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Project : *User-Centered Adaptive Information Retrieval (UCAIR)*

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What?

A novel retrieval strategy that emphasizes user modeling (“user-centered”), search context modeling (“adaptive”) and interactive retrieval

A personalized search agent that sits on the client-side, integrates information around a user, collaborates with each other and goes beyond search toward task support

Results so far:

Decision theoretic framework for interactive IR

Context-sensitive retrieval models
eager implicit feedback of short-term search history
mining and exploiting of long-term search history

UCAIR search agent

Evaluation based on TREC data set and real web search

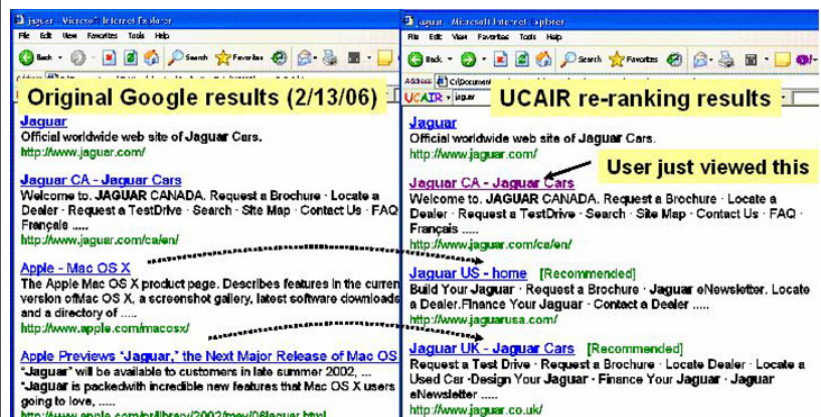
Why?

Better representation of the user’s information need

Expected to improve search accuracy significantly through customizing and optimizing results for individual users

Unique advantages for personalization: privacy-preserving, non-intrusive and load-balancing

UCAIR Toolbar in Action



How?

Putting the user at the center of the retrieval process
modeling the user implicitly in the interactive retrieval process
proposing decision theoretic framework to optimize system actions
mining and exploiting user search history

Building UCAIR search agent to improve the web search

This picture shows how UCAIR can re-rank search results from Google and optimize search results for a user searching information about the Jaguar car using the query “jaguar”. The left side shows the original mixed result page about Jaguar cars and Jaguar software. The right side shows the automatically re-ranked results by UCAIR after the user has viewed the 2nd result, which is about Jaguar car. The new result page no longer have results about the Jaguar software; instead, two new results about Jaguar cars have been pushed up by UCAIR, which were originally ranked down in the results from Google.