IR: Information Retrieval
FIB, Master in Innovation and Research in Informatics

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http://www.cs.upc.edu/~ir
0. Presentation
Instructors

- Ramon Ferrer-i-Cancho (lectures + exercises)
  - rferrericancho@cs.upc.edu
  - Omega S124, 93 413 4028

- Mario Martín (lab sessions)
  - mmartin@cs.upc.edu
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Class Logistics

Theory + problems: weekly.
   ▶ Tuesdays, 10–12, A6206
   ▶ Friday 10–11, A6206
   ▶ Problem list proposed weekly
   ▶ To be handed 1 week later

Labs / tutoring, 2 hours every 2 weeks approx.
   ▶ Fridays, 8–10, A5S102
   ▶ Some extra work, 2 hours in average per session Report to be handed 2 weeks later
Evaluation I

- Exercises: Collected in exercise sessions. 25% (scored as 0, 1, 2 or 3!)
- Lab work: Weighted average of report grades. 25%
- Exam, January, date to be announced: 30%
- Presentation of a paper, January: 20%
Evaluation II

- About exercise and lab assignments:
  - To be solved in teams of two people
  - You should team with at least 3 different people during the course, i.e., rotate partners as much as you can
  - We can make reasoned exceptions, but tell us in advance
  - Both members of a team must post their (identical) solutions at Racó
Contents I

First half:

▶ Core Information Retrieval:
  ▶ Introduction: Concept. The IR process
  ▶ Information Retrieval Models
  ▶ Indexing and Searching, Implementation
  ▶ Information Retrieval Evaluation, Feedback Models

▶ Web Search:
  ▶ Link analysis: Page Rank
  ▶ Crawling the web
  ▶ Architecture of a Web search system
Contents II

Second half:

- Social Network Analysis:
  - Characterizing of real complex networks
  - Communities, influence, information diffusion

- Clustering and Locality Sensitive Hashing

- The “Big Data” Slogan
  - Architecture of large-scale web search systems
  - The Map-Reduce paradigm
  - Introduction to NoSQL databases
  - The Apache ecosystem for web search.

- Recommender Systems
References

- Russell, Matthew, Mining the Social Web: Analyzing Data from Facebook, Twitter, LinkedIn, and Other Social Media Site. O’Reilly, 2011
- ... There’s a whole web out there