

# International Conference on Electronic Commerce 2023

## Workshop on AI/ChatGPT and Bright Internet

June 30, 2023 (Friday), 9:00 am-5:00 pm at Xi'an Jiaotong University



### Purpose of Workshop

This workshop review the progress of Generative AI from pioneering ChatGPT and many competing tools in the USA, China, and South Korea. The experts from academia and industry present the interesting topics about the opportunities & challenges and yesterday & future of Generative AI. We review the social impacts and responsibility aspects of AI with the perspective Bright Origin research. We will have two keynote speeches by outstanding active speakers and three panels on AI Generated Contents and AI enabled Bright Internet Research. This workshop will give knowledge about the progress of this field and insight for the future academic research.

**Chairs:** Jae Kyu Lee, Shan Liu (Xi'an Jiaotong University) and Zhangxi Lin (Texas Tech University)

### Keynote Speech 1: Kyoung Jun Lee

#### "Exploring the ChatGPT Revolution: Opportunities and Challenges"



This speech covers the revolutionary aspects of hyperscale foundation models, with a specific focus on GPT-4, from conversational, generative, and general AI perspectives. Additionally, we will examine the impact of the GPT revolution on various industries and explore new business models using case studies, as well as discuss future prospects. Lastly, we will share ongoing research and development efforts to integrate

transformers with federated learning.

**Kyoung Jun Lee** is a professor of AI and Business at Kyung Hee University in Seoul, South Korea. He is the director of Research Institute of UCAI (User-Centric AI) Forum and the Humanitas Big Data Research Center. Lee received his B.S., M.S., and Ph.D. degrees in Management Science from the Korea Advanced Institute of Science and Technology (KAIST), as well as a M.S. and Ph.D. in Public Administration from Seoul National University. Lee has won the Innovative Applications of Artificial Intelligence Awards from the American Association for Artificial Intelligence (AAAI) in 1995, 1997, and 2020. He has also served as a visiting scientist and professor at Carnegie Mellon University, the Massachusetts Institute of Technology, and the University of California at Berkeley. Lee was the President of the Korean Intelligent Information Systems Society in 2017.

## **Keynote Speech 2: Zhangxi Lin**

### **"From Reproduction to Comprehension: AIGC Yesterday, Today and Tomorrow"**



This speech will present the evolution of AIGC (Artificial Intelligence Generated Content) from simple reproduction to advanced comprehension, its current state, and future trend. We will explore the feasibility and strategy of combining deep learning with cognitive learning towards the ultimate goal of achieving artificial general intelligence. Furthermore, it will also discuss the challenging issues surrounding AIGC applications, such as knowledge fusion, security impact, legal problems, and more.

**Zhangxi Lin** is a Professor Emeritus at Texas Tech University, holding a Ph.D. in Information Systems from The University of Texas at Austin, as well as a Master's degree in Computer Applications from Tsinghua University and another Master's degree in Economics from The University of Texas at Austin. Professor Lin's journey with AI began during his studies at Tsinghua University from 1979 to 1982. In 1989, he published his paper on knowledge-based text report generation. He began his foray into electronic commerce research in 1993, and since 1995, he has been a passionate advocate for electronic commerce research and entrepreneurship in China. Starting from 2007, Professor Lin's research interests have gradually extended to several domains, including Big Data, FinTech, blockchain, and the Digital Economy. His previous work in AI and E-commerce has enriched these areas of study. Additionally, he serves as a steering member of the International Conference on Electronic Commerce.

## **Panels: Artificial Intelligence Generated Contents**

### **"AI in E-Commerce: Unveiling the Benefits and Impacts of AIGC"**

(Chairs: Zhangxi Lin and Chen Wang)

#### **Theme**

OpenAI's launch of ChatGPT in November 2022 marked a significant milestone in the evolution of **Artificial Intelligence Generated Contents** (AIGC). Within a month of its release, ChatGPT had already garnered 100 million subscribers, and this number was tripled two months later. We have seen mushrooming AIGC applications in recent months, such as Google's rival BERT, Baidu's AIGC service Wenxin Yiyan, AI-generated image platform

Midjourney, and AI-powered music generator Amper Music, among many others. However, it is also important to note the potential for AI techniques to be used for malicious purposes, such as deepfakes, AI-based security breaches, and AI-powered crimes. As AIGC continues to advance, such as GPT-4, and demonstrate ever-more-powerful reasoning capabilities, questions arise about the potential for AI-generated content to surpass human intelligence and lead to AI general comprehension. Some even wonder whether silicon-based life could eventually supplant carbon-based life.

