21INT01	INFORMATION RETRIEVAL SYSTEM	L	T	P	C
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Course Objectives
- To understand the different ways for extraction of multimedia data
- To learn and analyze the information retrieval techniques
- To apply the information retrieval algorithms for real time applications
- To understand and evaluate the applications of information retrieval techniques
- To understand the role of information retrieval systems in web applications.

UNIT I	INTRODUCTION TO INFORMATION EXTRACTION	9 Hours

Introduction – Origins – Text, Audio ,Image, Video Extraction – Visual object Feature Localization - Entropy based Image Analysis – 3D shape Extraction Techniques - Semantic Multimedia Extraction using Audio & Video – Multimedia Web Documents.

UNIT II	TEXT EXTRACTION	9 Hours

Pre-processing Techniques – Clustering – Probabilistic Models – Browsing and Query Refinement on presentation Layer- Link Analysis – Visualization Approaches and its Operations.

UNIT III	INFORMATION RETRIEVAL SYSTEMS	9 Hours

Text formats –Retrieval and Ranking –Evaluation strategies – Tokens –Query processing –Static Inverted Indices – Dynamic Inverted Indices – Index compression –Categorization and Filtering Classifiers –Probabilistic, Linear , Similarity based, Generalized Linear, Information Theoretic models- XML Retrieval.

UNIT IV	ALGORITHMS ON INFORMATION RETRIEVAL	9 Hours

Introduction – Strategies - Utilities – Crossing the language barrier- Cross Language strategies with Utilities – Efficiency Multidimensional data model- Parallel Information Retrieval – Distributed Information Retrieval.

UNIT V	APPLICATIONS	9 Hours

Sound Authoring Data with Audio MME-CBR Systems-Implementation of Message Recognition Systems – Paralinguistic Information Retrieval in Broadcast – Text mining Applications- Pre-processing Applications using Probabilistic and Hybrid Approaches – Web Search.

UNIT VI	RECENT TRENDS	

Recent trends on Retrieval techniques

	TOTAL PERIODS: 45

Course Outcomes:
Able to apply the information extraction techniques for real time applications
  • Design systems based on the concepts of information retrieval
  • Apply data specific information extraction and retrieval
  • Create web applications by understanding the information extraction and retrieval
techniques
  • Use the concepts of information classification and clustering in wide range of other

Text books:
1. Mark T. Maybury, "Multimedia Information Extraction", Wiley (IEEE), John Wiley & Sons, 2012.
2. Ronen Feldman, James Sanger, "Text Mining Handbook", Cambridge University press, 2006.

Reference Books:
1. David A. Grossman, Ophir Frieder, "Information Retrieval: Algorithms and Heuristics", Second Edition, Springer, 2004.
2. Stefan Buttcher LA Clarke Gox v.Cormack, "Information Retrieval: Implementing and Evaluating Search Engines", MIT Press, 2016.
3. Big Data Security and Privacy Handbook:100 Best Practices in Big Data security and Privacy", 2016.