

Thesis Grading Criteria

Scientific content: novelty, strength, and scope of the contribution

In a class, the maximum contribution you can make (or the score you can achieve) is limited by the assignments and the exams. However, there is no upper limit to the contribution you can make in a thesis. A more substantial contribution (intellectual, creativity, effort, ...) should be rewarded. This category acknowledges your personal investment/contribution. Did you come up with something genuinely novel? Did you address a particularly complex topic? Are there any extraordinary aspects of your thesis (time-consuming experiments, inter- or transdisciplinarity, innovative evaluation methods, human experiments...)? Are your conclusions particularly insightful? Are they well-supported by your work? Note that your thesis doesn't need a positive outcome to obtain a good grade; a negative outcome, e.g., "something does not work and here is why," can be just as interesting if presented and analyzed well.

Scientific argumentation

Your thesis should present a clear, well-reasoned argument that shows you fully understand the problem you're addressing, demonstrates your knowledge of existing research in your field, and explains and justifies the methods you chose to use. This logical argument should also form the basis of the scaffolding (or storyline) of the thesis. Every section of the thesis should be presented from the point of view of that argument. Every section should be an integral component of the argument. Every section should provide relevant information and support for understanding the argument. Are the experiments designed to support your scientific arguments? Are the results evaluated appropriately, and do you draw the correct conclusions? Have you also described the limitations of your ideas/methods/experiments? Are illustrations used to aid the presentation? Are the graph types appropriately chosen for the data? Do the graphs make the main point easily accessible?

Technical strength

The thesis is an opportunity for you to show what you have learned during your studies and from your independent literature study for the thesis. Do you bring to bear a solid understanding of computer science? Do you understand the necessary technical background? Are you capable of identifying appropriate solutions for the problems you encounter? Have you mastered the

techniques/methods/algorithms/concepts and their application? Does the thesis contain an adequate exposition of the relevant technical background?

Scholarliness

Do you know the state of the art? Do you know the most relevant works in your area? Can you group and present them in a way that supports and advances your scientific argument? Do you present the necessary technical background in an accessible and complete manner?

Independent work and supervision process

A thesis is an independent scientific project. We therefore expect you to take ownership of both the research process and the path towards the final thesis document. Supervisors provide guidance, feedback, and scientific direction, but they do not manage the project for you. You should prepare meetings carefully, bring a clear agenda, summarize your progress, identify open problems, propose next steps, and document decisions and action items. You are expected to actively guide supervision meetings rather than passively wait for instructions. When you encounter problems, you should first analyze them independently, consider possible explanations or solutions, and then discuss your reasoning with your supervisor. Questions are welcome and important, but they should increasingly reflect a deep engagement with the topic rather than concern only basic organizational or technical issues that could be resolved independently. A strong thesis process is characterized by initiative, critical thinking, timely communication, continuous incorporation of feedback, and the ability to turn supervision input into concrete scientific and technical progress.

Execution

Is the writing understandable and correct? Are technical terms used correctly? How is the thesis structured formally? Are images and graphs properly labeled? Are references (including references to your figures and tables) and sources properly used/cited? Is the bibliography complete (page numbers, etc.)? Does each section's paragraph/image/graph structure help the reader understand the argument? It is also crucial that you properly document the software that you have written for your thesis. We will likely want to use or further develop the software, and this makes complete technical documentation mandatory. Your software should have full documentation, a separate document explaining the architecture, and examples of installing and running the software. Please also document all scripts that generated data for your thesis.

Presentation of results

We expect you to present your approach and results in two presentations, one “mid-term presentation” and one “final presentation.” Here, you should communicate your work scientifically and understandably to people not involved in the project (other lab members). The mid-term

presentation plays a smaller role in the final grade and is targeted at pitching your idea, getting feedback, and (maybe) presenting early results. In contrast, the final presentation is more formal and contributes more to your grade.

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