The aim of this panel is to address the abovementioned concerns and explore the opportunities and challenges of AI in the e-commerce sector. It will delve into the impact of advanced AIGC on the business world while also examining the cutting-edge of AI research. The panel seeks to bring together individuals from academia and industry to discuss issues related to academic research and potential applications in e-commerce, while also considering ethical and regulatory concerns that arise from the implementation of AIGC technologies in the industry.

### **Panel Objectives:**

1. Envisioning the innovative opportunities brought about by AIGC to prepare for the next surge in e-commerce.
2. Developing a better understanding of the positive and negative impacts of AI on e-commerce.
3. Establishing a list of tasks for the e-commerce industry to address the challenges posed by the emerging AIGC market.
4. Identifying legislative issues for better harnessing the power of AIGC.

The panel is composed of two sessions. The first session is focused on status, opportunities, technologies, and trend of AIGC. The second session is intended to discuss impacts, challenges, research frontiers, and legal issues of AI in the future.

The esteemed panelists hail from a variety of backgrounds, including artificial intelligence, data science, law, fine art, finance, and beyond, with experiences in both academia and the business world. It will showcase their respective unique and splendid speeches. Through this panel, we hope to foster a deeper understanding of the opportunities and challenges presented by AIGC in e-commerce and inspire further research and collaboration in this emerging field.

### **Topic 1: Perspectives of AIGC's Techniques, Products, Users, and Market**

**(Chairs: Jie Ma and Xiaoyi Yao)**

- 1) "*SwufeBrain: AIGC for Social Science*", Qing Li, Southwestern University of Finance and Economics
- 2) "*The Soul and Power of AIGC - An Art, Design and Semiotics Perspective*", Chen Wang, California State University, Fullerton



**Qing Li** is an Executive Director of the Interdisciplinary Research Institute at Southwestern University of Finance and Economics (SWUFE) - boasts an extensive academic background, having previously held positions at the Eller Business School at the University of Arizona, the Computer Department of Arizona State University, and the Information School at Korea Advanced Institute of Science and Technology (KAIST). He was also the board member of CDAR at UC Berkeley during 2010~2014. Professor Li's research focuses on financial intelligence, employing advanced intelligent information processing techniques to overcome finance-related challenges.



**Chen Wang** is a professor of Graphic & Interactive design at California State University; With expertise in user interface and user experience design, his research spans various design fields, including semantic studies, data visualization, accessibility design, information design and branding.

## **Topic 2: Pursuit of Generative AI in the Evolution of E-Commerce**

**(Chairs: Qing Li and Chen Wang)**

- 1) *“Is the Transformer-Based ChatGPT Transforming Our Society?”*, Jie Ma, Wuxi Tsinghua Institute of Applied Technologies.
- 2) *“Maximizing Business Efficiency: The Significance of AIGC Enterprise Applications and Strategies for Successful Implementation”*, Jianhui (Jason) Wen, Emotibot Technology
- 3) *“Navigating the Legal Landscape of AI-Driven Generative Technologies”*, Xiaoyi Yao, King & Wood Mallesons (Law firm)



**Jie Ma** serves as the Research Director at the Wuxi Tsinghua Institute of Applied Technologies. He obtained his PhD from University of Portsmouth in the UK. Previously he worked as the Research Director for the Institute for Data Science in Tsinghua University, and once held the position of CTO at a prominent big data company. With a strong background in big data analytics, Dr. Ma's current focus lies in the field of post-quantum cryptography (PQC).



**Jianhui (Jason) Wen** is serving as the Sales VP for Emotibot Technology, responsible for market operations and ecosystem development. Their services have catered to diverse industries such as finance, high-end manufacturing, energy, among others. He has held a Master's degree from Tsinghua University, and been equipped with both technical and business acumen. He had ability to communicate complex technological concepts in simplify language to drive business.



