

# Information Retrieval Is Going Conversational

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## Abstract

Access to information without barriers constitutes a Human Right. Information retrieval, a field with a long tradition within Artificial Intelligence and Computer Science, is a key enabler for efficient and effective access to information. This does not come without challenges. Finding the right information at the right time within an enormous corpus of unstructured data is like looking for a needle in a haystack. It required smart ways of indexing data, clear understanding of user's questions, tuning the prioritization of matching text and a robust evaluation methodology to measure progress. In recent years, representation and metric learning has been employed to solve the mismatch between the language of a user's question and the language of the data. However, the complexity of information seeking and the ambiguity in human language has established retrieval as a hard problem.

In this talk I will discuss how conversing with the users has risen as a natural means to face complexity in search and recommendation. I want to review some of the recent progress in conversational information retrieval including work within my team. Looking forward, I want to focus on open issues, the necessary paradigm shift that needs to take place in information retrieval evaluation as well as the new abilities a search engine has to be armed with in an conversational information seeking setup, including modeling the state of a conversation, deciding what action to take next, expanding search, recommendation, and question answering to account for the conversation, and developing clarifying question asking abilities.

## Keywords

Information Retrieval, Conversational AI, Recommender Systems, Clarifying Questions, Relevance Feedback, Evaluation

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