University of Pittsburgh | School of Computing and Information

Proposal Defense

Doctor of Philosophy in Information Science

"**Human-AI Collaboration in Search and Recommendation**" by **Behnam Rahdari**

Date: December 2, 2022
Time: 3:00PM – 5:00PM
Place: IS Building Room 502, 135 N Bellefield Ave, Pittsburgh PA 15260

Committee:

- Dr. Peter Brusilovsky, Professor, Department of Informatics and Networked Systems, School of Computing and Information
- Dr. Daqing He, Professor and Department Chair, Department of Informatics and Networked Systems, School of Computing and Information
- Dr. Dmitriy Babichenko, Clinical Associate Professor, Department of Informatics and Networked Systems, School of Computing and Information
- Dr. Branislav Kveton, AWSI AI Labs, Amazon

Abstract:
Artificial intelligence has transformed our lives by performing complex tasks at speed. From live translation and manufacturing robots to gene sequencing and self-driving cars, artificial intelligence continues to change how we live our everyday lives. Despite the appeals, AI systems are bound to the quality of their training data. Biases and errors in the data can lead to inaccurate or harmful assumptions even by the most accurate AI algorithm. A solution for this issue is to combine the power of human and artificial intelligence. This has shown to be an effective solution, particularly when the AI system interacts directly with the user for instance in the search and recommender system.

In my dissertation, I focus on human-AI collaboration in the context of exploratory search and recommendation and explore how both humans and AI can benefit from this collaboration. Our previous research shows that providing opportunities for human-AI collaboration leads to significant improvement in the user browsing experience as observed in studies and simulated experiments. One of the goals of the proposed research is to investigate how the AI system can learn from the user in an interactive recommender system that utilized a carousel-based user interface. In addition, I plan to design a novel carousel interface and explore it in a controlled study. Finally, I plan to demonstrate the value of the use of simulations in the evaluation of interactive recommender systems.