2023 International Conference on the Cooperation and Integration of Industry, Education, Research and Application (Chongqing)
New Generation of Information Technology Working Conference

The 9th International Conference on Fuzzy Systems and Data Mining (FSDM 2023)

November 10-13, 2023 Chongqing, China

Conference Guide

2023国际产学研用合作会议（重庆）
新一代信息技术工作会议暨
第九届模糊系统和数据挖掘国际会议

指导单位： 教育部
重庆市人民政府

主办单位： 重庆市教育委员会
教育部学校规划建设发展中心

承办单位： 重庆邮电大学

Brief Introduction to the Organizer:

CQUPT

重庆邮电大学成立于 1950 年，是国家布点设立并重点建设的邮电高校。学校是一所以信息科学技术为特色和优势，在国内外信息通信领域有重要影响的高水平教学研究型大学。学校位于重庆主城南山风景区内，坐落在森林公园环抱之中，占地 3800 亩。学校现有在校学生 2.9 万余人，其中研究生 7200 余人。学校在职教职工 2100 余人，其中高级职称 870 余人，博士生导师和硕士生导师 900 余位，还外聘了中国科学院、中国工程院和英国、加拿大、美国等国 30 余名院士及 150 余位知名专家学者为我校兼职教授或名誉教授。学校坚持育人为本，办学 72 年来，为信息通信行业培养输送了 15 万多名各类人才，被誉为“中国信息通信人才的摇篮”。

Founded in 1950, Chongqing University of Posts and Telecommunications (CQUPT) is a national key university of post and telecommunications. The university is a high-level teaching and research university with the characteristics and advantages of information science and technology, and enjoys a high reputation in the field of information and communication at home and abroad. The university is located in the Nanshan Scenic Area in the main city of Chongqing, nestled in a forest park and covering an area of 630 acres. There are more than 29,000 students enrolled in the university, including more than 7,200 postgraduate students. The university has more than 2,100 teaching staff, including more than 870 with senior titles, more than 900 doctoral supervisors and master’s supervisors, as well as more than 30 academicians from the Chinese Academy of Sciences, the Chinese Academy of Engineering and the United Kingdom, Canada and the United States, and more than 150 renowned experts and scholars as part-time professors or honorary professors. For 72 years, CQUPT has cultivated over 150,000 talents of all kinds in information and communication industry, and is recognized as the “Cradle of China’s Information and Communication Talents”.

* 工业和信息化部 重庆市共建高校

A university jointly by the Ministry of Industry and Information Technology and Chongqing Municipal

*全国科学大会奖、国家技术发明奖

A university with National Science Conference Award and National Technological

Invention Award

* 博士学位授予单位

An institution with Doctoral Programs

* 国家高技术产业化示范工程基地

A base of National High-Tech Industrialization Demonstration Project

* 全国信息产业科技创新先进集体

An excellent institution of National IT Innovations

* 全国大学生文化素质教育基地

A base for College Students' Cultural Quality Education

* 全国首批深化创新创业教育改革示范高校

One of the first National Demonstration Universities of Innovation & Entrepreneurship Education Reform

RESEARCH AND INNOVATION

学校坚持自主创新，被誉为"中国数字通信发祥地"，现建有工业物联网示范性国际科技合作基地、大数据智能研究院等 70 余个国家发改委、科技部、工信部、教育部及重庆市重点实验室、工程研究中心和人文社科基地。学校曾荣获全国科学大会奖、国家技术发明奖等殊荣。近年来，承担了包括国家科技重大专项、973 项目、863 项目、国家自然科学基金重点项目等国家级项目 540 余项，省部级项目 1260 项，获得省部级以上奖励 110 余项，授权发明专利 3500 余项。

CQUPT insists on independent innovation and is known as the "Birthplace of Digital Communication in China". The university has built more than 70 key laboratories, engineering research centers and humanities and social science bases of the National Development and Reform Commission, the Ministry of Science and Technology, the Ministry of Industry and Information Technology, the Ministry of Education and Chongqing Municipality, including the Demonstration International Science and Technology Cooperation Base for Industrial IoT and the Big Data Intelligence Research Institute. In recent years, the university has undertaken more than 540 national projects including major national science and technology programs, 973 programs and 863 programs, and key projects of the National Natural Science Foundation of China, and nearly 1,260 projects at provincial and ministerial levels, and has received more than 110 awards at provincial and ministerial levels and more than 3,500 authorized invention patents.

PROGRAMS AND DISCIPLINES

学院 17 个

17 schools

本科专业 61 个

61 undergraduate programs

-国家级一流专业 17 个

-17 national first-class programs

-国家级特色专业 5 个

-5 national featured programs

-中外合作办学专业 3 个

-3 Sino-foreign Dual Degree Programs

国家级卓越工程师实施专业 5 个

5 national-level engineer excellence implementing program

学校的工程学科和计算机科学学科现已进入 ESI 全球排名前 1%。

Engineering and Computer Science disciplines are in the top 1% of the ESI global ranking.

重庆市“双一流”学科 3 个、重点学科 16 个

3 “Double First-Class” disciplines of Chongqing Municipality

16 key disciplines of Chongqing Municipality

一级学科博士学位授权点 2 个

2 first-class discipline doctoral degree authorization points

一级学科硕士学位授权点 19 个

19 first-class discipline master degree authorization points

博士后科研流动站 2 个

2 post-doctoral research stations

博士后科研工作站 10 个

4 post-doctoral workstations

国家级工程实践教育中心/基地 8 个

8 National Engineering Practice Education Centers /Bases

国家及重庆市实验教学示范中心 10 个

10 National and Chongqing’s Experimental Teaching Demonstration Centers

校外实习实训和就业基地 200 余个

Over 200 Off-campus Employment Training & Internship Bases

COOPERATION AND EXCHANGES

学校立足信息行业，深化产学研，与中国电信、中国移动、华为、腾讯等行业著名企业，中国科学院、中国信息通信研究院等科研院所等建立了紧密的产学研合作关系，与惠普、微软、IBM、思科、甲骨文等国际 IT 龙头企业联合开展定制式人才培养，组建了“重邮讯飞人工智能学院”、“重邮工业互联网学院”等。学校坚持开放办学，和美国、英国、俄罗斯、德国、新加坡等国家及港澳台地区 90 所高校/科研院所开展国际合作交流。学校与美国北亚利桑那大学、美国纽约州立大学阿尔巴尼分校、英国布鲁内尔大学等联合开展本科双学位中外合作办学项目，与美国乔治梅森大学、德国纽伦堡大学、台湾清华大学等开展学生交流交换项目。学校招收获得中国政府奖学金、重庆市市长奖学金来华留学生。目前有来自越南、俄罗斯、法国、乌克兰、韩国、柬埔寨等 60 余个国家的留学生 400 余人。

Relying on the advantages of the information industry, CQUPT has deepened industry-university-research collaboration, established close cooperation with famous enterprises such as China Telecom, China Mobile, Huawei, Tencent, and research institutes such as Chinese Academy of Sciences and Chinese Academy of Information and Communication, and jointly carried out customized talent training cooperation with international IT leading enterprises such as HP, Microsoft, IBM, Cisco and Oracle, established “School of CQUPT- iFlytek Artificial Intelligence” and “School of Industrial Internet”. The university has been actively promoting international cooperation and exchanges with 90 universities and research institutes in the United States, the United Kingdom, Russia, Germany, Singapore and other countries as well as Hong Kong, Macao and Taiwan. The university conducts joint undergraduate dual degree programs with Northern Arizona University, State University of New York at Albany, and Brunel University in the United Kingdom, and student exchange programs with George Mason University in the United States, Nuremberg University in Germany, and Tsing Hua University in Taiwan. The university recruits international students who receive Chinese Government Scholarship and Chongqing Mayor’s Scholarship to China. At present, there are more than 400 international students from more than 60 countries, including Vietnam, Russia, France, Ukraine, Korea and Cambodia.

