CS399 Senior Conference
Spring 2021

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1   Course details

Senior conference is a required course for computer science majors. It must be taken in the spring of senior year, with the goal to complete a semester-long project or thesis. For more details on selecting a project or a thesis topic/advisor please refer to our website. Although by this point all of you should have completed the initial topic selection. Information about the course can also be found on the course website

2   Deadlines

1. 2/24 (week 2) 2-page abstract

2. 3/10 (week 4) Extended abstract (8-10 pages)

3. 3/17 (week 5) Peer review

4. 3/24 (week 6) First draft

5. 4/14 (week 9) Second draft (10-15 pages)

6. 4/21 (week 10) Peer review

7. 5/5 (week 12) Final thesis (15-20 pages)

8. 5/12 (week 13) Senior presentations

3   Grading

Attendance	20%
Making all deadlines	20%
Discussions/progress reports/peer review feedbacks	20%
Thesis/project quality	40%

4   Senior Thesis/Project Writeup Expectations

All papers should present an in-depth exploration of a topic in computer science. The paper should demonstrate the student's ability to apply, in a new context, the fundamental themes that connect all CS classes, such as:

1. separating the problem definition from its solution

2. describing clearly a proposed solution (typically with examples)

3. understanding the correctness and applicability of a proposed solution

4. comparing several proposed solutions in terms of clarity, resource requirements, etc.

It is common for the paper to center on a particular algorithm or computing system, and present the correctness and/or computational challenges thereof. However, this is not required; the one core requirement is that the student demonstrate the ability to think deeply and communicate clearly about a computer science topic.

4.1   Literature Reviews

A proper literature review is required. A literature review is meant to give an overview of related work in your chosen topic area. This can include other attempts to solve the same problem (or similar problems), or other solutions that are similar to yours but perhaps were targeted at different problems.

A literature review has two purposes: it shows that you have looked into what other people have tried to do and are not completely re-inventing the wheel and in the process, explains the relationship of what you are doing to what has been done before. In particular,

1. if you are doing original research, explain the original constribution and significance of your work

2. if you are doing a project, explain the learning goals and outcomes

You should summarize each work with your own words, however, it is not enough to say, "these people did this; these other people did that". For each work that you describe, you should attempt to synthesize its relative strength/weakness and any unique contributions/characteristics. In other words, it is not just that you read n papers on their own, we want to see a comparative study of these n papers. In addition, you should provide a paragraph or two explaining why your solution will be better. It may simply be that other solutions weren't necessarily addressing the exact same problem, or that they tried to tackle some other aspect of the problem, but demonstrate here that you are aware of other work in this space and where your work will be placed within it. The above is true even if you are not doing original research, because you have still chosen a particular method/approach in your project and you must explain why.

4.2 References

Your advisor should have given you a reading list to get you started. During the reading, it is inevitable and expected that you should read additional related work, principally:

1. to further your understanding - for example, after you encounter unfamiliar terms/concepts

2. to complete your survey of closely related works - after you encounter references that appear to be closely related but are not yet on your list. This is usually found in the literature reviews of the papers on your reading list.

It is also recommended to simply do a broad Internet search. Some of the work you discuss are described in academic papers. We recommend the following sites as places to start:

1. ACM Library (you should be able to access this site from Tripod)

2. Google scholar

You must cite all related work that you include in this section, even for things that are not specifically academic papers. Please use the APA citation format. In particular, these are the types of works you are likely to cite:

1. Conference proceedings

2. Journal article

3. Website

4. Book (entire)

5. Book (chapter)

For anything not listed above, find the appropriate format at here.

4.3 LaTeX

It is highly recommended that you use the LaTeX document processing system instead of Word or some other editor. The only exception is if you already have significant prior expertise in Word (this usually means you have written the equivalent of a senior thesis or book in Word before) and if you have, you likely will agree with me to want to switch to LaTeX, because Word's cross-referencing ability is lacking, or not to mention mathematical symbol formatting.

The course website has a few links to get you started on LaTeX. We will also discuss more LaTeX resources in class.