McCormick
Northwestern Engineering
MSiA

MSIA 430 : Introduction to Software Tools for BI

Spring 2023 Quarter

Specifications: Final Report Paper Assignment

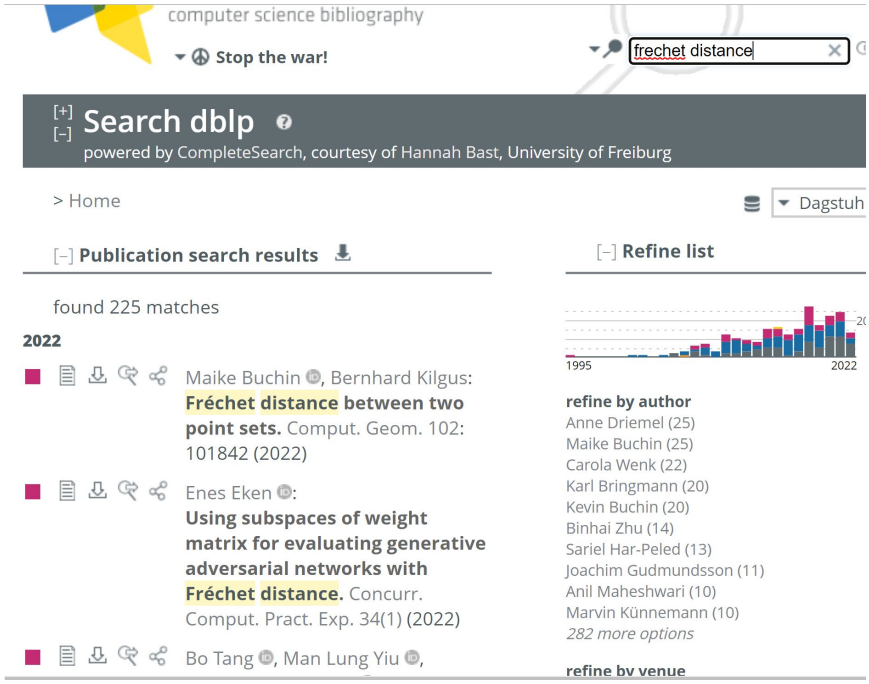
Due: Thursday of the finals week, at "high noon" (2PM)

As mentioned in the syllabus and discussed during the short post-lab lecture on April 25th, your final assignment is to write an overview of a research paper of your choice. The choice of the research paper is entirely yours – for as long as the problem addressed in it is related to the topics in this class (e.g., graphs; spatial data (even if the topic is social networks); streams; etc…). or MSiA curriculum broadly (i.e., your other classes; projects; etc.)

As shown, the most convenient source for CS/CE/AI type of a literature is DBLP: https://dblp.org/

There are way too many conferences and journals available there, so a (possible) "seed" that was discussed in consists of: KDD; AAAI; IJCAI – however, there are several others (ICML; ICDE; GIS/SIGAPTAIAL; etc.) which are ranked "A-class" and are related to your curriculum. You are more than welcome to discuss this with instructors from your other classes, and see whether (the papers from) a particular venue would be a good source for you to augment your knowledge in that context.

Recall that in addition to looking for conferences and journals (as well as by author name in the "search dblp" textbox) you can try to search by topic. As an example, the figure below illustrates what happens when you type frechet distance in the search (i.e., it shows papers that have something to do with Frechet distance, available at DBLP. Please note that for a more generic search – e.g., "social network" it will provide tens-of-thousands of entries…)).



Tips: Please plan on allocating a few time-intervals in the next couple of weeks so that you can browse the conferences (recall: (1) for each conference, you will have a list of the existing editions per year – select "[content]" link; (2) look at the title of the papers and quickly "filter out" as many as possible; (3) for the few papers that you may need to "refine", click on the "Electronic edition" icon to the left of the paper-title and try to prune some more based on the abstracts). Once you have narrowed the selection to 2-3 of them, read them in greater detail and discuss with your team-mate which particular one should be selected as a "theme" for your report. It may be a good idea to run the search(es)/selection(s) in parallel between two team-mates, and then discuss the selections.

As for the structure of your reports, following are the basic guidelines:

1. It should be ≤ 5 pages;
2. The font size should be 11 (in Times New Roman; or a corresponding size in another font e.g., 11 in Calibri; or 10 in Arial font…); single line/paragraph spacing; with margins no larger than 1 inch at each edge (top/bottom/right/left).
3. As for the content, you should plan on the following sections:
    a. Introduction: here, you need two parts:
        i. What is it that *motivated you to pick this paper* (e.g., which component of "personal preferences" (with team-mate); which papers/topics did you consider)
        ii. Explain the motivation for the problem addressed in the paper (if an example would help define the problem, feel free to borrow a figure from the source-paper). Why is it important?
    b. Main methodologies (here, describe the architecture/algorithms/approach/…). What is it that you found particularly interesting?
    c. Overview of experimental results/justifications (no need to copy+paste all the details; a summary will do (of course, you are welcome to copy some figure and/or table for a convincing argument, but no need to do so for all of them);
    d. Positioning with related work (pick some of the related works discussed in the paper – e.g., if some were used as "baselines" in the experiments – and write:
        i. What are their respective main features
        ii. How does the current paper differ/advance the state of the art
    e. Summary: in addition to the concluding remarks about the properties of the paper itself, write 1-2 paragraphs discussing what is it that you learned from the paper (both about the approaches used, as well as the kind of problem(s)/reasoning/experimental design/… that you may have not seen before).

The time allotted may seem like plenty (and, indeed, there is more than enough) – however, do not wait until the last moment to start working on this. As mentioned, allocate a few intervals in this (and the coming) week(s) towards this assignment.

You are expected to make sure that the quality of the presentation satisfies certain expectations from graduate students (no typos and good grammar; proper formatting and inclusion of references; etc.).

This is a team assignment, and you should actively collaborate with your team-mates from the get-go (i.e., split the time for determining the possible papers of interest; allocate time to discuss the content/versions of the report; etc.). Once done, upload the pdf or your report in the corresponding assignment on Canvas.

Good luck.