1 Term-Paper Objectives and Scope

This project requires that you first look for an information retrieval (IR) problem in either query suggestion, question answering, recommender systems, or web search, to solve and work on its solution throughout the semester. The research topic could be algorithmic (design of an algorithm, analysis of an algorithm, etc.), system oriented (design of system components, solution approaches to various system problems, analytical analysis of systems or algorithms/mechanisms, etc.), or experimental (benchmarking, simulating, etc.) The following is my expectations on this project assignment:

- A good understanding of the research problem
- A good understanding of the significant contribution in solving the problem
- A well-defined solution

The term–paper project is completed when the final written report

1. clearly defines the problem,
2. includes convincing arguments on the significant contribution in solving the problem,
3. presents a scientific approach in solving the problem and justify the soundness of the solution, which either enhances existing approaches or provides a new approach in solving the problem, and
4. verifies the correctness of the proposed solution by conducting an empirical study.

2 Requirements

This term-paper project consists of five parts (i.e., different milestones):

1. A brief summary on the chosen research problem in IR (due Tuesday, October 6)
2. A presentation of your proposed term-paper project (on either Tuesday, October 20 or Thursday, October 22)
3. A term-paper proposal (due Thursday, October 22)
4. A presentation of your final term-paper project (on either Tuesday, December 1 or Thursday, December 3)
5. A final term-paper report (due Thursday, December 10)
3  A Brief Summary on the Chosen Term-Paper Problem

You are supposed to write up a one- or two-page description on the research project that you are interested in pursuing throughout the semester. Your 1- or 2-page, single-spacing summary/report should include the following sections:

- Title and abstract: The title and a short abstract (with at most 150 words) should be included on a separated page in the report, which does not count towards the page limit of the report.

- Introduction: this section should clearly state what the problem is, i.e., the problem that you are interested in solving, and why the problem is significant in IR.

- Method: this section should include a brief discussion on the approach that you are going to adopt in solving the research problem. Your approach could be (i) an enhancement of an existing approach (or approaches) in solving the same problem, (ii) adopted from existing approaches that have been used for solving problems in other areas of study, or (iii) a new approach.

- Conclusions: this section should provide a concluding remark on the uniqueness and merit of your solution to the proposed problem.

- Annotated bibliography: this section should include an annotated bibliography of related work, which has no page limit, i.e., the number of pages of this section is not counted towards the page limit of the summary.

4  Term-Paper Project Proposal

You should follow the suggested format given below in writing your term-paper project proposal.

- A title page that includes the title of your research problem
- An abstract that includes 1 to 2 paragraphs summarizing the proposal
- An introduction that introduces the term-paper problem (∼1/2 page)
- The method section that details the approach to be followed in solving the problem (∼1-2 pages)
- Contributions to the IR community: a brief list of contributions that the project will make (1 paragraph)
- A bibliography: a fairly complete bibliography of the research problem (∼1/2 page)

The size of your term-paper project proposal should be at least three, but no more than four single-spaced, typed pages, including the bibliography.
5 Final Term-Paper Report

Your final term-paper report should be well-written so that

1. it states precisely what the research problem that you have solved,

2. it clearly explains why the research problem is a significant problem (i.e., why solving the problem would enhance the design of IR systems),

3. it should include a detailed description on how the proposed problem has been solved and provide necessary justification, and

4. it must include the discussion on the data set, the performance evaluation, and the verified results extracted from the empirical study for your research project.

You should make sure that the final term-paper report is written so that it is easy to understand and easy to follow. The length of the report should be between six and eight single-spaced typed pages. You must follow the formatting style used and sections (such as abstract and conclusions) included in published ACM Recommender Systems (RecSys) Conference articles to prepare your final term-paper report.

6 Term-Paper Presentation

All the presentations will be given in class using presentation slides prepared by yourself. Each presentation is 20 minutes, which includes the time for questions and answering.

7 Grading

The breakdown on the different requirements of the term-paper project is given below.

- Pre-Proposal Summary on Chosen Research Problem: 10%
- Term-paper Proposal Presentation: 10%
- Term-paper Proposal Report: 30%
- Presentation of Completed Research Project: 10%
- Final Term-Paper Report: 40%