Why Are We Here?

- For your work to have significant impact, it is essential that you can convey results to your community
- Your technical reputation depends on colleagues’ reaction to your talk
- Remember, when on the job market this skill will be crucial in getting a research position in academics or industry
- Giving a good talk is a skill you can learn
- I will give you guidance and tips on giving a good talk

Outline

- Goals of a Talk
- Planning Stages
- Structuring Your Talk
- Transparency Preparation
  - The Do’s
  - The Don’ts
- At the Talk
  - The Do’s
  - The Don’ts
- Concluding Remarks
Planning Stages

- Know your audience:
  - What is their background?
    - general CS (or EE)
    - somewhat specialized audience
    - highly specialized audience
- If someone has spoken before you:
  - Look at paper/abstract of relevant talks that preceeded yours
  - Prepare to use context provided

Scheduling (if you can)

- If possible schedule your talk at 10:00
  - most people are awake
  - few have gone back to sleep
- Bad times to schedule talk:
  - right before lunch since the audience is thinking about food
  - after lunch since the audience is more likely to be sleepy
  - late afternoon since people will be running out of steam
- Best to have room that will be comfortably crowded

Structuring Your Talk

- Use a top-down approach:
  1. Introduction: define problem, present a “carrot”, put in context, and give outline
  2. Body: high level summary of key results
  3. Technicalities: more depth into a key result
  4. Conclusion: review key results, wrap up, give future work

The Introduction

- Define the Problem
  - minimize use of terminology
  - use pictures/examples/props if possible
- Motivate the audience (give a “carrot”)
  - why is problem important?
  - how does it fit into larger picture?
  - what are applications?
- Discuss related work
  - table useful (mention authors and dates)
- Succinctly state contributions of your work
- Provide a road-map (outline)
Concept Class of One-Dimensional Patterns

- The instance space $X_n$ consists of all configurations of $n$ points on the real line.

- A concept is set of all configs. from $X_n$ within unit distance under Hausdorff metric of some "ideal" configuration of $k$ points, where Hausdorff distance between configs. $P$ and $Q$ is

$$H(P,Q) = \max \left\{ \max_{p \in P} \left\{ \min_{q \in Q} d(p,q) \right\}, \max_{q \in Q} \left\{ \min_{p \in P} d(p,q) \right\} \right\}$$

and $d(p,q)$ is distance between $p$ and $q$.

- If $P$ is any configuration of points on $\mathbb{R}$, then concept corresponding to $P$ is $C_P = \{ X \in X_n : H(P,X) \leq 1 \}$.

- $X$ is a positive example of $C_P$ if $X \in C_P$ and is a negative example otherwise.

- Concept class of one-dimensional patterns is $C_{k,n} = \{ C_P : P$ is a configuration of $\leq k$ points from $\mathbb{R} \}$.

Concept Class of One-Dimensional Patterns

- Each concept $c$ is a set of fixed-width intervals on real line.

- Each example $X$ is a set of points on real line.

- Example $X$ is positive if and only if:

  1. each of $X$'s points lies in an interval from $c$

  2. each interval of $c$ contains a point from $X$

The Body

- Abstract the key results
  - focus on a central, exciting concept

- Explain significance of your work

- Sketch methodology of key ideas
  - keep it high-level, emphasizing structure
  - use pictures/diagrams if possible
  - provide intuition (helpful when someone later reads your paper)
  - gloss over technical details

The Technicalities

- Take key result (or part of it) and go into some depth

- Guide audience through difficult ideas
  - give overview
  - state result
  - show an example
  - review

- It is this portion of your talk that typically grows when you give a 50 minute talk.
The Conclusion

• Provide a coherent synopsis

• Review key contributions and why they are important

• Discuss open problems/future work

• Indicate your talk is over. (For example, “Thank you. Are there any questions?”)

• Be ready to answer questions
  – If there are points you glossed over that you expect the audience may be interested in, you may want to prepare some transparencies (just in case)

Transparency Preparation—Do’s

• Decide what you want to say and say less!

• Allow an average of 1.5–2 minutes for each transparency

• Use Repetition
  – “Tell them what you’re going to tell them. Tell them. Then tell them what you told them.”

  – Realize that 20% of your audience at any given time is thinking about something else

• Use Pictures/diagrams whenever you can

Transparency Prep—Do’s (cont’d)

• Use a large font (at least 20 pt)

• Make neat/orderly transparencies (computer-generated preferable)

• Use overlays or other “scaffolding”

• Use color/animation (in a meaningful way)

• You need not use full sentences

• Number your transparencies

• Write reminders, key phrases, etc. on paper

Transparency Prep—Do’s (cont’d)

• Check your spelling

• If you use a transparency more than once, duplicate it

• PRACTICE!
  – give a practice for your colleagues, advisor, friends, pets, etc.

  – be ready to redo all your transparencies

  – practice again

  – be sure that all your material projects on the screen

  – make sure it does not take too much time (Beware PowerPoint’s timer!)
**Transparency Preparation—Don’ts**

- Overload transparencies
- Intend to use too many transparencies
- Put some detail on the slide that you do not want to talk about
- Get bogged down in details
- Try to give a core dump

**At the Talk—Do’s**

- If you expect the audience to take notes, provide copies of your transparencies (this is rarely the case in a conference or colloquium/job talk situation)
- Dress appropriately—this shows respect for your audience
- Have eccentricity (but not too extreme)
  - make it fun/easy for people to remember you
  - extreme eccentricity is bad for younger people

**Transparency Preparation—Don’ts (cont’d)**

- Show complex equations
- Show code (even LISP/Scheme)
- Have a transparency that introduces a point that you are unsure of (unless you want to give the audience a chance to attack you)
- Present last minute results (they are probably wrong)
- Have transparencies that you are not using mixed in with the rest
- Write messy, write too small, misspell words

**At the Talk—Do’s (cont’d)**

- Be EXCITED about your work!
- Remind; don’t assume
  - If you assume a standard result, provide the audience with a brief reminder
- **Talk with Sufficient Volume**
  - Make eye contact and “read” the audience
  - Change victims
- Be with the audience
  - Walk toward and away from the people as well as left and right to break down implicit barrier
At the Talk—Do’s (cont’d)

- Point to the screen, not transparency/computer monitor
  - Use a pointer, not hand/pen
- Bring props
- Ask real and rhetorical questions to keep audience engaged
- Deflect obstructionists:
  - tell them you’d like to talk to them after the talk (about the interesting point made) because the point is a detail, tangential, has a long answer, you need to think about it, etc.
- End on time!

At the Talk—Don’ts

- Talk too softly, mumble, or speak in a monotone voice, use “um”, “ah”, ...
- Read your transparencies
- Focus attention on the screen—you’ll end up talking to the screen vs. the audience
- Stand so that you block the projection
- Mention a detail/point you don’t want to talk about
- Darken the room (unless necessary to see) since it entices audience to sleep
- Babble on when you have nothing to say
- Run over time

Concluding Remarks

- Follow the guidelines provided here
- Take every opportunity you can to give talks (and thus get practice and feedback)
- Remember that the guidelines for structuring your talk must be adapted to each specific talk
- Preparing a good talk takes time; do not expect to throw it together last minute
- Practice for colleagues, etc. to get feedback
- AND: you will give better talks and reap the rewards that follow