Title: Interdisciplinary Research in the Era of Generative AI

Abstract:
This talk introduces interdisciplinary research projects happening in the Data Mining lab at Notre Dame. Collaborators in fields such as material science, education, security, and mental health are looking for computational methods that discover knowledge to address their pain points and facilitate research. In data mining, knowledge discovery is mining useful and/or surprising patterns from BIG messy data. In this era of Generative AI, people are getting amazed by the quality of SMALL output data from BIG models. We find that graph and text generative models are still facing issues around data and knowledge. In this talk, I'll introduce graph data augmentation methods for polymer material discovery, knowledge augmentation methods for question answering and reasoning, and our on-going effort in DHH education, software & network security, and suicide prevention, making generative AI impactful toward specialized intelligent assistance.

Bio:
Meng Jiang is an Associate Professor in the Department of Computer Science and Engineering at the University of Notre Dame. He received B.E. and PhD from Tsinghua University. He was a visiting scholar at CMU and a postdoc at UIUC. He is interested in data mining, machine learning, and natural language processing. His research focuses on graph and text data for applications such as material discovery, question answering, user modeling, and mental health. He received the CAREER Award from NSF and multiple paper awards such as SIGSOFT Distinguished Paper, EMNLP Outstanding Paper, and KDD Best Paper Finalist.