An Exploratory Study of Helping Undergraduate Students Solve Literature Review Problems Using Litstudy and NLP

Dr Simon Yiu Keung LI

Date: **September 29, 2023 (Friday)**
Time: **2:30 – 3:30pm**
Facilitator: **Dr Gary Wong, Associate Professor, Faculty of Education**
Online Registration:
https://hku.zoom.us/meeting/register/tJYscemoqzorGNf5Ar82luV0WkhPFI7LnBEA

Abstract:
Many undergraduate students struggle to produce a good literature review in their dissertations, as they are not experienced, do not have sufficient time, and do not have the required skills to articulate information. Subsequently, we deployed Litstudy and NLP tools and developed a recommendation system to analyze articles in an academic database to help the students produce literature reviews. The recommendation system successfully performed three levels of analysis. The elementary-level analysis provided demographic statistical analysis to the students, helping them understand the background information of the selected articles they would review. The intermediate-level analysis provided visualization of citations in network graphs for the students to understand the relationships of the articles' authors, regions, and institutes so that the flow of ideas, development, and similarity of the selected articles can be better analyzed. The advanced level of analysis provided topic modeling functions for the students to understand the high-level themes of the selected articles to improve productivity as they read through them and simultaneously boost their creativity. The three levels of analysis successfully analyzed the selected articles to provide innovative results and triggered the students to handle literature reviews in a new way. Further enhancement opportunities were identified in integrating the NLP technologies with large language models to facilitate the generation of research ideas/insights. In this seminar, we are going to present the above three levels analysis results and share the experience gained from this research project. This project has been funded by Teaching Development Grant in the University of Hong Kong.

About the speaker:
Dr Li earned the degrees of Doctor of Engineering and Master of Science in Knowledge Management from the Department of Industrial and System Engineering of the Hong Kong Polytechnic University in 2020 and 2010 respectively. He served the Faculty of Education of the University of Hong Kong as a researcher from 2022 to 2023. His research interests include knowledge and innovation management, big data analytics, data science, business intelligence, and data mining. Dr. Li is serving several Hong Kong-based universities in the areas of teaching and researching business intelligence, data mining, information systems, and computer science. Prior to joining academia, Dr. Li had spent more than 25 years serving the information technology areas of both private and public sectors of Hong Kong.