



MANIPAL UNIVERSITY JAIPUR

School of Computing and Information Technology

Department of Computer Science and Engineering
Course Hand-out

Information Retrieval | CS 1651 | 3 Credits

Session: 2015-2016 | Faculty: Sandeep Chaurasia

Course Outcomes: At the end of the course, students will be able to

- [CO 1651.1] To apply information retrieval principles to retrieve the relevant records in large collections of data
- [CO 1651.2] To describe the techniques of indexing in retrieval i.e. Boolean retrieval and rank based Retrieval
- [CO 1651.3] To observe the behaviors of wild queries, free text queries & representation of queries in vector space model
- [CO 1651.4] To apply the concept of text similarity measures in retrieval for optimizing the relevant records retrieved.
- [CO 1651.5] To describe web characteristics, how indexing & crawling managed in web server.
- [CO 1651.6] To analyse of classification & clustering on text data and hence enhance the employability skills

A. SYLLABUS

Boolean retrieval - The term vocabulary and postings lists. Dictionaries and tolerant retrieval. Index construction. Index compression. Rank retrieval - Scoring, term weighting and the vector space model. Computing scores in a complete search system. Evaluation in information retrieval. Relevance feedback and query expansion. XML retrieval- Probabilistic information retrieval. Language models for information retrieval. Text classification. Vector space classification. Support vector machines- and machine learning on documents, flat clustering, Hierarchical clustering, Matrix decompositions and latent semantic indexing. Web search basic - Searching the Web, Challenges, Characterizing the Web, Search Engines, Browsing, Meta searchers, Web crawlers, robot exclusion, Web data mining, Metacrawler, Collaborative filtering, Web agents (web shopping, bargain finder), Economic, ethical, legal and political issues.

B. TEXT BOOKS

- i. Christopher D. Manning, Prabhakar Raghavan and Hinrich Schütze, Introduction to Information Retrieval, Cambridge University Press. 2008
- ii. 2) B. Croft, D. Metzler, T. Strohman, Search Engines: Information Retrieval in Practice, The MIT Press, 2010.