FSDM 2023
CONFERENCE PROGRAM

November 10th-13th, 2023 (GMT+8, Beijing Time)

Chongqing, China/Microsoft Teams

For FSDM 2023 Academic Exchange Only

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Part I Conference Schedule Summary

November 10, 2023 (Friday) (GMT+8, Beijing Time)	
09:00-11:00 14:00-16:00	MS Teams Online Conference Testing and Ice Breaking MS Teams: http://www.academicconf.com/teamslink?confname=fsdm2023
09:00-18:00	Onsite Registration*
Note: * Please show us your name or paper ID for registration. * Please pick up all the conference materials at the registration desk (Name Card, Conference Program, Lunch & Dinner Tickets etc.). Onsite registration desk is set at the lobby of the conference hotel: Radisson Blu Hotel Chongqing Sha Ping Ba Address: No. 8 Huiquan Road, Shapingbaqu, Chongqing, China 会议地点：重庆融汇丽笙酒店 地址：重庆市沙坪坝区汇泉路8号	
November 11, 2023 (Saturday) (GMT+8, Beijing Time) ***MS Teams: http://www.academicconf.com/teamslink?confname=fsdm2023*** ***Location: Haiyang Hall 1st Floor (1楼海洋厅)***	
08:30-08:35	**Opening & Welcoming Remarks** *Prof. Xinbo Gao, President, Chongqing University of Posts and Telecommunications, China*
08:35-08:40	**Welcoming Remarks by Conference Vice-Chair** *Prof. Deli Zhang, Vice-President, Changchun Normal University, China*
Chaired by	Prof. Wei Zhu, Dean, College of Science, Chongqing University of Posts and Telecommunications, China
08:40-09:00	**Group Photo**
09:00-09:40	**Keynote Speech 1: Credibility and Interpretability/Explainability in Critical Applications of Machine Learning: An Environment of Granular Computing** *Prof. Witold Pedrycz, University of Alberta, Canada; Polish Academy of Sciences, Systems Research Institute, Poland*
09:40-10:20	**Keynote Speech 2: Thinking Clearly with Three-Way Decision** *Prof. Yiyu Yao, University of Regina, Regina, Canada*
Chaired by	Prof. Qinghua Zhang, Chongqing University of Posts and Telecommunications, China
10:20-10:40	**Coffee Break**
10:40-11:20	**Keynote Speech 3: Machine Learning Perspectives** *Prof. Hamido Fujita, Iwate Prefectural University, Japan*
11:20-12:00	**Keynote Speech 4: Some Studies on Robust Jointly Sparse Soft Unsupervised Learning** *Prof. Hongying Zhang, Xi'an Jiaotong University, China*
Chaired by	Prof. Yabin Shao, Chongqing University of Posts and Telecommunications, China
12:00-13:30	**Lunch and Break** ***Location:*** *The Flow Asian Bistro & Bar 17th Floor (17楼泉籁特色餐厅)*

13:30-14:10	**Keynote Speech 5: Three-Way Decision: Past, Present and Future** *Prof. Dun Liu, Southwest Jiaotong University, China*
14:10-14:50	**Keynote Speech 6: Advanced Machine Learning Structures over Big Data Repositories: Definitions, Models, Properties, Algorithms** *Prof. Alfredo Cuzzocrea, University of Calabria, Italy; University of Paris City, France*
Chaired by	Prof. Yiming Tang, Hefei University of Technology, China
14:50-15:50	**Coffee Break & Poster Session** ***Location:*** *Haiyang Hall 1st Floor (1楼海洋厅)*
15:50-17:55	**Special Session on "Granular-ball Computing"** ***Location:*** *Haiyang Hall 1st Floor (1楼海洋厅)*
18:30-20:30	**Welcome Banquet** ***Location:*** *Dadi Ballroom 1st Floor (1楼大地厅)*

November 12, 2023 (Sunday) (GMT+8, Beijing Time)

MS Teams: http://www.academicconf.com/teamslink?confname=fsdm2023

08:30-11:30	**Special Session on "Application of Generative AI" and Oral Session 1: Data Mining, Machine Learning and Neural Networks** ***Location:*** *Jiehui Room 3rd Floor (3楼杰汇厅)*
08:30-12:05	**Oral Session 2: Fuzzy Theory, Algorithm and System** ***Location:*** *Zunhui Room 3rd Floor (3楼尊汇厅)*
12:05-13:30	**Lunch and Break** ***Location:*** *The Flow Asian Bistro & Bar 17th Floor (17楼泉籁特色餐厅)*
13:30-17:25	**Oral Session 3: Interdisciplinary Field of Fuzzy Logic and Data Mining** ***Location:*** *Zunhui Room 3rd Floor (3楼尊汇厅)*
17:25-17:35	**Closing Speech** ***Location:*** *Zunhui Room 3rd Floor (3楼尊汇厅)* *Closing Speech by Prof. Wei Zhu, Dean, College of Science, Chongqing University of Posts and Telecommunications, China* Chaired by Mr. Hua Hu, Deputy Director of International Exchange, Chongqing University of Posts and Telecommunications, China
18:00-20:00	**Dinner** ***Location:*** *The Flow Asian Bistro & Bar 17th Floor (17楼泉籁特色餐厅)*

November 13, 2023 (Monday)

09:00-17:00	**Free Activity**

Part II Opening & Welcoming Remarks

Opening & Welcoming Remarks

Prof. Xinbo Gao, President,
Chongqing University of Posts and Telecommunications, China

Biography: Gao Xinbo, Doctor of Engineering, second-level Professor, Doctoral Supervisor, is President of Chongqing University of Posts and Telecommunications, and Head of Chang Jiang Scholar Innovation Team of the Ministry of Education and Key Field Innovation Team of the Ministry of Science and Technology. He is engaged in the research of artificial intelligence, machine learning, computer vision and pattern recognition. He has published over 300 high-quality academic papers, 3 monographs and 4 textbooks in this field. He has led more than 20 research projects, including the National Science Fund for Distinguished Young Scholars, the National Natural Science Foundation key project and the Ministry of Education key project. He has won the second prize of the National Natural Science Award, six first prizes of the Provincial and Ministerial Science and Technology Award and the 2020 National Innovation Award. He is currently a member of the Chinese Institute of Electronics, the China Computer Federation, the Chinese Association for Artificial Intelligence and the Institute of Engineering and Technology. He serves as Vice President of Chongqing Association for Science and Technology, and President of Chongqing Association for Youth Science and Technology Leaders.

