Information Retrieval 1 Course Content

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Outline

- 1 Information Retrieval
- 2 IR1 Course

What is Information Retrieval?

Information Retrieval is about technology to connect people to information

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What should we teach in Information Retrieval?

OPINION PAPER

What Should We Teach in Information Retrieval?

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http://sigir.org/wp-content/uploads/2019/01/p019.pdf

Information Retrieval

Offline phase

Crawling Text analysis Link analisys Indexing

Term dependency Semantic scoring Learning to rank

Term-based scoring

Search optimization Paralel computing Offline evaluation User studies Efficiency evaluation Hypothesis testing Diversification Distributed IR Query expansion Search interfaces Text classification Text clustering

Scenarios

Search and retrieval

Conversational search

Entity search

Multimedia IR

Question answering

Recommender systems

Sponsored search

Structured retrieval

Online phase

Queries Intents Sessions and tasks

> Interactions Logging

Counterfactual LTR Online LTR Relevance feedback

Counterfactual evaluation Online evaluation

Offline phase

Term-based scoring

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Crawling

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Information Retrieval 1

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IR courses at UvA

$$IR0 \longrightarrow IR1 \longrightarrow IR2$$

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IR0 (Zoekmachines), BSc

Offline phase Text analysis Link analisys Indexing Offline evaluation Hypothesis testing Offline evaluation





Scenarios

Search and retrieval

Conversational search

Entity search

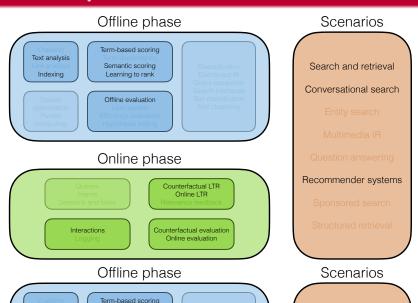
Question answering

Recommender systems

Sponsored search

Structured retrieval

IR1, MSc 1st year



IR2, MSc 2nd year (project-based, research-oriented)

Crawling Text analysis Link analisys Indexing Search optimization Paralel computing Online phase Online phase



Scenarios

Search and retrieval

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Objectives

Almost all tech companies and research organizations have to deal with IR-related problems.

Objectives

After completing IR1 you will be able to:

- Identify the application area (search, recommendation, conversational agents, etc.)
- 2 Identify the type of problem (ranking, evaluation, interaction, etc.)
- Identify the range of solutions (from basic to state-of-the-art)
- 4 Adapt the solutions to the problem based on the application area
- S Assess the result and adjust the solution

Structure

Evaluation

Document representation & matching

Conversational search

Learning to rank

IR—user interaction

Recommender systems

Evaluation

Document representation & matching

Learning to rank

IR—user interaction

Q&A topics per week

Week	Q&A topic
	Course organization and content
1, Fri	IR0 recap
2	Evaluation
3	Document representation and matching
4	Learning to rank, Interactions
5	Online and counterfactual LTR
6	Conversational search, recommender systems
7	Recap, preparation for the final exam

Basic materials

- B. Croft, D. Metzler, T. Strohman
 Search Engines, Information Retrieval in Practice https://ciir.cs.umass.edu/irbook
- C. Manning, P. Raghavan, H. Schütze Introduction to Information Retrieval http://nlp.stanford.edu/IR-book
- I. Markov, M. de Rijke
 What should we teach in Information Retrieval?
 http: //sigir.org/wp-content/uploads/2019/01/p019.pdf