RAFDA of PAKDD

Research and Applications of Foundation Models for Data Mining and Affective Computing (RAFDA), workshop of PAKDD

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Program

RAFDA 2024 (A workshop of PAKDD 2024, May 7th, Taipei)

Each presentation is allocated 20 mins (15-min presentation + 5-min Q&A session). However, please note that the program is just indicative: if a presenter is missing, we'll go ahead with the next talk. All times are in Western Standard Time (GMT+8).

PROGRAM

09:00-09:05 *Welcoming and introduction* (Zhaoxia Wang)
09:05-09:35 *Keynote Talk (Morning): Sentiment Analysis Beyond Public Opinions* (Yi Chen)
09:35-09:55 *Explainable AI for Stress and Depression Detection in the Cyberspace and Beyond* (Erik Cambria)
09:55-10:15 *InteraRec: Interactive Recommendations Using Multimodal Large Language Models* (Saketh Reddy Karra)

☕ **COFFEE BREAK**

10:45-11:05 *DLVS4Audio2Sheet: Deep Learning-based Vocal Separation for Audio into Music Sheet Conversion* (Nicole Teo, Ezekiel Ghe, and Kevan Oktavio)
11:05-11:25 *From Tweets to Token Sales: Assessing ICO Success through Social Media Sentiments* (Donghao Huang, Samuel)
11:25-11:45 *Construction of Academic Innovation Chain Based on Multi-level Clustering of Field Literature* (Wei Cheng)
11:45-12:05 *Enhancing Child Safety: Multimodal Approach for Video Sentiment Analysis in Online Environments* (Yee Sen Tan)

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LUNCH BREAK

13:30-14:00 *Keynote Talk (Afternoon): Bridging Trust: Combating Fakes and Frauds with Robust Graph Learning* (Cheng-Te Li)

14:00-14:20 *Evaluation of Orca 2 against other LLMs for Retrieval Augmented Generation* (Donghao Huang)
14:20-14:40 *Research on Dynamic Community Detection Method Based on Multi-dimensional Feature Information of Community Network* (Kui Hu)
14:40-15:00 *Toward Interpretable Graph Classification via Concept-Focused Structural Correspondence* (Tien-Cuong Bui)
15:00-15:20 *Enhanced Graph Neural Network for Session-Based Recommendation with Static and Dynamic Information* (Kai Zheng)
15:20-15:30 *Final Remarks and Group Photo Session: RAFDA 2024* (Everyone)

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KEYNOTE SPEAKER (Morning)

Prof Yi Chen

Prof Yi Chen holds the Martin Tuchman '62 Chair and is a Professor of Business Data Science in the Martin Tuchman School of Management, with a joint appointment in the Computer Science Department, at the New Jersey Institute of Technology. Her current research focuses on machine learning applications for users, encompassing user engagement, recommender systems, privacy, health, and well-being. She has served as the Associate Editor for TKDE, PVLDB, IJOC, and was the General Chair for SIGMOD 2012. She is a recipient of the PVLDB Distinguished Associate Editor Award, the Peter Chen Big Data Young Researcher Award, Google Research Awards, IBM Faculty Awards, and an NSF CAREER Award.

ABSTRACT

Sentiment analysis uses natural language processing and machine learning techniques to assess the emotional tone in texts and classify them as positive, negative, or neutral. It is widely used to analyze user-generated content, thus offering valuable insights into public opinions on products, services, or events. However, sentiment analysis can extend beyond the analysis of public opinions, offering the potential for analyzing a wider range of content across a broad spectrum of applications. One novel application of sentiment analysis lies in the medical domain. As a case study, we propose drawing an analogy between cancer biomarker extraction from pathology reports and aspect-based sentiment analysis in product reviews. This allows for leveraging and adapting a wealth of sentiment analysis literature to the medical domain, bringing significance to cancer diagnosis, prognosis, and treatment planning.

