

HKIAS Distinguished Lecture Series

Generative AI for Scientific Discovery



Professor Wei-Ying Ma
Tsinghua University

Date: 11 June 2024 (Tuesday)

Time: 2:30pm-4:00pm

Venue: HKIAS Lecture Theatre,
LG/F, Academic Exchange Building, City University of Hong Kong

Abstract Scientific discovery and exploration are entering a new era, redefined by AI. In recent years, the rapid advancements of generative AI technology have led to breakthrough progress in fields such as computer vision and natural language processing. The data-driven computational paradigm is also profoundly influencing scientific disciplines such as biology, chemistry, and materials science. In this talk, I will introduce generative AI technology aimed at scientific discovery and discuss the challenges it faces compared to current generative AI technology for content creation. Additionally, I will present the latest progress of my team in developing generative AI technology for applications including drug discovery, protein engineering, antibody design, and the discovery of new chemical compounds.

Biography Wei-Ying Ma is a Huiyan Chair Professor at Tsinghua University and the Chief Scientist at the Institute for AI Industry Research (AIR). He currently leads a team of faculty members working on AI for Science, with a particular focus on AI-powered drug discovery and generative AI for biology and chemistry. He is a Fellow of the ACM and the IEEE. He has published over 300 papers and holds 169 patents. He served as a program co-chair of the International Conference on World Wide Web (WWW) in 2008 and the general co-chair of the ACM SIGIR 2011. Previously, he was a Vice President and Head of the AI Lab at ByteDance, where he led the development of various AI-powered content creation and dissemination technologies integrated into products such as Douyin, TikTok, Jinri Toutiao, CapCut, and Lark. Prior to that, he was an Assistant Managing Director at Microsoft Research Asia (MSRA), where he led five research groups to develop numerous technologies that were successfully integrated into Microsoft's Bing.

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