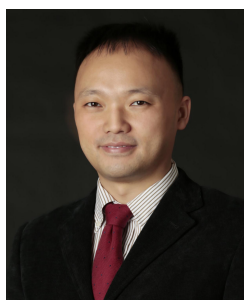
**Xiaoyi Yao** is an international partner at the renowned international law firm, King & Wood Mallesons. Holding a Ph.D. in Biochemistry, her expertise lies in intellectual property litigation. Dr. Yao is also adept at addressing complex legal matters and has provided guidance to clients on the potential rights and risks associated with cutting-edge AI technologies, such as ChatGPT.

**Panel: Bright Origin with AI/Sustainable Social Responsibility**  
(Chair: Jae Kyu Lee and Shan Liu, Xi'an Jiaotong University)

**Theme:** This panel review the social responsibility of AI and Cybersecurity and present the AI applications for the Bright Origin researches such as Federated Learning and Pre-trained Model. We also report the surveyed result of CIO's opinion on the need of organizational social responsibility and individual's trustful Digital ID.



**Jae Kyu Lee** is a Distinguished Professor of School of Management at Xi'an Jiaotong University and Professor Emeritus of Korea Advanced Institute of Science and Technology (KAIST). He has been professor of KAIST since 1985, and finished his tenure as HHI Chair Professor. He received fellow and LEO Award and served the President (2015-6) of Association for Information Systems. He is the founder of Principles for the Bright Internet and founded Bright Internet Research Center at KAIST and Xi'an Jiaotong University. He also founded the Bright Internet Global Summit and Bright Internet Project Consortium in 2019 as posted at [www.brightinternet.org](http://www.brightinternet.org). He received his Ph.D. in Information and Operations Management from the Wharton School, University of Pennsylvania in 1985. His research area covers AI, eCommerce, information systems, and Bright Internet.



**Shan Liu** is a Professor of information systems and e-commerce and Associate Dean of School of Management at Xi'an Jiaotong University. He serves as the founding executive editor of Data Science and Management (Elsevier). He received the Ph.D. degree in management science and engineering from the Huazhong University of Science and Technology, Wuhan, China, in 2009. He has authored or coauthored more than 50 refereed articles, including articles that have appeared or accepted in the Journal of Operations Management, the IEEE Transactions on Engineering Management, Information Systems Journal, the European Journal of Information Systems, the European Journal of Operational Research, and Information and Management. His research interests include IT project management, E-commerce, and data analytics.



**Tan Xiao Sheng** is the Founder, Chairman and CEO of Beijing Genius Cyber Tech Co.,Ltd. He served the Technology President and Chief Security Officer of 360 Group, and special consultant under the Cybersecurity Bureau of Ministry of Public Security and Director and Deputy Secretary-general of China Computer Federation (CCF). He also served as CTO of Yahoo!China; COO and CTO of MySpace China. He was awarded as top of Zhong Guan Cun's leading talents in 2012, and received an outstanding cybersecurity talent title from China Internet Development Foundation in 2018.



**Chuang Wu** is an Assistant Professor in School of Management at Xi'an Jiaotong University. His research interests focused on corporate social responsibility, entrepreneurship, innovation, corporate governance, and corporate strategy. His work has been published in some scholarly journals including *Journal of Management*, *IEEE Transactions on Engineering Management*.

## Panel Themes and Panelists

1. Large Multimodal Deep Learning AI Model for Cyber Threat Detection (Tan Xiao Sheng)
2. The Governance of Corporate Digital Responsibility (Chuang Wu at XJTU)
3. AI Ethics (Qian Chen, Huazhong Agriculture University)
4. Bright Origin Approach with Social Responsibility - CIO Perspective (Jae Kyu Lee, Shan Liu at XJTU), USA Perspective (Vess Johnson and Dan Kim at North Texas University)
5. Federated Learning to Merge Common and Personalized Spam Filtering Models (Fengyao Wang, Jae Kyu Lee, Xinpei Dong at XJTU)
6. Effect of Pretraining in Spam Filtering Models (Qi Huang, Jae Kyu Lee at XJTU)
7. Balancing of Trustfulness and Privacy in Selecting Digital ID (Jae Kyu Lee, XJTU; Sohyung Lee, Kyungki University; Jiyong Park, University of North Carolina, Greensboro)