

DAT315. Proposal Exercise

Write a proposal for a research or development project in CS. In detail:

If you are in the process of preparing your master's thesis proposal, you can (and should) use this exercise for this purpose! Otherwise, you may instead write a fictive (yet meaningful and realistic) proposal, by starting from a subject from an article, from a technical talk, from a research seminar you may have attended, or from any other subject of current interest.

1. As for the content, see the section "Writing a research proposal". – The recommended length of this part is about four A4 pages (excluding the bibliography). You may also extend your proposal by further material. However, clearly mark the material beyond the space limit as Appendix. We can read appendices only superficially.
2. In addition, discuss ethical issues of the subject in a thorough way: Give reasons for or against possible actions, in terms of ethical values (not necessarily a final judgement). The recommended length of this part is about two A4 pages. – In some cases a subject may not immediately raise ethical questions, but certainly there will be some when it comes to applications and connections to other fields.

Mention your name and personal number on the first page.

About the Deadlines, and Some Advice

- Start as early as possible and work continuously. If you are using this exercise to prepare your master's thesis proposal, you should already contact potential supervisors and discuss with them. Investigate relevant related literature, too.
- Stick to all applicable rules of good scientific writing learned from the course material.
- There is a compulsory deadline for submitting a draft. You may also submit early drafts at any time and ask for writing advice. Also, reading each others' texts ("peer review") can be helpful.
- Only the final version will eventually be graded. It is allowed to change the subject before the final deadline (e.g., if you realize later that you like another subject better).
- If the final version has major shortcomings, we will request improvements and clarifications before you can pass. Then re-submit at your earliest convenience. But make sure that you address all issues mentioned in the feedback.
- We will never evaluate personal opinions expressed in your submissions. But what we evaluate is the quality of writing: structure, clarity, coherence, scientific argumentation, citations, etc.

Writing a Research Proposal

A proposal is a special type of scientific article, as it describes what shall be done in the future.

For sure you will have to write a proposal for your master's thesis (now or later). Furthermore, both in academic research and in industrial practice, proposals are required if one wants to apply for funding for a project. The specific guidelines are, of course, very different, but all research proposals must more or less contain the following items, in an appropriate order:

- Summarize the background and the state-of-the-art, witnessed by some key references.
- Specify at least one clearly defined research question.
- Motivate why the planned project is important at all. (For funding applications one can put it this way: Why should the financer give money for it?)
- Argue why this is a significant step (and not only some routine work) and will increase the knowledge or the repository of methods in this field of work. Specify the scientific challenges.
- Describe as clearly as possible what shall be done and accomplished. In particular: What problems exist, what are current solution methods, what are their limitations or drawbacks, etc.?
- As far as possible, describe the approach(es) to be taken. In this way convince the reviewer that you have a clear idea of your project, and that it is manageable and realistic.
- Also give delimitations: What is out of scope and will not be considered in this work?

A proposal should be understandable also for reviewers (who decide on the acceptance!) that are not exactly experts in the specific domain.

An obvious objection is that the result of research cannot be predicted (otherwise it would not be research). But the understanding is that a proposal reflects the current knowledge, plans, and expectations. During the actual work, the initial plan can always be adjusted due to unexpected findings. This does not speak against having a plan.

Checklist

So your submissions should contain these items:

- motivation and problem statement, significance
- context: state-of-the-art
- goals and challenges, aim of the proposed work
- scientific approach
- references
- as a separate part: ethical considerations