Welcoming Remark by Conference Vice-Chair

FSDM 2023 Vice- Chair
Prof. Deli Zhang, Vice-President,
Changchun Normal University, China

Biography: Deli Zhang received the Ph.D degree from the Harbin Institute of Technology, China, in 1998. He is currently a first grade professor and director of the Key Laboratory of Soft Computing, and vice-president of Changchun Normal University, China. His research interests include set-valued analysis, nonadditive measures and integrals, decision making, mathematics education. He is the author of more than 50 books including monographs on fuzzy integral theory and generalized integral theory, more than 100 papers in Information Science, Fuzzy Sets and Systems, Soft Computing, Mathematics Education, Education Research, and so on. He is the Editorial Board Members of 3 kinds of Journals. Dr. Zhang has been a standing director of the Professional committee on Fuzzy Mathematics and Fuzzy Systems of System Engineering Society of China (1998--), and a member of Curriculum and Textbooks Expert Working Committee (2013-2018), a vice-director of Elementary Education Mathematics Teaching Steering Committee (2018--), Ministry of Education, China.

Part III Keynote Speeches

Keynote Speech 1: Credibility and Interpretability/Explainability in Critical Applications of Machine Learning: An Environment of Granular Computing

Prof. Witold Pedrycz,
Canada Research Chair (CRC) in computational intelligence with the Department of Electrical and Computer Engineering, University of Alberta, Edmonton, AB, Canada;
Polish Academy of Sciences, Systems Research Institute, Warsaw, Poland

Biography: Prof.Witold Pedrycz (Life Fellow, IEEE) received the M.Sc., Ph.D., and D.Sci. degrees from the Silesian University of Technology, Gliwice, Poland. He is currently a Professor and a Canada Research Chair (CRC) in computational intelligence with the Department of Electrical and Computer Engineering, University of Alberta, Edmonton, AB, Canada. He is also with the Polish Academy of Sciences, Systems Research Institute, Warsaw, Poland. His research interests include computational intelligence, fuzzy modeling, knowledge discovery, data mining, and fuzzy control, including fuzzy controllers, pattern recognition, knowledge-based neural networks, granular and relational computing, and software engineering. He has published numerous articles in these areas. He is also the author of 15 research monographs. He has been a member of numerous program committees of IEEE conferences in the area of fuzzy sets and neurocomputing. He is also the Editor-in-Chief of Information Sciences (Elsevier), WIREs Data Mining and Knowledge Discovery (Wiley), and the International Journal of Granular Computing (Springer). He served as the Editor-in-Chief for the IEEE Transactions on Systems Man and Cybernetics—Part A and the President of IFSA.

Abstract: Over the recent years, we have been witnessing numerous and far-reaching developments and applications of Machine Learning (ML). With the plethora of applications found in critical areas such as autonomous vehicles, health care, networks, complex decision-making environments.

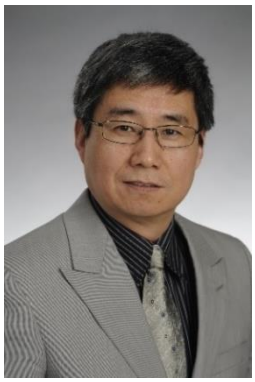
Two interrelated challenges become more apparent, namely credibility and interpretability/explain ability. Both of them directly impact the acceptance and usefulness of ML constructs in a real-world environment. The credibility is also of concern to any application, especially the one being associated with a high level of criticality.

The notions of interpretability and explainability are formulated and we show how they are realized through a number of auxiliary models built upon the black models of ML constructs. Model-agnostic explainable models are discussed.

Proceeding with a conceptual and algorithmic pursuits, we advocate that the above problems could be formalized in the settings of Granular Computing. We show that to credibility any numeric result be augmented by the associated information granules and the quality of the results is quantified in terms of the characteristics of information granules. Different directions are discussed and revisited including confidence/ prediction intervals, granular embedding of ML models, and granular Gaussian Process models.

When coping with interpretability and explainability of ML, information granules and their processing offer key advantages in a number of ways: (i) by stressing the product instead of product perspective and emphasizing importance of interactivity between the user and the explanation module, (ii) by incorporating suitable levels of abstraction, (iii)by building explanation layers with rule-based computing, (iv) by defining and quantifying stability of interpretation, and (v) by proposing ideas of granular counterfactual explanation.

Keynote Speech 2: Thinking Clearly with Three-Way Decision



Prof. Yiyu Yao,
Department of Computer Science, University of Regina, Regina, Canada

Biography: Yiyu Yao is a professor of computer science with the Department of Computer Science, University of Regina, Canada. His research interests include three-way decision, granular computing, Web intelligence, rough sets, fuzzy sets, interval sets, formal concept analysis, information retrieval, machine learning, and data mining. He proposed a theory of three-way decision, a decision-theoretic rough set model, and a triarchic theory of granular computing. He has published over 400 papers. He was selected as a highly cited researcher by Clarivate from 2015 to 2019. He is the President of Web Intelligence Academy. More details about Prof. Yao, please refer to his personal homepage via (https://www2.cs.uregina.ca/~yyao/).

Abstract: A theory of three-way decision concerns thinking, problem solving, and computing in threes. Learning and practicing three-way decision enable us to think clearly and structurally. In this talk, I will demonstrate the superior power, the huge value, and the big benefits of three-way decision for clear thinking. The three parts of the talk are (1) the basics and main results of three-way decision, (2) trilevel thinking based on the concept of Symbols-Meaning-Value (SMV) spaces, and (3) three-way computing in fuzzy systems and data mining.

Keynote Speech 3: Machine Learning Perspectives

***Prof. Hamido Fujita,* (Life Senior Member IEEE)**
Executive Chairman of i-SOMET Incorporated Association, Japan; Distinguished Professor: Iwate Prefectural University, Japan

Biography: Dr. Hamido FUJITA is Distinguished Professor of Iwate Prefectural University, Japan. He is also contracted Professor at Malaysia-Japan International Institute of Technology(MJIIT), Universiti Teknologi Malaysia. He is also Research Professor at University of Granada (Spain), Universiti Teknologi Malaysia, and HUTECH University Vietnam; Expert Excellence Professor at Shanghai University of Medicine & Health Sciences. He is currently the Executive Chairman of i-SOMET Incorporated Association, Japan. He is Highly Cited Researcher in Cross-Field for the year 2019 and 2020, 2021, 2022 in Computer Science field, respectively from Clarivate Analytics. He is Editor-in-Chief of Applied Intelligence (Springer), Editor-in-Chief of Healthcare Management (Tayler&Francis), and Editor-in-Chief of Knowledge-Based Systems (2010-2020) and Emeritus Editor of Knowledge-Based Systems. More details, please refer to his personal homepages via https://www.webofscience.com/wos/author/record/D-6249-2012
and https://scholar.google.com/citations?hl=en&user=MxzV1nQAAAAJ

