The Shifting Landscape of Web Search and Mining: Past, Present, and Future

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ABSTRACT

The Web's content has been going through major changes, triggered by multiple factors including changes in user demographic and authoring behaviour, a shift in device types that access the Web, and changes in common use cases of the Web. More specifically, the number of mobile internet users has surpassed the desktop users according to different statistics; a considerable portion of web use cases are in the form of social interactions rather than information seeking; and the authoring behaviour has transformed from compiling a page and linking resources to sharing content with like-minded followers and leaving likes and comments on posts. Those changes have influenced and are expected to shape the way the content is organized, searched, ranked and analyzed.

This panel brings together researchers who have been working in different established areas related to web search and mining, web content and social network analysis, and semantics and knowledge management. The panel will draw from the experience of the panellists, dealing with changes in their respective fields. In the first (role-playing) round, each panellist will strongly take a side on where the changes are heading, arguing that one form of content will dominate in the near future. In the second round, the panellists will counter each other and will share their vision on what future holds in terms of research problems and directions. The members of the audience will participate, in a QA session with the panellists, bringing their own perspectives to the discussion.

ROLES AND EXPERTISE

Davood Rafiei will moderate the discussions. His areas of expertise are *managing large and complex data*, *database querying and indexing* and *web search and mining*.

The following panelists (listed in alphabetical order) will be discussing different aspects of the topic, as it relates to their past work and areas of expertise.

Eugene Agichtein is an expert in *information retrieval*, *question answering* and *user behavior modeling for various modalities of web search*.

Ricardo Baeza-Yates is an expert in *web search and data mining*, *information retrieval* and *data science and associated algorithms*.

Jon Kleinberg is an expert in *algorithms* and *networks* with an emphasis on *social and information networks*.

Jure Leskovec is an expert in *computation over massive data*, with applications in computer science, social sciences, economics, marketing, and healthcare.

OVERVIEW OF THE PANEL

The topic of the panel, as discussed in the abstract, is relevant to multiple research tracks in the conference. Those tracks have been going through some changes and those changes are expected to continue. This panel provides a forum to discuss the forces behind those changes and to gain a better understanding of implications for future research and directions. Here are some of the questions that will put forward to the panelists:

- How has the content been changing for the past two decades and how have those changes been affecting the research and practice in web search and mining?
- How are personalization, " the filter bubble" and conversational and intelligent assistants affecting search? What are some of the long-term effects?
- Different forms of content have been making headlines over the past two decades, with examples including HTML pages, micro-blog posts, social networks, linked data, curated content (e.g., Wikipedia), and annotated documents (e.g., with named entities resolved). What form of content is expected to dominate web search results and mining practices over the next 5-10 years?
- What are the implications of all these changes for work in web search and mining?