Sections that go into a paper
(according to Jed, YMMV)

Generally speaking

- Don't use contractions in technical papers
- Be careful of imprecise/informal langauge
    - "Very large..."
    - "Smith et al. [reference] did a clever study..."
    - "should not affect the attack's efficacy in the wild too much"
- Recognize that quality technical writing takes a lot of time and effort
- Bullets and structure are good, but page limitations are often too small

Abstract

- Some people say it should be independent of the Intro and you should be able to skip the abstract if you want, some people complain if there's overlap (can't make everybody happy)

- My opinions:
  - You should try to have a major result in the abstract
  - It shouldn't be more than 200 words, maybe only a bit more than that if really necessary
  - Ideally shouldn't include references or acronyms (sometimes unavoidable)

Intro

- Motivation

- Ideally people should have an idea what the paper is about after the first sentence

- Want to clear up misunderstandings right away, without being defensive

- Main research challenge? Limitations of previous work? Potential impact?

- Bulleted list of contributions

Implementation

- For Internet measurement papers, or networking and security in general, my preference is for implementation to be a separate section

- My opinion: keep results, experimental methodology, future work, *etc.* out of it

- Just the implementation details, like what your algorithm does, how the measurement works, *etc.*

Experimental design

- Should have enough details that someone could reproduce

- My opinion: keep implementation details and results out of this section

- What are your claims?

- What are the challenges for experimental design

  - Bulleted list is nice

- What if the universe conspired against you, what would the biases and distortions be?

Results

- In my opinion, results should only have results and you should keep implementation details and experimental design separate

  - This is a generally accepted practice, but there are lots of ways to skin a cat and lots of papers that don't follow this formula (for better or for worse)

Discussion

- Can move results not related to the main research questions here

- If there is any nuance in results, consider putting it in discussion rather than results

- This is where you can discuss limitations, and future work is often rolled into this section

Related work

- Can put it at the end or right after the intro, can combine it with background (lots of flexibility)

- You should have a section with "related work" in its section title, though

  - Even if you cite 30 papers in the intro and background sections, if you don't have a "related work" section reviewers will complain

Thoughts on related work

- For paper version, cluster and then put in the context of your work

- Related works section is a good place (in addition to the intro) to make it very explicit what the novelty of your work is

Conclusion

- Hardest section to write, in my opinion
  - You've already written everything you wanted to say in the other sections
- Can just be a summary, but some papers do a better job than others of selling the paper's merits in the conclusion
- Future work is often combined with this section

Other sections

- Separate background (after intro instead of in it)
- Ethical considerations
- Limitations
- Acknowledgments
- Appendices
- (Ask your subject area advisor for more...)

Other general advice

- Be courteous

- Be careful about LaTeX comments and file names and such

  - E.g., "~\cite{idiotswhousedkmeans}"

- Write the paper as you work, not after

  - I try to make my students write the experimental methodology before running the experiments

- Be pithy: for every sentence, ask "why does the reader need to know this?"

- Save lulz for the camera ready

- If you create nice graphics, links, *etc.*, your advisor will love you for it because they can use it in reports/proposals

Assignment #6

- Nothing to turn in, just an informal presentation (no slides necessary)

- Before Monday October 15th read two papers:
  - Roya's "Analyzing the Great Firewall..." linked below
  - A paper from your field that you think will serve as a good template for the sections you'll need

- Highlight and discuss things you like, things you'd change, and questions for the group (about paper structure, for both papers)

Some links

- https://www.cs.unm.edu/~crandall/pets2015.pdf
- https://www.cs.utexas.edu/~EWD/ewd06xx/EWD637.PDF
  - Courtesy of Stephanie Forrest
- http://matt-welsh.blogspot.com/2009/12/how-to-get-your-papers-accepted.html
  - Courtesy of Stephanie Forrest