Visual AI

CPSC 533R

Extra Lecture. How to give a good talk

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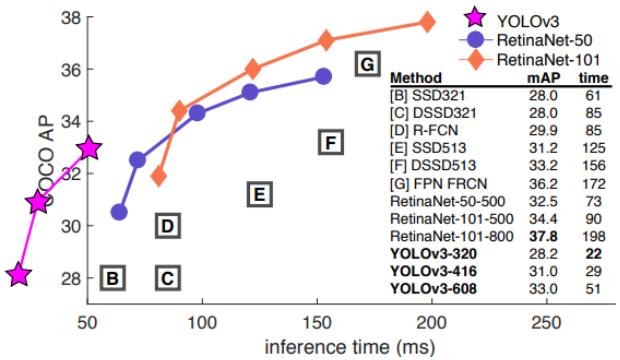
based on *How to give a good talk*
by Christian Theobalt

Intention

- ~~get the best grade?~~
- ~~entertaining?~~
- tell a story?
- ~~build tension?~~
- inform?
- teach?
- trigger future research?
- discuss?
- clarify?
- make people remember? a bit of everything!



Method	mAP	time
[B] SSD321	28.0	61
[C] DSSD321	28.0	85
[D] R-FCN	29.9	85
[E] SSD513	31.2	125
[F] DSSD513	33.2	156
[G] FPN FRCN	36.2	172
RetinaNet-50-500	32.5	73
RetinaNet-101-500	34.4	90
RetinaNet-101-800	**37.8**	198
YOLOv3-320	28.2	**22**
YOLOv3-416	31.0	29
YOLOv3-608	33.0	51

[YOLOv3 paper]

Who is in your audience?

- Sometimes: Researchers in related fields
  - ECE, Math, …
- Often: Researchers in your general field
  - computer science
- Mostly: Researchers in your specialization
  - computer vision, computer graphics, machine learning
  - newcomers, veterans,
    BSc, MSc, PhD, …

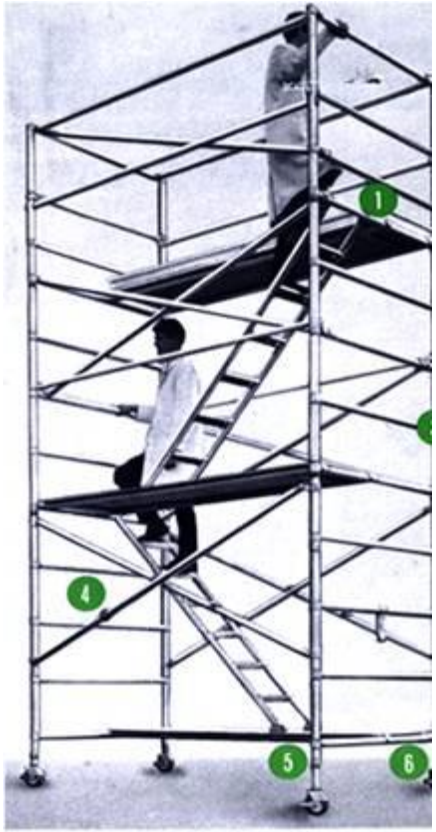
Make sure that you make it accessible for your audience, or choose the right audience for your presentation.

Structure

Basic rule

- Say what you are going to say
  - 1-3 main points in the introduction
- Say it
  - Give the talk –main insights / method
- Then say what you said
  - Summarize main points in the conclusion

Don’t try to build suspense and then unveil a surprise ending



Tell a story

Prepare your material so that it tells a story logically

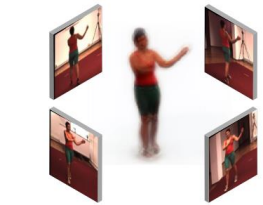
- Subject: title, authors, acknowledgements
- Introduction / overview / motivation
- Method / approach
- Results / information / analysis
- Conclusion / future work / summary

What is motivated in the introduction needs to be explained in the method and validated in the experiments.

- not a novel / thriller!