Abstract: Training in Machine Learning is a crucial aspect that affects the credibility of the system in terms of performance and is employed for robust applications such as in healthcare systems. Machines or algorithms, in wide challengeable applications in security or vision or health care early predictions, learn from data. Nevertheless, in most cases, the extensive and unbalanced data and noise make it unreliable in prediction accuracy. Supervised machine learning is and was one of the aspects of providing artificial intelligence-based solutions. However, this is and was limited due to the difficulty of labeling big data and many crucial problems in weak relations and noise in data. Semi-supervised learning, for example, Multiview learning, could assist in solving these problems. In many published research, there are still problems in providing machine learning models that are unbiased and efficient in terms of robustness and resilience in data-driven systems. Multiclass classification still has problems in terms of clear definition in class classification, bias, imbalance and weak relations, making machine learning for multiclass classification insecure for classification or regression analytics. This causes limitations in applying such technology in medical applications and diagnosis prediction. In this lecture, I will outline these problems in our one-class classification project. These are related to providing more robust accuracy prediction with some uncertainty that can help us have more accurate classification and prediction. We have applied such findings in health care for heart sickness and seizure early prediction like in
https://doi.org/10.1016/j.cmpb.2022.107277 and https://doi.org/10.1016/j.inffus.2023.102023
We also have deep learning models, which also have challenges related to evidential deep learning and fairness relative to data. There are important issues in expanding research in evidential deep learning, in which uncertainty prediction of variational Auto encoders can provide decisions on evidential distribution, which in turn helps to provide a measure of uncertainty in decision.
We currently have a research project titled “Healthcare Risk Prediction on Data Streams Employing Cross Ensemble Deep Learning”, which is supported by Japan Science Promotion Society (JSPS). In this project, we have employed one-class classification deep neural network for health care prediction. I will outline of these perspective and discuss challenging trends in this talk.

Keynote Speech 4: Some Studies on Robust Jointly Sparse Soft Unsupervised Learning

Prof. Hongying Zhang,
Department of Statistics, School of Mathematics and Statistics; National Engineering Laboratory for Algorithm and Analysis Technology on Big Data, Xi'an Jiaotong University (XJTU), China

Biography: Prof. Hongying Zhang is a doctoral supervisor at the School of Mathematics and Statistics, Xi 'an Jiaotong University. Her research interests include but not limited: Soft computing, Big data analysis of cognitive uncertainty, Statistical machine learning, Artificial Intelligence. She has published more than 50 academic papers in famous international journals, of which more than 20 are included in SCI and 2 ESI papers. She is currently the standing member of the Non-classical Logic and Computing Committee of the Chinese Logic Society; She is a member of the Committee of Statistical Cross Science Branch of China Field Statistics Research Society, the Committee of Granular Computing and Knowledge Discovery of Chinese Society for Artificial Intelligence, the Committee of Fuzzy Mathematics and Fuzzy Systems of Chinese Society for Systems Engineering, the Committee of Knowledge Engineering and Distributed Intelligence of Chinese Society for Artificial Intelligence, and the Executive director of Shaanxi Provincial Statistics Society. She has had many academic exchanges with famous universities at home and abroad, such as the University of Texas at Austin, the Chinese University of Hong Kong, and the University of Regina in Canada. Hosted in many projects under the National Natural Science Foundation, and participated as key member in Science and Technology Innovation 2030- a new generation of Artificial Intelligence. She is also in the Editorial board of the Q1 magazine Mathematics.

Abstract: As an important process of data preprocessing, unsupervised learning has received a lot of attention in the context of big data. Because normal unsupervised learning cannot capture overlapping regions, and they are extended to soft unsupervised learning. Fuzzy clustering is one of the most popular soft clustering algorithms. Fuzzy C-means (FCM) is the most commonly used fuzzy clustering algorithm, which makes the model retain more information by extending the degree of sample belonging to the cluster to the values in the interval [0,1]. But FCM is time-consuming in processing large-scale data, thus limiting its application in large-scale scenarios. In addition, FCM is sensitive to noise or outliers. To solve these key problems, we integrate anchor graph and dimensionality reduction into the fuzzy clustering framework on the basis of FCM model, and effectively expand the analysis ability of fuzzy clustering algorithm in large-scale data from sample dimension and feature dimension. Furthermore, we explore the three-way space structure for clustering categorical data based on three-way concepts and we also present our an initial attempt to develop sparse convoluted rank principal component analysis.

Keynote Speech 5: Three-Way Decision: Past, Present and Future

Prof. Dun Liu,
School of Economics and Management, Southwest Jiaotong University, China

Biography: Prof. Dun Liu is PhD supervisor at School of Economics and Management, Southwest Jiaotong University, China. He was a Postdoctoral Researcher with the School of Economics and Management, Tsinghua University, Beijing, China. In 2009, he was also a Visiting Scholar with the University of Regina, Regina, SK, Canada, and Carnegie Mellon University, Pittsburgh, PA, USA, in 2016. His main research fields include system analysis and decision, management information systems and business intelligence, data mining and artificial intelligence.

He has 180+ academic papers published (accepted) in domestic and international journals, including more than 80+ papers indexed by SCI/SSCI, 14 indexed by ESI high citation searches, Google Scholar citations more than 6000 times and H-index is 43. He has presided over 4 projects of the National Natural Science Foundation of China, 20+ provincial and ministerial projects. He has edited 2 monographs, and participated in the editing of 4 monographs. He was honored as the top 2% of the world's top scientists for Lifetime Achievement in 2022 and top 2% of the World's Top Scientists during 2020-2022. He was approved as the Distinguished Young Scholar and the Academic and Technical Leader of Sichuan Province, China.

Abstract: With the fast developments of three-way decision (3WD), this talk systematically summarizes the development track and evolution process of 3WD in recent decades. Firstly, the historical context, internal connections and relations between 3WD and rough sets are carefully investigated. Then, the TAO model of 3WD and its corresponding extensions, such as utility-based three-way decision, behavioral three-way decision and regret three-way decision are discussed respectively. Moreover, some latest research progresses on the fusions of 3WD and uncertain artificial intelligence are carefully investigated. Finally, the research status and future research topics of 3WD are presented.

Keynote Speech 6: Advanced Machine Learning Structures over Big Data Repositories: Definitions, Models, Properties, Algorithms

Prof. Alfredo Cuzzocrea,
University of Calabria, Rende, Italy; University of Paris City, Paris, France

Biography: Alfredo Cuzzocrea is Professor of Computer Engineering at the University of Calabria, Rende, Italy. He also covers the role of Excellence Chair in Big Data Management and Analytics at the University of Paris City, Paris, France. He is the Director of the Big Data Engineering and Analytics Lab of the University of Calabria, Rende, Italy. He is also Research Fellow of the National Research Council (CNR), Rome, Italy. His current research interests span the following scientific fields: big data, database systems, data mining, data warehousing, and knowledge discovery. He is author or co-author of more than 750 papers in international conferences, international journals and international books. He is recognized in prestigious international research rankings, such as: (i) 1st World-Wide Scientist 2020 and 20211 for Research Topic: "OnLine Analytical Processing (OLAP)" by Microsoft Academic, Redmond, WA, USA; (ii) Top 2% World-Wide Scientist 2017, 2018, 2019, 2020 and 2021 by METRICS, Stanford, CA, USA; (iii) Top-100 Italian Scientist in Computer Science and Electronics 2022 and 2023 by Guide2Research, Clifton, NJ, USA; (iv) Top Scientist in Computer Science and Electronics 2019, 2020, 2021, 2022 and 2023 by Guide2Research, Clifton, NJ, USA; (v) Top-100 Researcher in Computer Science 2017-2021 for Research Topic: "Computer Science" by SciVal – Elsevier, Amsterdam, Netherlands; (vi) Top-100 Researcher in Computer Science 2017-2021 for Research Topic: "Theoretical Computer Science" by SciVal – Elsevier, Amsterdam, Netherlands; (vii) Top-100 Researcher in Computer Science 2012-2016 for Research Topic: "Computer Science" by SciVal – Elsevier, Amsterdam, Netherlands; (viii) Top-100 Researcher in Computer Science 2012-2016 for Research Topic: "Theoretical Computer Science" by SciVal – Elsevier, Amsterdam, Netherlands; (ix) Top-100 Italian Scientist in Computer Sciences 2022 by Virtual Italian Academy, Manchester, UK; (x) Top Italian Scientist in Computer Sciences 2016, 2017, 2018, 2019, 2020, 2021 and 2022 by Virtual Italian Academy, Manchester, UK.

