User Intention Generation with Large Language Models (LLMs) Using Chain-of-Thought Prompting

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Abstract : Personalized recommendation is crucial for any recommendation system. One of the techniques for personalized recommendation is to identify the intention. Traditional user intention identification uses the user's selection when facing multiple items. This modeling relies primarily on historical behaviour data resulting in challenges such as the cold start, unintended choice, and failure to capture intention when items are new. Motivated by recent advancements in Large Language Models (LLMs) like ChatGPT, we present an approach for user intention identification by embracing LLMs with Chain-of-Thought (CoT) prompting. We use the initial user profile as input to LLMs and design a collection of prompts to align the LLM's response through various recommendation tasks encompassing rating prediction, search and browse history, user clarification etc. Our tests on real-world datasets demonstrate the improvements in recommendation by explicit user intention identification and, with that intention, merged into a user model.