Temporal Information Retrieval

Wintersemester 2014/15

Course Wrap Up
Course Outline

- Foundations of Temporal Analysis
- Web Dynamics and Crawling
- Indexing for Temporal Retrieval
- Query Processing and Compression
- Retrieval Models and Evaluation
- Extraction and Query Modelling
Foundations

- Time-series Forecasting
- Smoothing Techniques
- Periodicity Detection
- Matching Time-Series
- Burst detection
Crawling

• Web Crawling principles
• Temporal Dynamics of the Web
• Re-crawling Strategies
• Temporal Coherence
Indexing

- Indexing Basics
- Index Construction
- Temporal Indexing basics and challenges
- Index Partitioning for Temporal queries
- Vertical and Horizontal Partitioning, Index maintenance
Query Processing and Compression

• Compression Basics in Inverted Indexes
• Compression Algorithms
• Temporal Coalescing
• Query Processing — DAAT vs TAAT, WAND
Temporal Ranking

• Probabilistic Foundations

• Language Modelling for Ranking

• Temporal Interpretations

• Temporal Ranking

• Evaluation Measures, Test Collections and Methodology
Temporal Extraction and Query Modelling

- Temporal Expression Extractions
- Temporal Slot Filling
- Query Modelling using query logs
- Autocompletions, Suggestions, Expansions
- Temporal Profiling using Language Models
Project Roundup

- Feb 9th — Milestone 1
- Integration Week — Feb 1 to Feb 12
- Final Project Submission and Lockdown - March 6
- Report Submission — (recommended 2 pages)
  - Problem statement, Setup (max 1/2 page)
  - Contribution and Software Design (max 1 Page)
  - Results and Challenges (max 1 page)
Oral Exam

• Book your Show Early — 10, 11, 12 March

• Schedule will be up on the website with show timings
  1st week of March

• Each 25 minute slot

• Choose 2 favourite topics

• Practice a bit of Math, only 1 problem
Thesis Possibility

• Get in touch with me for thesis topics/ research projects
• Re-using infrastructure for projects
• Better performance in projects + exams = more chances
• Build cool stuff which you can show off
Thesis Style

• Work on Cutting edge research problems
  • Big Datasets, real-life problems,
  • make yourself market worthy or research worthy

• 40% Theoretical foundations + 40% Experimental Evaluation + 20% writing = 100% fun

• We adapt depending on the strong points and style

• Possibility for a publication or Demo or both
The End?