Abstract: Big data repositories contain great-value data from which actionable knowledge insights can be meaningfully derived in order to support a wide spectrum of modern applications, such as smart cities, social networks, e-science, bio-informatics, and so forth. How to extract these interesting patterns from such large-scale repositories? The latter is a fundamental research question that is still open. Inspired by the described research challenge, this talk will explore the issue of supporting advanced machine learning structures over big data repositories, whose final goal is realizing meaningful knowledge discovery tasks. These "structures" are rather programs than tasks so that they incorporate machine learning procedures within high-level (program) controls whose main goal is that of magnifying the expressive power of the whole big data analytics process implemented as a collection of singleton big data analytics tasks. In turn, each task is implemented in term of a proper advanced machine learning structure. The talk will provide introduction and motivations to the investigated problem, analysis of related work, and the proposal of a formal framework supporting these innovative structures.

Part IV Oral Presentation

Oral Presentation Guidelines

- The oral presentations include the forms of onsite presentations and online presentations via **Microsoft Teams (MS Teams)** meeting. The online presentations include pre-recorded video presentations and oral presentations on live via MS Teams. The regular oral presentation is 15 minutes including 2-3 minutes for Q&A; the invited speech is 20 minutes including 2-3 minutes for Q&A.
- For onsite oral presentations, please make the following preparations:
  1) The presentation PowerPoint or PDF should be formatted with figures and tables, plain text is inappropriate;
  2) Speakers are recommended to bring their presentation data in the form of PPT or PDF by a USB memory stick and send one copy to the organizing committee as a backup. For those who have not sent a file to the committee or any update needed, please copy it to the laptop in the session room about 15 minutes before the starting time, and make sure it could be normally displayed;
- For oral presentations on live, please refer to the official instructions on how to share content via MS Teams before the conference.
- The pre-recorded video should be uploaded to FSDM 2023 online submission system **before October 20, 2023** in the format of **.mp4** and time duration should be 15-20 mins.
- Visit ***Here*** to know How to record a video with PowerPoint.
- The PPT either for onsite presentation or online presentation could be designed as you like with requirements as below:
  - ✓ The conference logo should be added to each PPT slide
  - ✓ Paper ID, title, presenter and affiliation information should be indicated in the first slide
  - ✓ Each slide should be concise, uncluttered and readable from a distance
  - ✓ Include only key words and phrases for visual reinforcement
- All speakers should inform the Session Chair (before the start of your Session) that you are in the meeting room.
- Signed and stamped oral presentation certificate would be issued after presentation.

Best Oral Presentations Award

Selection Criteria

A best presentation will be selected based on the following items:

- ✓ Research Quality
- ✓ Presentation Performance
- ✓ Presentation Language
- ✓ Interaction with Listeners
- ✓ PowerPoint Design
- ✓ Effective Communications

Selection Procedure

- ➢ An assessment sheet will be delivered to listeners before the session;
- ➢ Write the numbers of two candidates for best presentations and submit the filled assessment

sheet (with the listener's name and signature) to the Session Chair before the session termination.

- The Session Chair will count the votes for each presentation and name the winner based on the maximal number of votes. The Session Chair has three votes but can use only one in favor of his/her own presentation (if any). To avoid any conflict of interests, only registered listeners are entitled to vote.

Nature of the Award:

- This award consists of free registration to the next conference FSDM 2024 and a certificate;
- The awards will be announced at the official website after the conference.

Assessment Sheet Sample

Oral Presentation Assessment

Dear participants,

After carefully listening to the presentations of this session, please kindly recommend two excellent Oral Presentations with reference to the following evaluation criteria.
The Session Chair will count the votes from each presentation and select One Best Oral Presentation in this session. If there is a tie, the Session Chair will make the final decision.
The winner will be announced at the official website after the conference.

You can refer to the following Criteria:

Items	Assessment
Content	Right, Logical, Original, Well-Structured
Language	Standard, Clear, Fluent, Natural
Performance	Spirited Appearance, Dress Appropriately, Behaves Naturally
PPT	Layout, Structure, Typeset, Animation, Multimedia
Reaction	Build a Good Atmosphere, Speech Time Control Properly

Please write down paper ID and give reasons for your recommendation for two candidates:

Paper ID	Reasons

Evaluated by: _____ (Paper ID: _____)

Note: When the session finished, please fill it out and give it to the Session Chair so that the Best Oral Presentations in this session can be selected.

Special Session on "Granular-ball Computing"

November 11, 2023 (Saturday) (GMT+8, Beijing Time)

Session Chair: *Prof. Shuyin Xia, Chongqing University of Posts and Telecommunications, China*

Location: Haiyang Hall 1st Floor

Teams Link: http://www.academicconf.com/teamslink?confname=fsdm2023

15:50-16:10	**Invited Speech 1**	Granular-ball Computing: an Adaptive, Efficient, Robust, Interpretable Method for Multi-Granularity Representation and Intelligent Computing *Prof. Shuyin Xia, Chongqing University of Posts and Telecommunications, China*
16:10-16:25	**FSDM4293**	T-GBBFRS: A Robust Classifier Model Based on Fuzzy Rough Sets of Granular-Ball *Ms. Zixuan Wang, Chongqing University of Posts and Telecommunications, China*
16:25-16:40	**FSDM4332**	Heterogeneous Multi-attribute Group Decision-making Integrating Multi-granulation Weighting Model and Improved VIKOR in Uncertain Linguistic Environment *Assoc. Prof. Jifang Pang, Shanxi University, China*
16:40-16:55	**FSDM4357**	GBG++: A Fast and Stable Granular Ball Generation Method for Classification *Ms. Qin Xie, Chongqing University of Posts and Telecommunications, China*
16:55-17:10	**FSDM4360**	Granular-ball Weighted Computing *Dr. Xiaoyu Lian, Chongqing University of Posts and Telecommunications, China*
17:10-17:25	**FSDM4361**	Attribute Ranking Based on Granular-Ball Rough Set *Ms. Yiping Xiong, Chongqing University of Posts and Telecommunications, China*
17:25-17:40	**FSDM4365**	A Parameter Optimization Model Based on Granular-Ball Support Vector Machine *Ms. Youlin Hua, Chongqing University of Posts and Telecommunications, China*
17:40-17:55	**FSDM4364**	An Adaptive Novel Neighborhood Granular Rough Set Algorithm Based on DBSCAN *Mr. Xueqin Zhu, Chongqing University of Posts and Telecommunications, China*