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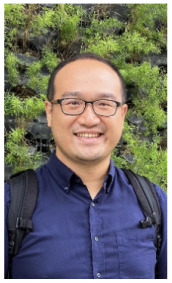
KEYNOTE SPEAKER (Afternoon)

Prof Cheng-Te Li

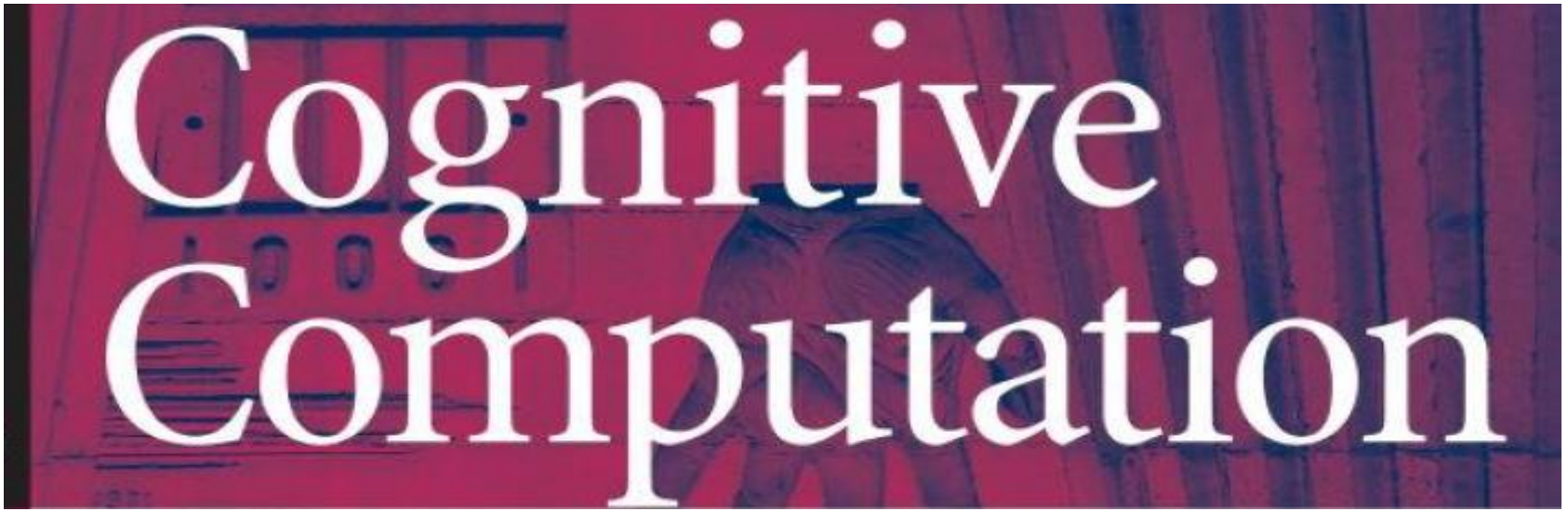


Prof Cheng-Te Li is currently Full Professor at the Department of Computer Science and Information Engineering, National Cheng Kung University (NCKU) in Tainan, Taiwan. He earned his Ph.D. degree in 2013 from the Graduate Institute of Networking and Multimedia at National Taiwan University. Prior to joining NCKU, Dr. Li served as an Assistant Research Fellow at CITI, Academia Sinica, from 2014 to 2016. Focusing on Machine Learning and Data Mining, Dr. Li's research explores their applications in Social Networks, Social Media, Recommender Systems, and Natural Language Processing. His work has been featured at premier conferences such as KDD, TheWebConf (WWW), ICDM, CIKM, SIGIR, IJCAI, ACL, EMNLP, and NAACL. Recently, his group has presented lecture-style tutorials on Graph Neural Networks at top conferences, including WWW, IEEE ICDE, and ACML. Dr. Li leads the Networked Artificial Intelligence Laboratory (NetAI Lab) at NCKU.

ABSTRACT

In the digital era, where misinformation and fraud proliferate, robust graph learning emerges as a critical tool for restoring trust. This talk delves into the advances graph learning for counteracting the complexities of fake news, rumors, and fraudulent activities across various domains. Leveraging the robust graph neural networks learned from transactions, text, and tabular datasets, this talk will show how innovations in generative methods, such as data augmentations and synthesis, and self-supervised learning, such as contrastive and curriculum learning, are reshaping the landscape of trustworthiness in digital and physical marketplaces. These advanced graph models not only enhance the detection and mitigation of deceitful practices but also pave the way for more transparent, reliable information exchange. The presentation will highlight graph learning's effectiveness in building robust ecosystems immune to falsehoods, focusing on applications in rumor and customs fraud detection, AI-driven food safety, and social media privacy. In doing so, it will present a strategy for employing powerful graph models to navigate and neutralize the challenges brought on by disinformation and deceit, showcasing a committed pathway toward upholding truth in our interconnected society.

