

Writing a proposal for a PhD in Computer Science

If you want to work with me, you will need to prepare a research proposal among other documents. The proposal is an essential document and helps me understand the work you want to do and gauge your familiarity with research and your proposed topic. Here are a few suggestions:

- Get in touch with me; it ensures you are not wasting your time. It also helps me to track your application through the system.
- Check my profile and the work I am doing. You want to be sure I am the best fit for the work you want to do.
- You need to identify an exciting and meaningful subject of research. A PhD last for several years and has a significant step-up from a Bachelor or Master thesis.
- Even if you apply to a funded project I advertise, you should write a proposal to demonstrate your understanding of the topic. It is imperative to be comfortable with the proposed project as it will be a significant part of your life for the next few years.
- You do not need to be overly specific or feel you are committed to what is in your proposal. You will spend a significant part of your first year reviewing the literature and identifying your exact research topic. The goal of the proposal is to demonstrate that you are ready to undertake a PhD.
- You need to write rigorously and follow an established style in your discipline. I encourage you to read papers in the following conferences to get a feeling to what it may look like: ACM CCS, USENIX Security, IEEE S&P, USENIX ATC, Eurosys or OSDI/SOSP. You may also consider citing work from those conferences.
- I am happy to look at a draft and give you feedback on your proposal. Interacting this way also helps me to understand how well we work together.
- I encourage you to use Latex. You will be expected to use it during your PhD.

Every supervisor will have a different idea of what is a good proposal. This should not be taken as a universal guideline.

Regarding the content I expect the following:

- Up to 3 pages
- Organised in the following fashion:
 - **Overview** (topic and problem statement)
Brief introduction of the research area and why your proposed research is essential and how it fits.
 - **Research questions and aims**
Clearly define the problem you want to solve. What research questions you aim to answer. How you would evaluate success.

- **Literature review**
This section is aimed at demonstrating your critical understanding of your proposed area of research and how it informs your work.
- **Approach**
In this section discuss how you plan to answer your research questions. In systems research, it generally involves building a prototype and comparing against state of the art.
- **Fit to the group and supervisor**
Identify briefly why I am a good fit as a supervisor and if you would benefit from collaboration with any other member of the group.
- **Reference and bibliography**
I suggest using standard CS formatting (ACM is a good choice).