Special Session on "Application of Generative AI" &
Oral Session 1: Data Mining, Machine Learning and Neural Networks

November 12, 2023 (Sunday) (GMT+8, Beijing Time)

Session Chair: *Dr. Yingwei Yu, Generative AI Innovation Center (GAIIC), Amazon Web Services (AWS), USA*

Location: Jiehui Room 3rd Floor

Teams Link: http://www.academicconf.com/teamslink?confname=fsdm2023

08:30-08:50	**Invited Speech 2 (**live**)**	Security and Privacy in Machine Learning *Assoc. Prof. Hamed Taherdoost, Hamta Business Corporation; University Canada West, Vancouver, Canada*
08:50-09:10	**Invited Speech 3 (**live**)**	The Generative AI Landscape in Large Enterprises *Dr. Diego Socolinsky, Amazon Web Services, USA*
09:10-09:25	**FSDM4171**	An End-to-end Solution for Net Promoter Score Estimation and Explanation from Social Media using Natural Language Processing *Dr. Xinghua Liang, Amazon Web Services, USA*
09:25-09:40	**FSDM4246**	A Tutorial of Applying Stable Diffusion to Generate Time Series Data *Dr. Yingwei Yu, Amazon Web Services, USA*
09:40-09:55	**FSDM4295**	FundRecLLM: Fund Recommendation Based on Financial News and Research Analyst Report *Dr. Guang Yang, Amazon, Shenzhen, China*
09:55-10:10	**FSDM4349**	Topic Knowledge based Controlled Generation for Long Documents using Retrieval-based Language Models *Dr. Xuefei Zhang, Amazon, Shenzhen, China*
10:10-10:30		**Coffee Break**
10:30-10:45	**FSDM4271**	Noncommunicable Diseases (NCDs) Classification by the Radius Local k-Point Radial Basis Function (RLRBF) Neural Networks *Mr. Narongdech Dungkratoke, Suranaree University of Technology, Thailand*
10:45-11:00	**FSDM4273**	On the Wavelet Convolution Neural Networks for Ultra-sound based Breast Cancer Detection *Mr. Pichapop Paewpolsong, Suranaree University of Technology, Thailand*
11:00-11:15	**FSDM4300**	Fuzzy Temporal Data Mining *Prof. P. Venkata Subba Reddy, Sri Venkateswara University, India*
11:15-11:30	**FSDM4131** (live)	Robust Convolutional Neural Network for Image Classification with Gaussian Noise *Assoc. Prof. Sugiyarto Surono, FAST Universitas Ahmad Dahlan Yogyakarta, Indonesia*
Below are three video presentations. Please watch the videos online via (http://www.academicconf.com/video?confname=fsdm2023).		

	FSDM4166 (video)	A Method to Explore the Synchronous Changes of High-Traffic Events Based on Dynamic Networks *Ms. Yuwen Huang, Inner Mongolia University of Technology, China*
	FSDM4167 (video)	Algorithms of time Series Network: Approaches Reproduction and Networks Topology *Dr. Li-Na Wang, Inner Mongolia University of Technology, China*
	FSDM4140 (video)	Ecosystem Stability Analysis and Numerical Simulation via Three Improved Lotka Volterra Models *Mr. Yuanshen Wang, Chongqing University of Arts and Sciences, China*

Oral Session 2: Fuzzy Theory, Algorithm and System

November 12, 2023 (Sunday) (GMT+8, Beijing Time)

Session Chairs: *Assoc. Prof. Chao Zhang, Shanxi University, China*
Dr. Wentao Li, Southwest University, China

Location: Zunhui Room 3rd Floor

Teams Link: http://www.academicconf.com/teamslink?confname=fsdm2023

08:30-08:50	**Invited Speech 4**	Topological Structures of Spaces of Fuzzy Numbers *Prof. Zhongqiang Yang, Minnan Normal University, China*
08:50-09:10	**Invited Speech 5**	The Universal Triple I Method for Fuzzy Inference and Fuzzy System *Prof. Yiming Tang, Hefei University of Technology, China*
09:10-09:30	**Invited Speech 6**	The Exploration of Three-Way Decision Approaches in Generalized Intuitionistic Fuzzy Contexts *Assoc. Prof. Chao Zhang, Shanxi University, China*
09:30-09:50	**Invited Speech 7**	Interval Dominance-Based Feature Selection for Interval-Valued Ordered Data *Dr. Wentao Li, Southwest University, China*
09:50-10:05	**FSDM4185**	The Level Cardinality of Fuzzy Module Under Z-Module Homomorphism on Z_n into Z_m Where gcd (n,m) is Product of Primes *Prof. Shery Fernandez, Cochin University of Science and Technology, India*
10:05-10:20		**Coffee Break**
10:20-10:35	**FSDM4310**	An Improved Intuitionistic Fuzzy Entropy And Its Analysis *Ms. Yushi Lan, North Minzu University, China*
10:35-10:50	**FSDM4339**	Similarity Measurement and Analysis of Triangular Cloud Models *Ms. Wenyuan Wu, North Minzu University, China*
10:50-11:05	**FSDM4268**	A New Distance Measures for Picture Fuzzy Sets and Their Application *Mr. Xiankui Meng, Guangdong Polytechnic Normal University, China*

11:05-11:20	**FSDM4176**	The Best Mean Square Approximation of Multivalued Random Variables *Ms. Mengxiao Li, Beijing University of Technology, China*
11:20-11:35	**FSDM4307**	Topological Properties of Rough Set Model Based on Axiomatic Fuzzy Set *Ms. Siyu Xu, Southwest Jiaotong University, China*
11:35-11:50	**FSDM4264**	Applications and Research of L-fuzzy Matrix *Dr. Yueru Zhang, Mudanjiang Normal University, China*
11:50-12:05	**FSDM4235**	A Novel Evaluation Model for Subcontractor Performance in the Construction Industry Based on Fuzzy Borda Method *Mr. Sen Peng, Nanchang University, China*
Below are two video presentations. Please watch the videos online via (http://www.academicconf.com/video?confname=fsdm2023).		
	FSDM4263 (video)	N-Compactness of Intuitionistic L-Fuzzy Topological Space *Ms. Jiaxin Gao, Yan'an University, China*
	FSDM4323 (video)	Generalized Countable Fuzzy Semi-compactness in L-topological Spaces *Ms. Qiaoqiao Li, Yan'an University, China*

Oral Session 3: Interdisciplinary Field of Fuzzy Logic and Data Mining

November 12, 2023 (Sunday) (GMT+8, Beijing Time)

Session Chairs: *Prof. Renying Zeng, Saskatchewan Polytechnic, Canada*
Assoc. Prof. Konstantin Ryabinin, Heidelberg University, Germany