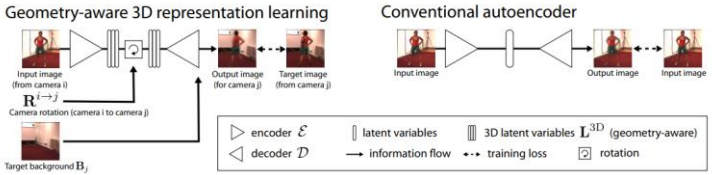
More details:
http://www.cgd.ucar.edu/cms/agu/scientific_talk.html

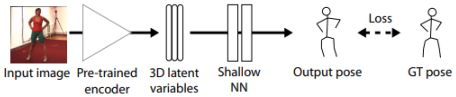
How to structure the method section?


Unsupervised geometry-aware representation learning

Semi-supervised 3D pose estimation

- Give an overview of your goals and methods
  - you can use web sources for figures
    - reference source!
  - for some papers there are great tutorials, github pages, and **supplemental videos**
    - check them out!
- Introduce the input and output
  - notation for the main quantities/variables
  - exactly one equation
- Explain the method at hand of simple examples
  - a sketch
  - input-output examples
- Focus on one aspect in detail
  - try to isolate independent contributions and focus on the most important





How to structure the related work section?

- focus on the particular research field in question
  (be narrow)
- pick 1-2 works representing the current state-of-the-art
  (could be newer than the paper you present if it is ‘historic’)
  - published in major venues (only an indicator)
  - published by major groups (only an indicator)
- don’t try to present them
  - just highlight the main result or conclusion
    - to be able to say what the new thing in this work is
  - explain details only if directly required to understand your presentation/paper

- can also be part of the evaluation
  - show improvements by side-by-side comparison

Result section

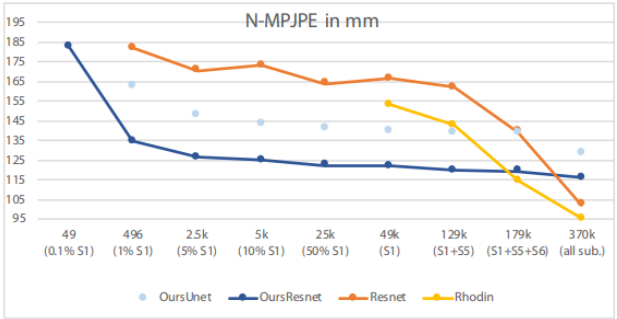
1x simple table

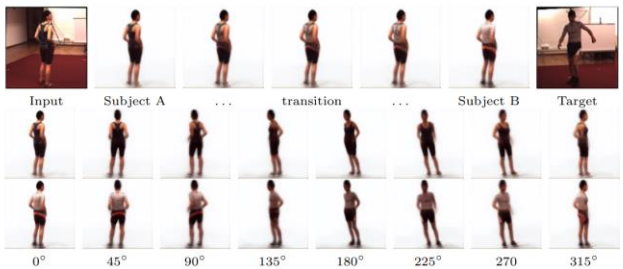
1x graphs

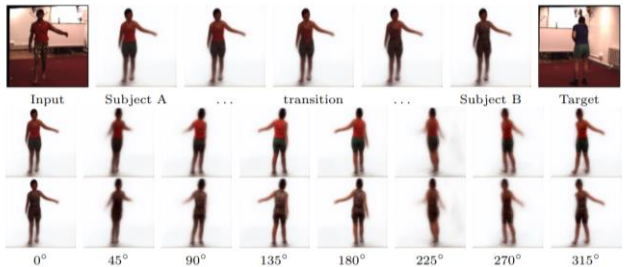
1x video

Many figures

Method	N-MPJPE	P-MPJPE
OursUnet*	**145.6**	**112.2**
OursUnet*, w/o appearance space, as in [50,51]	159.0	117.1
OursUnet*, w/o background handling, as in [50,51]	159.6	124.6
OursUnet*, w/o 3D latent space, as in [9,10]	191.7	139.0







Common mistakes

Too much material

- remember: You will never be able to tell the full story
- you must select pieces that are most relevant
- decide on what to keep based on
  - your audience
  - why do you give this talk
  - what do you want your audience to learn

No clear message

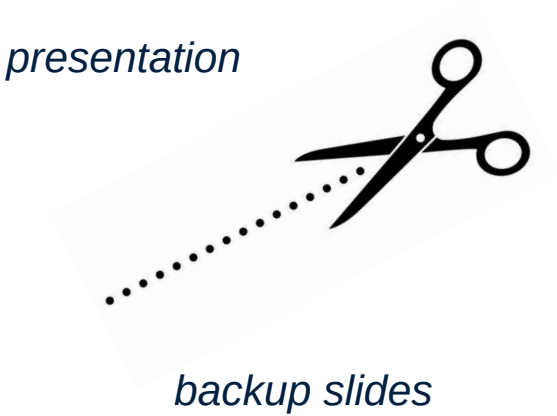
- importance of problem and its solution
- why and how
- main ideas, insight, and novelty over related work

"Being a graduate student": facilitate discussion, ideas for improvement

Is a slide needed or not?

