

# From Search Queries to Conversations in the Design of Information Retrieval and Access Systems

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## ABSTRACT

With the introduction of new types of devices in our everyday lives such as intelligent assistants, the way people access information and their expectations have significantly changed. Most interactions now happen through conversations held over devices with small interfaces as opposed to search queries. This change has many implications in the design of information retrieval and access (IR) systems: we need to develop systems that can reduce user effort by reducing the number of user interactions needed with the device, while providing correct and unbiased information.

Even though interactions based on conversations have its own unique challenges, most of these challenges have already been widely studied in context of traditional search systems. In this talk, I will talk about some of the progress we have made towards solving these challenges in context of traditional search systems and how we have built upon the existing work in search to solve these problems in a conversational setting.

In particular, I will first focus on the problems that need to be solved to design IR systems that can reduce the user effort needed, as well as the progress that we have made in these areas. I will then emphasize the importance of measuring user satisfaction and the evaluation methodologies we have developed in traditional search and conversational settings. Finally, I will emphasize the importance of designing trustworthy IR systems, and describe some of the work we have done in detecting online misinformation and bias.

## CCS Concepts/ACM Classifiers

• Information Systems ~ Information Retrieval

## Author Keywords

Conversational systems, conversational search, intelligent assistants, user modelling, task-based information retrieval, task completion agents, user satisfaction, trustworthy IR

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ICTIR '22, July 11–12, 2022, Madrid, Spain.

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ACM ISBN 978-1-4503-9412-3/22/07.

<https://doi.org/10.1145/3539813.3545944>



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Emine Yilmaz is a Professor and Turing Fellow at University College London, Department of Computer Science. She also works as an Amazon Scholar for Amazon. Her research interests lie in the areas of information retrieval, natural language processing and applications of machine learning to textual data. Her research has been supported by the Engineering and Physical Sciences Research Council (EPSRC), European Union Horizon 2020, Google, Elsevier and Bloomberg. Emine's work until now has received several awards, such as the Karen Sparck Jones Award, a Google Faculty Research Award and a Bloomberg Data Science Research Award. She has served in various senior roles, including co-editor-in-chief for the Information Retrieval Journal, an associate editor for ACM TOIS, PC Chair for ACM SIGIR, as well as an elected member of the executive committee for ACM SIGIR.

## ACKNOWLEDGEMENTS

This work has been in part sponsored by the Engineering and Physical Sciences Research Council (EPSRC) Fellowship under grant reference number EP/P024289/1, a Turing Fellowship and a Bloomberg Data Science Research Grant.