Location: Zunhui Room 3rd Floor

Teams Link: http://www.academicconf.com/teamslink?confname=fsdm2023

13:30-13:50	**Invited Speech 8** (live)	Consistent Equilibrium in an Oligopoly with a Discontinuous Demand *Prof. Viacheslav Kalashnikov, Public University of Nuevo León, Mexico*
13:50-14:05	**FSDM4228** (live)	Clustering Methods for Spherical Data: An Overview and a New Generalization *Prof. Sungsu Kim, University of Wisconsin-Green Bay, USA*
14:05-14:25	**Invited Speech 9 FSDM4249**	Analytic Center Cutting Plane Algorithms and Economic Equilibrium Problems *Prof. Renying Zeng, Saskatchewan Polytechnic, Canada; Chongqing Key Laboratory of Operations Research and System Engineering Chongqing, China*
14:25-14:40	**FSDM4330**	Research and Application of Power Monitoring System Based on Internet of Things *Ms. Renbing Zhang, Harbin Engineering University, China*

14:40-14:55	**FSDM4194**	Identifying Key Nodes Based on TS Distance in Time-varying Social Networks *Ms. Yayun Liu, Kunming University of Science and Technology, China*
14:55-15:10	**FSDM4206**	An Enhancement Method in Few-Shot Scenarios for Intrusion Detection in Smart Home Environments *Ms. Junxiang Wang, China West Normal University, China*
15:10-15:25	**FSDM4286**	Fast-growing Field: Bibliometrics of Cryptocurrency and Blockchain Research *Mr. Hongchang Li, Yunnan University of Finance and Economics, China*
15:25-15:40		**Coffee Break**
15:40-15:55	**FSDM4195**	NEO: Neural Demand Prediction and Evolutionary Optimization of EV Network Charging Infrastructure *Mr. Chia E Tungom, Shenzhen University, China*
15:55-16:10	**FSDM4325**	Enhanced Multi-Target Tracking with Combination of Position, Power and Ambiguous Doppler Measurements *Ms. Tran Thi Thanh, Radar Center, Viettel High Technology and Industries Corporation, Vietnam*
16:10-16:25	**FSDM4242** (live)	Explicit Construction of the Eigenvectors and Eigenvalues of the Graph Laplacian on the Cayley Tree *Dr. Aslı Tuncer, Koç University, Turkey*
16:25-16:40	**FSDM4231** (live)	Wind Loads on Structures: A Finite Element-based Computational Fluid Dynamics Analysis in Evaluating the Wind Tunnel Effects on Low-Rise Structures *Mr. Benjamin Flores, Mapua University, Philippines*
16:40-16:55	**FSDM4347** (live)	Towards a Universal Understanding of Color Harmony: Fuzzy Approach *Dr. Pakizar Shamoi, Kazakh-British Technical University, Kazakhstan*
16:55-17:10	**FSDM4324** (live)	Risk Analysis of Oil/Gas Leakage of a Field Subsea Production System Based on Fuzzy Fault Tree *Dr. Bernardo Elembo Wilasi, Escuela Tecnica Superior de Ingenieros de Minas y Energia, Spain*
17:10-17:25	**FSDM4150** (live)	Eye Tracking Data Mining Based on Fuzzy Sets of Fixations *Assoc. Prof. Konstantin Ryabinin, Heidelberg University, Germany*
17:25-17:35	Closing Speech by Prof. Wei Zhu, Dean, College of Science, Chongqing University of Posts and Telecommunications, China *Chaired by Mr. Hua Hu, Deputy Director of International Exchange, Chongqing University of Posts and Telecommunications, China*	

Part V Poster Presentation

Poster Presentation Guidelines

Materials Provided by the Conference Organizer:

- X Racks & Base Fabric Canvases
- Adhesive Tapes or Clamps

Materials Provided by the Presenters:

- Home-Made Posters
- Posters Printed by Conference

Requirement for the Posters:

- Material: not limited

Size: 160cm (height) ×60cm (width)

X-Rack

Best Poster Presentation Selection Procedure

Selection Criteria:

- Research Quality
- Presentation Skill
- Design

Samples of Stickers

Selection Procedure:

- 10 volunteers will be invited from the participants to serve as the judges to review the posters (Note: A judge would not have a poster or know the participant exhibiting a poster)
- 2 red stickers and 2 green stickers will be provided to the judges. The red sticker stands for "Research Quality" with a value of 2 points; the green sticker stands for "Presentation Skill and Design" with a value of 1 point
- Each judge will go around the poster session and give the stickers to the poster which he/she thinks is of high quality or well designed and well presented, please be noticed that the judge cannot give 2 red or 2 green stickers to the same poster (one red and one green sticker are acceptable)
- After the poster session, the conference secretary will count the points from each poster and one best poster presentation with more points will be selected. If there is a tie, the one with more red (Research Quality) stickers wins.

Nature of the Award

- This award consists of free registration to the FSDM 2024 and a certificate
- **One Best Poster Presentation** will be selected after session finishes with certificate issued and results announced on FSDM 2023 website.

List of Posters

14:50-15:50, November 11, 2023 (Saturday)

Location: Haiyang Hall 1st Floor

FSDM4190	Fully 2D Convolutional Network for Continuous Sign Language Recognition *Dr. Jing Li, Harbin Engineering University, China*
FSDM4199	Centrifugal Navigation-Based Emotion Computation Framework of Bilingual Short Texts with Emoji Symbols *Ms. Qingqing Chen, China West Normal University, China*
FSDM4200	Ship Image Recognition Based on Stepwise Super-Resolution Generative Adversarial Network *Dr. Wei Wu, Hainan Institute, Zhejiang University, China*
FSDM4221	Improvement of YOLOv5's Orange Red Growth Period Detection Algorithm *Assoc. Prof. Hongwei Ren, Guangdong University of Petrochemical Technology, China*
FSDM4252	Design and Implementation of an Intelligent Mattress for Elderly Night Care Based on ZigBee Technology *Prof. Yiqin Bao, Nanjing Xiao Zhuang University, China*
FSDM4274	BFCM: Feature Engineering based B-spline FCM for Skin Lesion Segmentation in Dermoscopy Images *Dr. Laquan Li, Chongqing University of Posts and Telecommunications, China*
FSDM4277	Low-rank Exponential Integrators for Differential Riccati Equation *Dr. Dongping Li, Changchun Normal University, China; Jilin University, China*
FSDM4287	Dynamic Analysis of a Discrete Predator-Prey Model with Increased Density of Both Predator and Prey *Prof. Xiaoliang Zhou, Lingnan Normal University, China*
FSDM4292	E-Yolov7: A Life Jacket Detection Algorithm Based on Yolov7 *Ms. Jiajia Xu, Shanghai Maritime University, China*
FSDM4298	Time-Varying Formation Control for Multiagent Systems with Different Time Delays *Mr. Qinbo Liang, Chongqing University of Posts and Telecommunications, China*
FSDM4301	Numerical Comparison of the Three Poisson Arrival Queuing System Models *Assoc. Prof. Lisha Piao, Dianchi College of Yunnan University, China*
FSDM4311	Three-way Decision-Making Based on Incomplete Information System and Its Application *Ms. Songqian Mao, North Minzu University, China*
FSDM4312	Research on Backward Cloud Transformation Algorithm Based on Adding Cloud Drops *Assoc. Prof. Changlin Xu, North Minzu University, China*
FSDM4313	Periodic Travelling Waves of the Delayed Nicholson's Blowflies Model with Diffusion *Ms. Xiaxia Wu, Chongqing University of Posts and Telecommunications, China*
FSDM4316	Hyperparameter Adaptive Neural Network Model for E-commerce Sales Prediction *Mr. Guanglu Zhao, Northwest Normal University, China*
FSDM4319	Two Count Sketch Kaczmarz Algorithms for Linear Systems *Mr. Yikang Wang, Chongqing University of Posts and Telecommunications, China*

