

## Writing Your Thesis: Suggested Strategy

First, consider this:

- Almost nobody will read your (or anyone's) thesis once you complete it!
- You have become an expert in some area. To share what you have learned, you need to present that material to people in ways they can digest given their busy lives. You need to make it *easy* for them to understand what you did.
- If you are designing an interactive system, very few people will ever see it – they will read about.
- If you are designing an interactive system, even if they see it, the people who saw it need to write about it to convey what you did to others.
- **Moral:** *you need to write what you do, and you need to write it in a format that others can understand and appreciate in a reasonable number of pages!*

### Overview of the suggested strategy:

Don't write a thesis. Write a paper (or papers) for conference or journal submission that you turn into a thesis by adding an extensive set of appendices. Why?

- You will be forced to describe the important parts of your work (i.e. the new ideas) ... concisely.
- You will avoid writing a tremendous amount of text that nobody reads that muddles your main contributions.
- You will be well on your way to getting your work published so that researchers will actually read it.
- You will acquire the skills necessary to describe your work to the research community.

A good paper will very clearly explain what about your work...

- Has a surprising, unexpected result
- Solves a problem that nobody has solved before
- Can be *proven* to work *substantially* better than any other solution anyone has tried
- Raises some questions that nobody has thought about before

A good paper will also concisely argue how your work compares to other work that came before it, specifically answering the following questions:

- How have you advanced the state of our understanding of the problem?
- Who do you need to credit for similar or motivating ideas?

So, step by step, here is what I recommend (learned the hard way!)

### Part 1: Figure out who will care

- Identify your audience (research communities that will care). You can do this by looking at the papers you have read on prior work. Where were they published? Follow these [tips for doing a literature search](#)

- Find the conferences or journals that represent the communities that would be most interested in your work. If you are working with Stephen you should take a look at this [list of conferences and journals](#). This should be easy to do after your literature search, because you will probably find the key papers cluster in a few publications or conferences.
- In addition to the papers you have read on prior work, peruse some recent proceedings/volumes and study how people write up their work and what types of research are published in conferences or journals you have initially identified.
- With your advisor, **pick one conference or journal with a deadline in a reasonable time frame to aim for.**
- Find out the formatting and length requirements for this conference/journal from its website (usually this will be something like 6-10 pages in single-spaced, double column 10pt font for a conference and longer for a journal article).
- Create rough outline of your thesis in this format. Consider these [thesis organization tips](#).

## **Part 2: Identify what will make your work stand out in the research community**

You should have a good idea what these points are from your extensive [background reading and literature search](#). At this point you should write an extended abstract, following your outline (in the format of the targeted submission). *Make sure your key idea and supporting ideas come through crystal clear in that abstract.* What differentiates what you are doing from prior work, and how will you evaluate your results? This step will require a back and forth between you and your advisor, with you making extensive revisions to this extended abstract. This will also likely cause you to revise your research plan somewhat.

### **Part 2.5: Finish your research!** (or make significant progress)

## **Part 3: Write an outstanding conference/journal submission**

This will turn into your thesis, but do not think about "thesis" writing yet! Stick to the guidelines for the submission and target the deadline if it is prior to the completion of your thesis (the best case scenario if it works out).

- This will force you to think about how to succinctly and compellingly describe your main ideas/discoveries.
- You will produce a document that the research community can easily learn from and archive.
- When you are finished, you can easily submit your work to the conference/journal.
  - If it gets in, you will have multiplied the number of people who will know about all your hard work and great ideas many times over.
  - If you ever want to pursue more research, your submission will help you tremendously.
  - If it doesn't get in, you may get some interesting feedback on your ideas (or how you presented them).
  - When someone asks you what your thesis is about, you will have something to give them they might actually read.
- Your advisor is likely to be much more interested in helping you refine your writing for a conference submission than for the actual thesis document.

- Finally, when you complete this paper, the hardest part of writing your thesis will be over!

### **Part 3a: Things your paper will need to have**

- A terrific abstract
- A clear focus
- Only a few images and diagrams that will need to be exceptionally clear and concise
- A tone/style/format that is consistent with other publications in your field(s)
- A complete but concise references cited section
- It should satisfy the needs of the "review criteria" listed for the conference/journal you will send the paper off to. These criteria will help you keep your discussion focused on the important stuff.
- No grammatical/typo/spelling problems.

### **Part 3b: Distribute your paper to as many people as you can get to read it and get their feedback on**

- Big ideas
- Grammar/typos

Hopefully the timing works out so you submit this paper 1-2 months before you these is actually due. Then you can move onto completing your MIT thesis document requirements.

### **Part 4: Quickly finish off your thesis**

- Your thesis becomes your conference/journal submission with an extensive set of appendices.
- The submission part contains:
  - All the main ideas, images, etc. needed to describe the most important points.
  - It can essentially stand alone.
- The rest of the thesis, the "Appendix" part contains:
  - Details that only a subsequent "implementer" is likely to care about, e.g.:
    - More examples of the solution, datasets, etc.
    - Details of study design that would be excluded from a short submission
    - Pseudocode
    - Interview transcripts
    - Additional descriptions of prior work
- Use references cited not a bibliography
  - Bibliographies list readings
  - References cited lists readings that you have referenced in your work as relevant to understanding your research.
  - If you are not going to explain how it fits in with what you have done, why list it?