TDT4117 Information Retrieval
(Autumn 2021)

August 25, 2021

1 Course Team

- Course Instructors:
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- Teaching Assistant Leader: Shiva Shadrooh (*shiva.shadrooh@ntnu.no*).
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- Email to Teaching Assistants: *tdt4117-assist@idi.ntnu.no*.
- Lectures: Wednesdays (1215-1400 HRS).
- Exam Date: TBA.

2 Assignment

There will be 5 assignments, where 4 out of 5 must be approved to take the examination. Submissions can be made either individually or by two-person groups. The submission deadline will usually be on Wednesdays. The exercises will be published approximately two weeks before the submission deadline. In this course, we will expect that most of the problems in the exercise are done and correct. Otherwise, the students will be asked to improve upon their answers and submit again. Plagiarism will not be tolerated and will lead to a fail-grade.

Available (week)	**Deadline (week)**	**Theme**
08.09.2021 (36)	22.09.2021 (38)	Introductory Topics and Similarity Models
22.09.2021 (38)	06.10.2021 (40)	Language Models and Evaluation in IR
06.10.2021 (40)	20.10.2021 (42)	Text Operations
20.10.2021 (42)	03.11.2021 (44)	Indexing
03.11.2021 (44)	17.11.2021 (46)	Web Search

3 Curriculum

- **Textbook**: Ricardo Baeza-Yates and Berthier Ribeiro-Neto, "Modern Information Retrieval: The Concepts and Technology Behind Search", Second Edition. Pearson Education Limited, 2011. ISBN-13: 978-0321416919.
- **Reference Book**: Christopher D. Manning, Prabhakar Raghavan, and Hinrich Schütze, "Introduction to Information Retrieval", First Edition. Cambridge University Press, 2008. ISBN-13: 978-0521865715.
  - Book is publicly available at: `https://nlp.stanford.edu/IR-book/`.

4 Lecture Plan

Chapter numbers are from "Modern Information Retrieval" by Baeza-Yates and Berthier Ribeiro-Neto. We will have two guest lectures that will complement our academic approach with an example from the industry: Knut Magne Risvik from Microsoft Bing and Arne Sund from Cognite. Old exams for the course are posted on Blackboard. We have also provided solution sketch for some of the tasks (no solution sketch will be posted for the other tasks).

Week No./ Day	**Topic**	**Lecturer**	**Chap. No.**
34 / Wed.	Welcome, General Information, and Introduction	Dhruv Gupta	1
35 / Wed.	Classical Similarity Models	Dhruv Gupta	3
36 / Wed.	Classical Similarity Models (continued), BM25 and Language Model	Dhruv Gupta	3
37 / Wed.	Classical Similarity Models (continued), BM25 and Language Model	Dhruv Gupta	3
38 / Wed.	Evaluation in Information Retrieval	Dhruv Gupta	4
39 / Wed.	User Relevance Feedback and Query Expansion	Dhruv Gupta	5
40 / Wed.	Text Operation	Heri Ramampiaro	6
41 / Wed.	Indexing and Searching	Krisztian Balog	9
42 / Wed.	Guest Lecture Microsoft Bing	Knut Magne Risvik	-
43 / Wed.	Guest Lecture Cognite on "Building an IR System in Practice"	Arne Sund	-
-	Web Search and Search Engines	Heri Ramampiaro (recorded video)	11
-	Introduction to Multimedia Retrieval and Image Retrieval	Heri Ramampiaro (recorded video)	-
-	Audio Retrieval	Heri Ramampiaro (recorded video)	-
-	Audio Retrieval	Heri Ramampiaro (recorded video)	-