FSDM4320	Block Multipath Matching Pursuit *Dr. Jie Zhou, Chongqing University of Posts and Telecommunications, China*
FSDM4329	Interval-valued Fermatean Fuzzy Multi-attribute Group Decision-Making Method with a Consensus Mechanism *Mr. Siyue Lei, Northwest Normal University, China*
FSDM4331	A New Interval-valued Fuzzy Entropy Based on Interval-valued Q-rung Orthopair Fuzzy Sets *Mr. Dong Ren, Northwest Normal University, China*
FSDM4338	The Similarity Measurement of Normal Cloud Concept Based on Hellinger Distance and Expectation Curve with Entropy *Ms. Kuan Wang, North Minzu University, China*
FSDM4240	Concentration Diagnosis in Soft Sensing Based on Bayesian t-Distribution Mixture Regression *Ms. Hanmei Yang, Guangdong University of Petrochemical Technology, China*
FSDM4322	RM-GAN: Region Attention Mechanism and Multi-scale Features for Respirator Defect Generation *Dr. Qiang He, China Southern Power Grid Co., Ltd, China*
FSDM4334	Discolored Transformer Breather Recognition for Substation Based on Improved YOLOv8 *Dr. Xin You, China Southern Power Grid Co., Ltd, China*
FSDM4204	Development of A Tripartite Evolutionary Game for the Electric Vehicle Charging Infrastructure *Mr. Zigao He, Hohai University, China*

Part VI Conference Venue

Radisson Blu Hotel Chongqing Sha Ping Ba

Address: No. 8 Huiquan Road, Shapingbaqu, Chongqing, China

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Radisson Blu Hotel Chongqing Sha Ping Ba

(重庆融汇丽笙酒店)

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地址：重庆市沙坪坝区汇泉路 8 号

会议酒店房间预定电话:+86 23-88669999-3502-3500-3501

销售经理朱艳手机 Cellphone:+86 18183113392

Access to Radisson Blu Hotel Chongqing Sha Ping Ba (重庆融汇丽笙酒店)

1. Chongqing Jiangbei International Airport - Radisson Blu Hotel Chongqing Sha Ping Ba (About 32 KM)

(1) **By taxi: About 48 minutes' drive.** Taxi fare about CNY 75.

(2) **By Metro →Bus→ Walk: about 1 hour 30 minutes.** Metro ticket and bus fare about CNY 9.

Take **Line 10 Metro**, starting from Jiangbei International Airport T2 terminal Station(江北国际机场 T2 航站楼) towards **Lanhualu(往兰花路方向)**, get off at the 4th stop **Shangwanlu (上湾路站)**; transfer to **Line 9 Metro**, starting from Shangwanlu (上湾路站) towards **Xinqiao (往新桥方向)**, get off at the 19th stop **Tianlilu(天梨路站)**, get out from exit 1, walk 510 meters to **Bus stop Lanxigudi stop (蓝溪谷地站)** to get on **No. 224 Bus**, starting from Lanxigudi stop (蓝溪谷地站) towards Ronghui Hot Spring Center (融汇温泉中心方向), get off at the 6th stop **Ronghui Hot Spring No.1 (融汇温泉 1 站)**, **walk 120 meters** to Radisson Blu Hotel Chongqing Sha Ping Ba (重庆融汇丽笙酒店).

2. Chongqing North Railway Station - Radisson Blu Hotel Chongqing Sha Ping Ba (重庆融汇丽笙酒店) (About 18.3KM)

(1) **By taxi: About 30 minutes' drive**. Taxi fare about CNY 42

(2) **By Metro (about 1 hour and 6 minutes) (About 17.7 KM)** Metro ticket and bus fare about CNY 6.

Take **The outer ring of the rail transit loop (轨道交通环线外环) Metro**, start from **Chongqing North Railway Station South Square Station (重庆北站南广场站)**, towards Er-lang (二郎方向), get off at the 9th stop **Shapingba (沙坪坝站)**, get out from exit 4, walk 490 meters to **Bus stop Zhanxilu (站西路站)** to get on **No. 224 Bus**, starting from Zhanxilu stop (**站西路站**) towards Ronghui Hot Spring Center (融汇温泉中心方向), get off at the 9th stop **Ronghui Hot Spring No.1 (融汇温泉 1 站)**, **walk 120 meters** to Radisson Blu Hotel Chongqing Sha Ping Ba (重庆融汇丽笙酒店).

3. Chongqing West Railway Station - Radisson Blu Hotel Chongqing Sha Ping Ba (重庆融汇丽笙酒店) (About 9 KM)

(1) **By taxi**: **About 20 minutes**' drive **(About 8.3-9.4 KM)**. Taxi fare about CNY 22

(2) **By Metro (about 52 minutes) (About 11.1 KM)** Metro ticket about CNY 5

Take **The inner ring of the rail transit loop (轨道交通环线内环) Metro**, start from **Chongqing West Railway Station (重庆西站)**, towards Chongqing Library (重庆图书馆方向), get off at the 5th stop **Shapingba (沙坪坝站)**, get out from exit 4, walk 490 meters to **Bus stop Zhanxilu (站西路站)** to get on **No. 224 Bus**, starting from Zhanxilu stop (**站西路站**) towards Ronghui Hot Spring Center (融汇温泉中心方向), get off at the 9th stop **Ronghui Hot Spring No.1 (融汇温泉 1 站)**, **walk 120 meters** to Radisson Blu Hotel Chongqing Sha Ping Ba (重庆融汇丽笙酒店).

Part VII Acknowledgements

On behalf of the FSDM2023 Organizing Committee, we would like to take this opportunity to express our sincere gratitude to our participants. Without their support and contributions, we would not be able to hold the conference successfully. We would also like to express our acknowledgements to the Technical Program Committee members who have given their professional guidance and valuable advice as reviewers.

Special Thanks go to the supports from College of Science, Chongqing University of Posts and Telecommunications, China. Their continuous support and valuable opinions help us to meet the challenges of organizing the conference in this moment and those yet to come.

Below are the lists of the Organizing Committee and Technical Program Committee members. For those who contribute to the success of the conference organization without listing the name here, we would love to say thanks as well.

Organizing Committee

Conference Chairs

Prof. Guoyin Wang, Vice-President, Chongqing University of Posts and Telecommunications, China

Prof. Witold Pedrycz, University of Alberta, Canada

Conference Vice-chairs

Prof. Deli Zhang, Vice-President, Changchun Normal University, China

Prof. Vilem Novak, University of Ostrava, Institute for Research and Applications of Fuzzy Modeling, Ostrava, Czech Republic

Prof. Mohammed Chadli, University of Paris-Saclay, IBISC Lab., France

Prof. Jerry Chun-Wei Lin, Western Norway University of Applied Sciences, Bergen, Norway

Conference Co-chairs

Prof. Jimin Yu, College of Science, Chongqing University of Posts and Telecommunications, China

Prof. Wei Zhu, College of Science, Chongqing University of Posts and Telecommunications, China

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