

Exploratory Search

Beyond the Query–Response Paradigm

Synthesis Lectures on Information Concepts, Retrieval, and Services

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Exploratory Search: Beyond the Query–Response Paradigm

Ryen W. White and Resa A. Roth

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Exploratory Search

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ABSTRACT

As information becomes more ubiquitous and the demands that searchers have on search systems grow, there is a need to support search behaviors beyond simple lookup. Information seeking is the process or activity of attempting to obtain information in both human and technological contexts. *Exploratory search* describes an information-seeking problem context that is open-ended, persistent, and multifaceted, and information-seeking processes that are opportunistic, iterative, and multi-tactical. Exploratory searchers aim to solve complex problems and develop enhanced mental capacities. Exploratory search systems support this through symbiotic human-machine relationships that provide guidance in exploring unfamiliar information landscapes.

Exploratory search has gained prominence in recent years. There is an increased interest from the information retrieval, information science, and human-computer interaction communities in moving beyond the traditional turn-taking interaction model supported by major Web search engines, and toward support for human intelligence amplification and information use. In this lecture, we introduce exploratory search, relate it to relevant extant research, outline the features of exploratory search systems, discuss the evaluation of these systems, and suggest some future directions for supporting exploratory search. Exploratory search is a new frontier in the search domain and is becoming increasingly important in shaping our future world.

KEYWORDS

exploratory search, information seeking, augmenting human intellect

Preface

Search is a fundamental life activity. Mankind has become reliant on automated search technology to facilitate rapid access to pertinent information and to learn about the world. Exploratory search has emerged as an important research area with a focus on understanding and supporting searches that may result from ill-defined information needs, require explorative search strategies, or have personal development as a primary objective. The goal of exploratory search is to foster learning and investigation by capitalizing on innate human curiosities, moving beyond traditional information finding.

The failure to adequately differentiate exploratory search from other classes of information seeking has caused debate among academics and practitioners regarding its validity as a separate subdiscipline. This lecture takes a major step toward defining exploratory search and clarifying its relationship to information retrieval, information science, human–computer interaction, and psychology. The lecture aims to empower those interested in learning more about exploratory search, by providing them with knowledge about the current state of the field and future opportunities.

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