Aloksai Choudari

Dr. Karen Mazidi

CS 4395.001

3 April 2023

CS 4395 Reading ACL Papers

The ACL long paper that I chose to read for this assignment is titled *Improving Personalized Explanation Generation through Visualization*, and it is written by Shijie Geng, Zuohui Fu, Yingqiang Ge, Lei Li, Gerard de Melo, and Yongfeng Zhang, from Rutgers University, Hong Kong Baptist University, and HPI/University of Potsdam. The problem that is addressed in this paper is about ratings and reviews on various products on their websites by several different users online. Current models for reviews generate repetitive sentences for different types of items that generally contain insufficient details about the products. This paper utilizes a specific method known as “METER”, which stands for Multimodally-Enhanced Transformer for Explainable Recommendation. This focuses on text explanations with image matching based on conditions. Prior to METER, one of the approaches that was created for these image-based text explanations includes a method called “PETER”, which used a Personalized Transformer to generate text-image explanation sentences. PETER excelled at explaining the text and was good for quality metrics, but it was repetitive in utilizing certain kinds of universal sentences. For example, for various hotel reviews, the PETER method would use a common-use sentence explanation, such as “the hotel is very nice”, repeatedly to play it safe. This is because the models are built on textual corpuses rather than using real-world experiences of consumers, leading to empty sentences without detailed information from the users and authentic use cases. In the case of METER, the authors talk about a goal to encourage the use of real-world signals and create explanations of uses that were actually made by real people’s experiences. The text explanation training sentences that are used for METER are comprehensive, user-based incidents that are given, provided the conditional image generation and text matching of the image. The authors of this paper evaluated their work based on three factors, which include explanation generation performance, text-image matching performance, and rating prediction performance. For each of these aspects, the authors used manual and automatic forms of evaluation for the explanation generation because the validity of explanations are primarily based on the accuracy of the rating predictions. Using these evaluation metrics, the METER method provided higher diversity in its use of words, while maintaining structured explanations compared to previous models, including PETER and NETE. In terms of unique work done by the authors, specifically in this paper, Yongfeng Chang and Lei Li, were mainly responsible for the groundwork of this project, including the research done on previous methods and related work to this experiment. On the other hand, the other four authors were primarily seen reflecting on the methodologies of the process and discussions. Other unique contributions include review websites, such TripAdvisor and Yelp, to collect information regarding reviews from consumers and fortification of image explanations. It seems that on Google Scholar, the authors for this paper have received 8 citations. I believe their work was important because it provides reliability for products and reviews. A lot of reviews for various experiences and products are redundant and not helpful in determining a choice for many users. This work provides some foundation and trust in decision-making for users with some confidence. The person on the authors list with the most citations was Gerard de Melo.