Sentic Computing Section



If you use any sentic algorithm or resource, consider submitting to our Special Section on Cognitive Computation (5.418 impact factor)

https://sentic.net/scs.pdf

Explicable Artificial Intelligence for Affective Computing

Guest Editors:

Rui Mao✉, Nanyang Technological University, Singapore
Erik Cambria, Nanyang Technological University, Singapore
Melvin Chen, Nanyang Technological University, Singapore
Zhaoxia Wang, Singapore Management University, Singapore
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Background:

As Artificial Intelligence (AI) advances, the need for transparency and interpretability in its decision-making processes becomes more pronounced, especially within the domain of affective computing. The capacity of AI systems to comprehend and react to human emotions introduces ethical considerations, necessitating a delicate equilibrium between innovation and accountability. Various stakeholders, spanning end-users, developers, and policymakers, express a collective need for a more profound comprehension of these systems, particularly in emotionally charged situations.

The motivation of this Special Issue stems from the inherent challenges in creating AI models that not only accurately recognize and respond to human emotions but also provide clear, interpretable insights into their decision-making processes. The Special Issue also aims at enriching the connotation of Explicable AI with diverse and comprehensive dimensions. Expanding the meaning of explicability is not just about deciphering the “black box” nature of AI models; it involves a broader understanding that encapsulates various facets crucial for fostering user trust, ethical considerations, and interdisciplinary collaboration.

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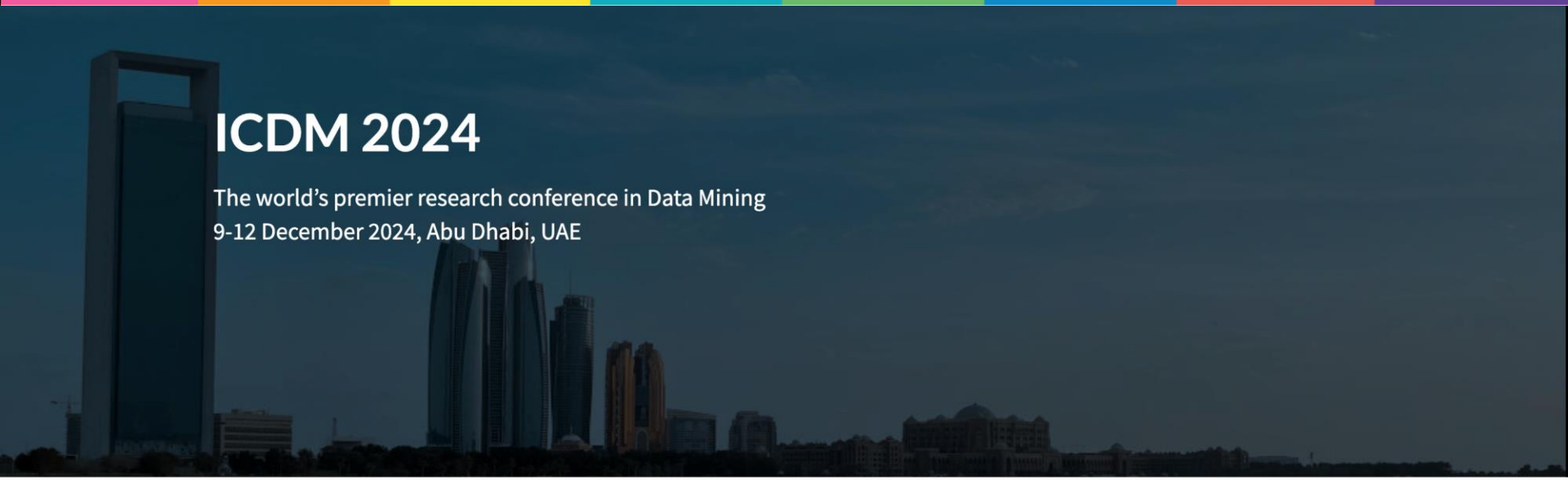
SENTIRE



The IEEE International Conference on Data Mining (ICDM) has established itself as the world's premier research conference in data mining. It provides an international forum for presentation of original research results, as well as exchange and dissemination of innovative and practical development experiences. The conference covers all aspects of data mining, including algorithms, software, systems, and applications. ICDM draws researchers, application developers, and practitioners from a wide range of data mining related areas such as big data, deep learning, pattern recognition, statistical and machine learning, databases, data warehousing, data visualization, knowledge-based systems, and high-performance computing. By promoting novel, high-quality research findings, and innovative solutions to challenging data mining problems, the conference seeks to advance the state-of-the-art in data mining.

Key dates

- September 10, 2024: Workshop papers submission
- October 7, 2024: Notification of acceptance to authors
- October 11, 2024: Camera-ready deadline
- December 9, 2024: Workshops date

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