Week 3A: Research 101

Presenting Research

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Slides adapted from Matthew Hicks' “Research 101” lectures
Reminders

Sign up for paper presentations by END OF DAY TODAY

Sign up for paper presentations by Tuesday, September 6th!

Signup sheet here: [https://docs.google.com/spreadsheets/d/1dtoXZnEM36yaQI5Sgo--qPeEuTzlSjsNyFSkKKePDgsk/edit?usp=sharing](https://docs.google.com/spreadsheets/d/1dtoXZnEM36yaQI5Sgo--qPeEuTzlSjsNyFSkKKePDgsk/edit?usp=sharing).

Audience: you are not required to read the paper.

- You *are* required to participate in the class discussion of the paper.

Presenters: your job is to *teach* us the paper.

- Contextualize, pros and cons, main contributions, summarizing, identifying key assumptions.
- Prepare a short slide deck (you are free get “inspired” from existing presentations).
- Deliver a 10 – 20 minute presentation (with a 10 minute audience discussion to follow).

Course Syllabus & Schedule: [https://www.cs.utah.edu/~snagy/courses/cs5963/](https://www.cs.utah.edu/~snagy/courses/cs5963/).

Questions? Contact me at snagy@cs.utah.edu.
Questions?
Presenting
Why present your work?

If you don’t publicize your work, then how will people know they should read it?
Why present your work?

- **Document and communicate what you did**
- **Convince others that they should go deeper**
  - Read your work
  - Fund your work
  - Build off your work
  - Hire you to do more work
- **Facilitate others spreading your message**
  - Reading groups and seminars
  - The Twittersphere
- **Not to show how smart you are!**
Building good presentations is a process
Before you start: the tagline

- What is your talk’s tagline?
- What idea will the entire audience understand?
- Reiterate throughout your talk

“There can only be ONE (paper tagline)”
Know your audience

- What is their **background**?
  - **Expert:** someone who knows all the jargon
  - **Non-expert:** clueless (e.g., your non-CS friends)
  - Tailor your technical jargon accordingly

- Why should they **care**?

- What are they **expecting**?
  - How long of a talk
  - What level of quality
Structure presentations to be cut for time

- Motivation (~5 slides)
  - Overview
  - Details
  - Level of abstraction
  - Level of importance

- Insights
  - Approach Overview
  - Approach Details

- Conclusion (1 slide)
  - Meaning

The “cut” line
Tell, tell, tell

1. Tell them what you **will tell** them

2. Tell them

3. Tell them what you **told them**

- **Bridge:** tell them what you **told them**, and what you will tell **next**

I’ll tell you my FAVORITE kind of donut....

The frosted ones!

So now that I’ve told you my favorite donuts...

I’ll tell you about my favorite beverage!
Outline creatively

- Does your audience require an **outline**?
  - **Short talks**: no outline
  - **Longer talks**: use an outline

- Developing outlines
  - **Tell, tell, tell** can be an outline
  - **Bridges** offer a localized outline
  - Don’t just list your **section titles**!
Evaluations must tell a story

- What question are you answering and why?

- How did you setup your experiment?

- What are the important results?
  - What did you expect to happen?
  - Draw attention to key/interesting results
  - Don’t just reuse your paper’s results
  - Always explain how to interpret charts
Evaluations must tell a story

- What do the results suggest?
  - E.g., “Improvement over Conventional Testing”
  - Incorporate this in slide titles

- Bridge evaluation questions
  - E.g., “We know X and Y... but what about Z?”

- Order questions by importance
  - E.g., “Does it work?” before “How fast is it?”
Conclude with a statement bigger than your work

- Tell them what you told them

- Make a **call-to-action** statement
  - What do your results **make possible**?
  - What **impact** on the world do your results have?
  - What **new research** will stem from your work?

