

專 題 演 講

講 者：馬匡六教授(Prof. Kwan-Liu Ma)

(Distinguished Professor. Department of Computer Science University of California, Davis)

題 目： Visualization: An Indispensable Tool for Data-Driven Discovery and Storytelling

大 綱：

As our capacity and inclination to generate and collect data continue to grow, problem-solving, decision-making, and learning are increasingly driven by data. For instance, advancements in supercomputing and cutting-edge imaging and sensing technologies allow scientists to study complex physical phenomena with unprecedented precision, leading to an exponential increase in data generation. The volume of information gathered from the Internet, mobile devices, social activities, patient monitoring, healthcare, and other areas is even more substantial, presenting a formidable challenge in making sense of and fully utilizing this wealth of data.

Visualization plays a critical role in this context by converting vast amounts of data into graphical representations that tap into the high-bandwidth processing capabilities of the human visual system. By harnessing our brain's exceptional ability to detect patterns and draw inferences, visualization has become an indispensable tool in many fields that deal with large and complex datasets. In this presentation, I will showcase several visualization designs developed by my group, which serve as either exploratory or explanatory tools for handling large datasets in real-world applications.

簡 歷：

Kwan-Liu Ma is a distinguished professor of computer science at the University of California, Davis, where he leads the VIDI Research Group. Before joining UC Davis, he was a staff scientist at the NASA Langley Research Center (1993-1999). Presently, he is also a Visiting Processor of the National Taiwan University and Visiting Chair Professor of Academia Sinica. Professor Ma received his PhD degree in computer science from the University of Utah in 1993. His research interests include visualization, computer graphics, human computer interaction, and machine learning. For his significant research accomplishments, Professor Ma has received many recognitions, including the NSF PECASE award in 2000, elected IEEE Fellow 2012, the IEEE VGTC Visualization Technical Achievement Award in 2013, inducted into the IEEE Visualization Academy in 2019, and elected ACM Fellow in 2023. He has served as papers co-chair for SciVis, InfoVis, EuroVis, PacificVis, and Graph Drawing, and on the editorial board of IEEE TVCG (2007-2011), IEEE CG&A (2007-2019), and ACM TiiS (2021-present). Professor Ma presently serves on both the IEEE VIS Steering Committee and IEEE PacificVis Steering Committee.