# CS395T: Structured Models for NLP
# Lecture 8: How to Write


Greg Durrett

Adapted from Chris Dyer

## Bad at Writing?

- **Writing is a skill** — it takes practice!
  - Write a lot
  - Get feedback
  - Read good papers
- **Nonnative speaker? Not a problem!**
  - Good research writing is about good ideas and clear thinking, not a big mental lexicon

## Your Job as a Writer

- **Write for your readers**
  - Teach them something you figured out
  - Convince them of something
  - Be clear!
- **Not writing for yourself!**
  - Don't try to convince people how smart you are
  - The writing process can help clarify your ideas and motivation

## Conference Paper

- Title: 1000 people will read it
- Abstract: 4 sentences, 100 readers
- Intro: 1-1.5 pages, 30 readers
- Model/Idea: 2 pages, 10 readers
- Details: 2 pages, 3 readers
- Results: 1-2 pages, 20 readers
- Related work/Conclusion: 1 page, 10 readers

## Your Idea

- **Focus on presenting your core idea! Be 100% explicit!**
  - *"*The main idea of this paper is to show how to integrate a lexicon scraped from the web into a neural NER system. Our approach is modular (can use many lexicons) and efficient (doesn't slow things down).*"*
  - Not: *"We present a method that works well on dataset X under scenario Y but not on dataset Z under scenario W unless M is true."*
  - You can get into subtlety later in a paper but the core idea needs to be clear and simple!

## Think about what's novel/hard!

- Are you introducing a new problem?
  - Do you need to motivate the problem?
- Are you introducing a new technique?
  - Benefits relative to other techniques
  - Disadvantages (be honest!)
- What's difficult to understand/technical? Think about that and make sure readers will be able to understand it

## Don't Overestimate Readers!

- Don't assume readers are as knowledgeable as you!
- Readers may not have thought about this problem much, or if they have they may have made different/wrong assumptions about it
- Don't assume readers know all related work! Remind them of relevant details (but don't re-explain everything!)

## Abstract + Introduction

- Abstract should crisply define/motivate the problem (1 sentence), give the method (~2 sentences), and give a headline result (~1 sentence)
- Intro should expand on this: give *slightly* more background (1 paragraph, incorporate some related work here as appropriate), flesh out the method/experimental setup (~2 paragraphs), describe the results more
- Make contribution *very clear*! "Our method is the first to do X", "We propose a model for X; while others have looked at X before, never in the context of Y."

## Use Examples!

- Use an example in the introduction or very early in section 2!
- Pick examples that:
  - Illustrate the easy case easily
  - Illustrate the simplest complicated case easily
  - Are concrete: no $w_1$ $w_2$ $w_3$ !
  - Sound like real data: no "*the quick brown fox*"
  - Are (or could be) handled correctly by your model!
- Return to your example throughout your paper
- **Be concrete!**

## Related Work

- Integrate some related work into the intro, but don't have a heavy related work section as the second section!
- You can distill and present things in a way that seems clear to you, but saying "paper X does thing Y that's similar to our model except for Z" will make no sense for readers who don't know your model and might be barely familiar with X!

## Takeaways

- Be clear about your main idea
- Think about how to present it clearly and make it understandable to a reader who hasn't worked on it before
- Abstract and intro should zero in on the contribution and focus on what's necessary to understand it
- Use real examples as part of your motivation