalanced learning performance is still relative low. Another limitation is the lack of an ability with most of methods to explain its outputs, which has fuelled recent research in explainable AI. This special session welcomes contributions regarding knowledge enhanced machine learning for imbalanced data, i.e., there is increasing recognition for utilizing knowledge whenever it is available or can be created purposefully to increase the imbalanced learning performance and also enhance the explainability and interpretability of machine learning systems.

The topics of interest include, but are not limited to:

- Sampling Techniques (over-, under- or hybrid)
- Machine Learning under Imbalanced Big Data
- Rule-Based Systems with Imbalance Learning
- Explainable AI with Imbalance Learning
- Explainability and Interpretability of Machine Learning Systems in Imbalanced Domains
- Real-World Applications with Imbalanced Data
- Deep Learning for Knowledge Enhanced Machine Learning

Important Dates

Full paper submission	March 31, 2022
Notification of acceptance	April 30, 2022
Camera-ready paper submission	May 15, 2022
Author registration	May 25, 2022
Conference Date	August 26-28, 2022

Paper Submission

https://easychair.org/conferences/?conf=flins20220

Contacts:

Long-Hao Yang
more026@hotmail.com
Decision Sciences Institute
Fuzhou University, China

Fei-Fei Ye
13075810934@163.com
School of Public Administration
Fujian Normal University, China

Tian-Yu Ren
lixvm9862@163.com
School of Economics and Management
Fuzhou University, China

Jun Liu
j.liu@ulster.ac.uk
School of Computing
Ulster University, UK

Brief biographical information of the organizers

Dr. Long-Hao Yang is currently an Associate Professor at School of Economics and Management, Fuzhou University, China. He received the B. Eng., M. Eng., and Ph.D. degrees from Fuzhou University, China, in 2012, 2015, and 2019, respectively. He was Scholar Visitor at the University of Jaén, Spain (Feb. 2017-Feb. 2018) and Postdoctoral research fellow (Aug. 2019-Aug. 2020) at Ulster University, UK. He has published over 50 journal papers in BRB-related studies. His current research interests include BRB modelling, machine learning, and artificial intelligence.

Dr. Fei-Fei Ye is currently a Lecturer at School of Public Administration, Fuzhou University, China. She received the Bachelor, Master, and Ph.D. degrees in Management from Fuzhou University, China, in 2014, 2017, and 2020, respectively. She has published over 30 journal papers in the field of systems modelling and cost forecasting. Her current research interests include environmental investment forecasting, BRB applications, and complex systems modelling.

Mr. Tian-Yu Ren is currently a Master Student at School of Economics and Management, Fuzhou University, China. He received the Bachelor degree from Yancheng Institute of Technology, China, in 2020. He was published over 3 papers in BRB-related studies. His current research interests include BRB modelling, machine learning, and artificial intelligence.

Dr. Jun Liu is currently a Reader in Computer Science, Director of Artificial Intelligence Research Center (AIRC) at School of Computing, Ulster University, UK. Before he joined Ulster, he was a Postdoc at The University of Manchester, and a Postdoc at Belgian Nuclear Research Centre. He received BSc. and MSc. degrees in Applied Mathematics, and PhD. degree in Information Engineering from Southwest Jiaotong University, China, in 1993, 1996, and 1999, respectively. He worked in the field of AI for many years. His current research is focused on two themes: 1) knowledge-centralized data analytics under uncertainty for sensing decision making, with applications in management, engineering, and industry field etc. (e.g., safety and risk analysis; policy decision making; security/disaster management; and heath care and smart home); 2) logic and automated reasoning methods for intelligent systems. In particular: resolution-based automated reasoning methods, algorithm and tools with applications (including software verification and automated theorem proving); lattice-valued logics with focus on handling incomparability, inconsistency and imprecision. He has authored or co-authored over 230 publications. He is an IEEE Senior member, Chair of the IEEE System, Man and Cybernetics Ireland Chapter. He is a Fellow of the Higher Education Academy, and teaches at both undergraduate and postgraduate level.