Your Thesis Journey: From Vision to Success

Andreas Orthey

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This document is a guide to writing a Bachelor or Master Thesis with me as your supervisor. Please read this carefully to understand how writing a thesis works with me, what the expectations are, and how you can make your thesis a success.

1 Supervision Philosophy

My approach to thesis supervision is simple: The thesis topic is yours to develop, and I am your personal guide who ensures that you are on the right way and you are not blocked by anything. This approach comes with the following three implications:

- Freedom with Accountability You have the freedom to decide when you work and what kind of thesis work you conduct. However, you also have the responsibility and you are ultimately accountable for a successful or a failed thesis.
- Self-Organization You have to self-organize yourself. This involves structuring your week, including when you write code, when you read, when you search for literature, and when you write. Try to do all these activities from the very beginning, because writing helps you to clarify your thoughts, while reading helps you to understand the current state-of-the-art.
- Ask your Guide Ask for help and guidance as often as you can. You should never reinvent the wheel, but instead use whatever is available to make progress. You should not feel bad for asking for help. Instead, I believe the opposite is true: You should feel bad if you try to solve an already solved problem, which you could have skipped if you just would have asked an expert. That is why I am there.

2 Thesis Goal (Your Vision)

The single most important concept for a successful thesis is a clear vision of what you want to accomplish. Ideally, you should have a high-level thesis goal

which can be described in one short sentence. This thesis goal should be a shared vision with me of where you want to be at the very end of your thesis. You should spend the first week(s) just thinking deeply about this vision. Here are some tips on how to come up with a vision:

- Imagine yourself giving your final thesis presentation and talking about how you developed your goal. All your friends and family are there, too. Do you feel proud and energized? Then this is a good goal. Or do you feel unsure and just want to get it over with?
- Imagine that you have finished your thesis and you are sitting in a job interview. The interviewer wants to know more about your thesis topic. Do you feel that your thesis will impress them? Or did you feel that you have wasted your time?
- Imagine that you finished your thesis and you created a new piece of technology. Would you pay money to use this? Could this be useful to many people throughout the world?

Such a goal-oriented reasoning process is advantageous because (a) it tells your clearly when you have reached your goal (and can hand in your thesis), (b) it motivates you from day to day and week to week, and (c) it keeps you on track such that you do not work on things not contributing to your vision.

3 Weekly Workflow

To keep track on your progress, I like you to do two things each week. One is writing a status report and two is having an update meeting with me. Both of those should help you to stay on track and quickly identify any blockers you have.

3.1 Weekly Meetings

I offer weekly meetings (usually 30min) to check in about your thesis work. In those meetings, we should discuss the following items:

- Thesis Update Bring me up to date with your current progress, for example show me a quick video of what you are able to do, or tell me what you worked on.
- Remove Blockers Identify any blockers, i.e. problems on which you were not able to make progress. The earlier you can identify blockers, the quicker we can do something about it (e.g. finding a solution, finding outside help, stop working on it, etc).
- **Discuss Solutions** Discuss a solution you developed to identify any things you might have missed. I found when talking about something, it often becomes clearer if there are still some open issues and how they can be fixed.

• Discuss Thesis Goal Discuss about your overall thesis goal. Is your goal still attainable, or should you pivot and change the goal? What is still missing to reach this goal?

3.2 Status Reports

A concept I borrowed from Michael Gleicher (University of Wisconsin-Madison) are status reports ¹. A status report is a weekly e-mail in which you answer a set of questions and send this to me. This report should help *you* to stay on track and organize yourself. It works best when you send this every week at roughly the same time. In this report, you should briefly answer the following questions:

- 1. What were my goals for this week?
- 2. What did I accomplish this week?
- 3. Why are #1 and #2 different?
- 4. What are my goals for the next week?
- 5. How do my goals for next week fit into my overall thesis vision? Am I still on track and do I work on the most important aspects?

This should not take too much time, but reflecting on your progress and about your long-term vision is extremely helpful to actually reach your goal, and not waste too much time on things which do not advance your overall goal.

 $^{^{1} \}verb|https://gleicher.sites.cs.wisc.edu/pages/advice/statusreports/$