



THE UNIVERSITY OF GEORGIA
DEPARTMENT OF STATISTICS

Colloquium Series

Friday, February 17, 2023

4:00 PM, Room 204, Caldwell Building

Dr. Ninghao Liu

School of Computing, University of Georgia

Language Models for Cold-Start Recommendation

Recommender systems help users to find contents that fit their interests. However, in cold-start scenarios, we cannot collect user-item interaction records as data for model training. This talk will present our research on developing personalized recommendation systems without using historical user-item interactions. Specifically, we will first discuss a prompt learning framework with pre-trained language models that makes recommendations according to common-sense knowledge learned from general corpora, called PromptRec. We then discuss several improvements to this framework, including: (1) the transferable prompt pre-training method that augment the manual prompts for better cold-start performance; (2) refining general corpora by maximizing mutual information to help the pre-trained language models adapt to the target cold-start domain; and (3) unsupervised coding rate reduction score for pre-trained model selection. In addition, we introduce the first recommendation benchmark for system cold-start recommendation evaluations.

About the Speaker

Dr. Ninghao Liu is an Assistant Professor in the School of Computing at the University of Georgia. He received an M.S. Degree in Electrical and Computer Engineering from Georgia Institute of Technology in 2015 and his Ph.D. in Computer Science from Texas A&M University in 2021. His research interests are Explainable AI (XAI), Graph Mining, Model Fairness, Recommender Systems, and Outlier Detection. He has published refereed papers at recognized venues such as KDD, WWW, ICML, ICLR, NeurIPS, WSDM, IJCAI, CIKM, ICDM, etc. His work won the Outstanding Paper Award in ICML 2022, the Best Paper Award Shortlist in WWW 2019, and the Best Paper Award Candidate in ICDM 2019.



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