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Research Colloquium of Institute of Psychology and Professorship of Predictive Analytics

Toward Psychology-Informed Trustworthy Search and Evaluation in Intelligent Information Systems

Jiqun Liu, PhD

Tuesday, 3:30 p.m. – 5:00 p.m., May 27, 2025

Online:
https://webroom.hrz.tu-chemnitz.de/gl/ste-uhi-qkc-wy1

Abstract:

Biases — both human and algorithmic — pose critical challenges to the effectiveness and trustworthiness of search and recommendation systems. Our research investigates how these biases are interwoven into users' search interactions and system outputs, impacting relevance judgments, search experiences and strategies, and credibility assessments. Our recent studies explore cognitive biases and heuristics (decoy effect, reference dependence, expectation confirmation), and how they shape interactions with Web search engines and recommender systems. We examine threshold priming, decoy effects, and personality traits in LLMs, revealing inherited and amplified biases. Beyond diagnosis, we introduce bias mitigation strategies: biased result obfuscation, adaptive re-ranking, and LLM-enhanced data augmentation and de-biasing, to foster responsible search and recommendation in generative AI.

About the Speaker:

Dr. Jiqun Liu is an Assistant Professor in Data Science and an Affiliated Assistant Professor in Psychology at the University of Oklahoma. His research spans IR, machine learning, and human-AI interaction, focusing on cognitive bias identification, user modeling, and evaluation of interactive and generative systems. His work bridges behavioral science and IR, with support from NSF and Microsoft, and publications in ACM SIGIR, CHIIR, JASIST, IP&M, TOIS, EMNLP, and TheWebConf. His monograph *A Behavioral Economics Approach to Interactive Information Retrieval* was published by Springer Nature.