Three important criteria

- is it important for the main points in the story?
- will the audience understand and value this point?
- will the audience remember?



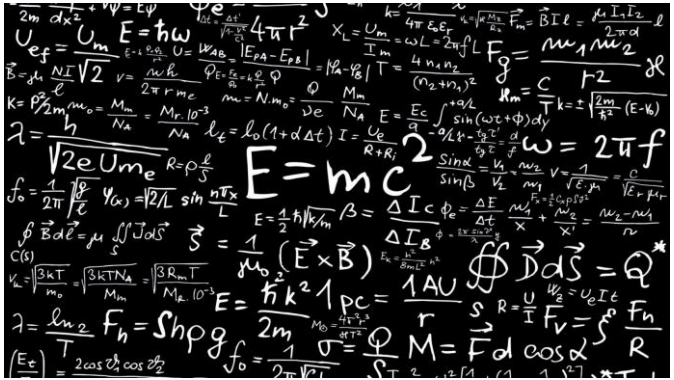
Everything is somewhat important, but you have to cut!

- create backup slides for those aspects that you deem important but can't fit into the main presentation (general advice!)
  - i.e. have slides for 15 min of presentation
    + additional content for 3 to 5 min discussion

How much math?

People are used to study equations, not to see them for 2 minutes on a slide

Equations should support your explanation, not harm it



Common mistake: too many / too few equations

- use them as little as possible…
- …and as much as needed
- don't use them to impress people
- use only important equations, take time, explain properly

Use latex to generate equations

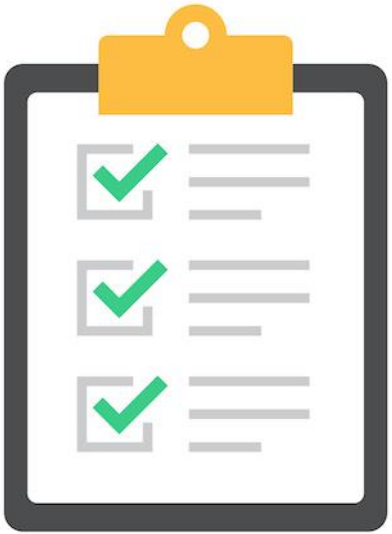
- Mac: LaTeX it (allows easy generation and copy paste to Keynote)
- Windows: IguanaTeX plugin for PowerPoint

Anything special for this lecture?

Focus your presentation on

- **Learning:** convey concepts and methods to the other students
- **Outlook:** Explain what makes this a good paper. What works, what doesn't? What could I (grad student) be working on in the future?
- **Connecting:** put your work in context to lecture material, other presentations, and related work in the literature
- **Practice:** improve your own presentation skills

In all of these cases, give reasons! Why is something important, why does it work, why the attained result good? …



What else?

Recommended to use PowerPoint or Keynote

- open source tools exists but have many glitches
  - or do you know a good one?
- latex beamer puts the wrong incentives (equations)

Practice your talk

- in front of friends or colleagues
- don’t practice toooo often (you loose the energy)

Test the presentation equipment

- zoom or recording tools
- use a good mic

Ask for feedback!

- TA and others---not on the day before the presentation (you need time to incorporate suggestions)

Presentations in CPSC 533R

1. Submit your slides three days in advance on Canvas
   - you can still polish afterwards
2. Arrange for a meeting with TA

- If you record (your choice), record the day before the presentation
  - PowerPoint file or .mp4 video
  - Send download link to the instructor and TA by mail until 11:59 pm

3. Be in time for your presentation
   - 10 minutes before the lecture start

4. Present, 15 min
5. Discussion ~15 min
   - don’t feel responsible to answer all questions, your discussion time should be 3-5 min. We want an open and general discussion in class.

6. Moderate the discussion of another paper (two days or a week later)