The high-level pitch

Technique & results

Call to action
Mention only key related work—but be aware of it all

- You don’t have time for a related work slide
  - Most conference presentations are 10–20 minutes max
  - If you must, add it as a backup slide

- Mention related work in the opening and along the way
  - Mention important authors (or tools) by name
  - Be positive about prior work

- Don’t worry about mentioning every piece of related work
  - That’s what the paper is for
  - As your talk gets deeper, focus only on the key related work
Backup slides are to be seen—not heard

- Flipping around in your slides looks bad
  - Avoid going backwards through your presentation
  - Sometimes the audience will ask you to

- Have backup slides, but **avoid using them**
  - Treat them as you would paper appendix sections
  - Be aware that **they will end up in the final PDF**
Presentation Tips
Examples help audiences understand

- Introduce a simple running example
  - Gradually add complexity
  - Refer to it for each new point

- Have a central motif for your presentation

- Make sure your example is correct
  - Critical to your audience’s mental model
Slides only support your talk

- You give the talk—**slides are just visual support**

- Humans read words on a slide to themselves
  - ... while you are trying to talk to them

- Humans remember **pictures** better than text
  - Higher-quality graphics = higher-quality presentation

- If you must have text, be concise!
  - Like paragraphs, **each slide should make one point**
Text must infer meaning

- Use font differences to communicate meaning and association
  - **Bold** and **underline** = important
  - **Larger** is more important than smaller
  - **Red** = bad, **green** = good
  - **Monospace font** = this is code;
  - Call-out boxes draw attention

- Be consistent!

- Avoid font sizes smaller than 14pt
Use presentation guardrails

- Each slide must have **one clear and concise reason** for existing
  - Keeps the talk on track
  - Less memorization for you
  - Easier for the audience to follow
  - Easier to edit and cut

- Designate specific slides as **time checkpoints**
  - E.g., “at 5:00 minutes be on slide 6”
  - Use a stopwatch (e.g., your phone) to make sure you’re on track

- Know when to cut content for time
Design your slides to be “flattened”

- Your slides will be published as a PDF

- Compress your images!
  - No one wants a 200mb PDF

- PDFs don’t support animation
  - Animations get flattened onto a single slide
  - Can hide content
  - Solution: *split animations into multiple slides*
Number your slides

- Make references to your slides easy
  - Slide feedback
  - Audience questions
Presenter Tips
Ditch the podium—be passionate!
Ditch the laser—get into your slides!

Rethinking Laser Pointers

Are you giving a talk to cats? No? Then you should probably put the laser pointer away.
Fielding questions

- Practice answering **questions you’d expect to see**

- Answering the audience’s questions is a dance
  - Some questions are intentionally adversarial
  - **Repeat the question** and ask if your understanding is correct
  - Better yet: **rephrase it to “better” question**, and answer that
  - Always **be friendly**!

- **Confidence comes with practice**
Practice, practice, practice

- Like any good performance, **memorize your lines!**
  - Create a **short** script and read through it several times

- When you’re ready, ditch the script
  - I try to memorize one slide at a time

- Practice with different audiences
  - Your lab, reading groups, friends

- Repeat!
Advertise yourself!

- **Introduction:** *what you’re seeking*
  - “I’m on the job market this year”
  - “I’m seeking internships this summer”
  - *Ask the session chair to mention this*

- **Conclusion:** *relevant links*
  - Link to your prototype’s source code
  - QR code to link to your website
  - Your Twitter handle
  - *Remind the audience what you’re seeking*
Presentation Resources

1. "Beyond Bullet Points: Using Microsoft PowerPoint to Create Presentations That Inform, Motivate, and Inspire" by Cliff Atkinson
2. "Presentation Zen: Simple Ideas on Presentation Design and Delivery" by Garr Reynolds
Presentation Resources

- Great talk on technical presentations:
  - https://www.youtube.com/watch?v=Unzc731iCUY
- Tips from hucksters:
  - https://www.youtube.com/watch?v=vC5cmW8O3L8
- Telling a story:
  - https://www.youtube.com/watch?v=YDXNJBmuV4Q
- How to start:
  - https://www.youtube.com/watch?v=w82a1FT5o88
Questions?