CIS833 Final Project

General project description and goal

The goal of the class project is to give you the opportunity to investigate in more depth an information retrieval topic, which is not covered in class. Projects will be done in teams of 2-3 students. The amount of effort devoted to this project should be proportional to the number of people in the team. I expect each student to review 2-3 recent research articles.

Project proposals

The proposals are meant to have you form teams and choose a topic for your project. Proposals should describe and motivate the chosen topic, but I expect them to be relatively short. Ideally, you should also list a few references that you have identified as potential candidates for your review papers.

Project ideas

A list of sample project ideas is provided below. However, you are by no means limited to these topics, feel free to choose any topic in IR that is of interest to you.

- Semantic Search Engines
- Meta-Search Engines
- Web Spam Filtering
- Sentiment Analysis
- Blog Analysis
- Image Retrieval
- Spoken Document Retrieval
- Cross-lingual Retrieval
- Blog Mining
- Text Summarization
- Question Answering
- Learning to Rank
- Sequence Labeling
- Information Extraction
- Recommender Systems
- Tag recommendations
- Visualization of textual information, e.g. IR results
- Cross-language retrieval by translation
- Using electronic thesauri to automatically augment user queries
- The use of NLP (e.g., POS tagging) to improve retrieval performance
- Web-sense disambiguation in IR
- Analysis of click-through implicit feedback in IR
- IR in a specialized domain (e.g., bioinformatics)

Forming teams

- Talk to your colleagues in class.
- Use the message board on K-State online to provide a short intro about your background and your topic of interest for the class project.
- Talk to the instructor if you still have difficulties in finding teammates.

Project report and presentation

At the end of the semester, each team will submit a scientifically written report that should include an abstract, an introduction to the problem being considered, a review of related work and extensive discussion of merits and limitations, conclusions and ideas for future work.

An oral presentation is also required at the end of the semester. Presentations will be 20-30 minutes in length and should model a short tutorial presentation. Similar to the reports, presentations should clearly introduce the topic of the review project, describe work on that topic, talk about merits and limitations of existing work and propose several ideas for future work. The presenters should also be able to intelligibly answer questions.

More specific report and presentation guidelines

A list of writing and presentation resources (among other things) is available at:

http://people.cis.ksu.edu/~dcaragea/mlb/doku.php?id=links_for_students

Please use the "*Generic Technical Paper Skeleton*" to organize your report. You will write a review paper, so some of the sections in this skeleton will not apply to you. However, I expect you to have a section where you critically evaluate the work you have reviewed from your own perspective (beyond what is presented in those papers and their conclusions). Make sure your review reads as a whole, as opposed to a list of separate papers that you've read. Make the right connections between these papers. They are supposed to be on the same topic, so the goal is for you to gain a broad view of that work on the respective topic, without loosing yourselves in details. Please explain how the work was divided between the team members. The paper on "*Writing a technical paper*" (by Michael Ernst) should also be a very good resource.

For presentations, you should also take a look at the page on "*How to give a good research talk*". Documents on "*How to give a bad talk*" may also be useful :)

You will have 20 to 30 minutes for your presentation, including questions. I am sure you will not have time to talk about all the details of the papers you have read, so try to focus on the most important things (such as problem description, possible approaches, evaluation - state of the art on that topic, connections

between the papers you've read, critiques, ideas for future work) and leave the details for your reports.

I will put online an evaluation form to give you an idea about what you should include in your presentation.

Please remember that the project counts for 15% of your final grade. A small percent of your grade will be based on your ability to review your peers' work, so please make sure you attend all presentations! You can find some links on why and how to review peers' work also on the page above. Please provide constructive feedback!

Project Tip

Start early – Remember that there is a lot going on at the end of the semester. Poor time management is not an excuse for a low quality project.