香港浸會大學理學院
HKBU Faculty of Science

DEPARTMENT OF COMPUTER SCIENCE

MPhil Degree Oral Presentation

MPhil Candidate:	Ms. Zhirun ZHANG
Date	November 25, 2022 (Friday)
Time:	9:30 am – 11:30 am (35 mins presentation and 15 mins Q & A)
Venue:	Zoom ID: 980 5187 6037 (The password and direct link will only be provided to registrants)
Registration:	https://bit.ly/bucs-reg (Deadline: 1:00 pm, November 24, 2022)

Design of Feature-Based Explanations for Recommender Systems

Abstract

Recent advances in natural language based virtual assistants have attracted more research on application of recommender systems (RS) into the service product domain (e.g., looking for a restaurant or a hotel), given that RS can assist users in more effectively obtaining information. However, though there is emerging study on how the presentation of recommendation (vocal vs. visual) would affect user experiences with RS, little attention has been paid to how the output modality of its *explanation* (i.e., explaining why a particular item is recommended) interacts with the explanation content to influence user satisfaction.

In this thesis, we particularly consider *feature-based explanation*, a popular type of explanation that aims to reveal how relevant a recommendation is to the user in terms of its features (e.g., a restaurant's food quality, service, distance, or price), for which we have concretely examined three content design factors as summarized from the literature survey: *feature type*, *contextual relevance*, and *number of features*. Results of our user studies show that, for explanation presented in different modalities (text and voice), the effects of those design factors on user satisfaction with RS are different. Specifically, for text explanations, the number of features and contextual relevance influenced users' satisfaction with the recommender system, but the feature type did not; while for voice explanations, we found no factors influenced user satisfaction. We finally discuss the practical implications based on those findings.

In addition, we conducted a two-month diary study to explore the user perception of explanations in a broader view. Besides explanations in recommender systems, we identified other factors in everyday life that influence the user's feelings on explanations and how they connect with explanations, especially the social explanations.

Besides the explanations in recommender systems, we are also interested in conversational agents in the news domain. We conducted a qualitative user study to better understand users' attitudes toward news chatbots and derive several design guidelines for news chatbots that may better serve users' needs.

*** ALL INTERESTED ARE WELCOME ***