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Project Title: Using   Knowledge   Graphs   for   Long-Tail   Keyword   Query Recommendation in Video Search

Abstract:

A query, which allows users to express their inquiry with keywords or character strings, has become a fundamental tool in video streaming services (e.g., Netflix or Amazon Prime). Typically, these search engines provide alternative query formulations, which can be more articulate, focused, and interesting to users. They can also lead to a better suggestion of media items to users and improvement in video search experience on TCL's TV platform.

In this project, we study query recommendation (QR) algorithms for long-tail queries, which are uncommon or ill-formulated requests that rarely occurs in query logs. By providing high-quality recommendations for these queries, users can formulate information requests more easily. To achieve this goal, we will first study the construction of a Knowledge Graph (KG) built upon the media information of video objects (e.g., movie names, actors, directors, and genres). We use *meta-paths*, or high-level path patterns between entities, to explore related KG entities and generate query suggestions. We will further study the problem of performing search on the KG, in order to retrieve interesting items for the users. We will perform extensive experimental evaluations on the curated KGs and query logs provided by TCL. We will build and test prototypes for our solutions in the TCL cloud for proof of concept.