How to Make a Good Presentation

Eugenio Chisari

Robot Learning Lab

Albert-Ludwigs-Universität Freiburg

20st January 2023

With Every Presentation...

…you present yourself and your work

The Slides

- Typically done long before the presentation
  - Rule of thumb: one slide per minute
- Used to better convey the message
  - Images, Videos, Graphs, Animations etc.
- Not meant to act as a teleprompter
  - Do not read from the slides

Structure of Scientific Presentations

- Introduction and Motivation
- State of the Art
- The Approach
- Results
- Conclusions and Future Work

The Sections

Introduction and Motivation

- Describe
  - The problem
  - Why it is relevant
  - The open question
  - How your approach answers this question

Why should people care about your work?

State of the Art

- Mention relevant approaches presented in the past
- How does your approach go beyond the previous ones?
- Crucial to find right balance between praise and criticism
  - Mention what other approaches do and what they solve (be friendly, make the authors happy!)
  - Point out their drawbacks without diminishing their worth
  - Specify in which way your approach is better (do not downplay the work of others!)

The Approach

- Intention:
  - Not to demonstrate your skills
  - To make the audience understand how your approach works
- Provide the technical details and the intuition
- Use graphics and examples to explain technical details

Algorithms are Hard to Explain

Algorithm 1 Coverage(S)

$C \leftarrow S$ *//Set the current node to S*
$\mathcal{P}_{aux} \leftarrow C$
$\mathcal{P} \leftarrow \emptyset$
while 1
  $\forall n \in \mathcal{P}_{aux},\ m \in \mathcal{N},\ \|c_n - c_m\| < M_{\mathrm{R}} \cdot e_{\mathrm{cell}}$
    visited$(m) = 1$
  $\forall n \in \mathcal{P}_{aux},\ m \in \mathcal{N},\ \|c_n - c_m\| |< 2M_{\mathrm{R}} \cdot e_{\mathrm{cell}}$
    overlapped$(m) = 1$
  $\mathcal{N}_C \leftarrow \{n \in \mathcal{N} \mid \|c_n - c_C\|_\infty = (2M_{\mathrm{R}} + 1) \cdot e_{\mathrm{cell}}$
    and **overlapped**$(n) = 0$ and $g(n) < \infty\}$
  if $\mathcal{N}_C \neq \emptyset$
    find $M \in \mathcal{N}_C$ with minimal g
  else
    D*'(C) and stop at **visited**$(M) = 0$
      or $\|c_M - c_o\|_\infty = e_{\mathrm{cell}},\ o \in \mathcal{O}$ and $\exists n$,
      visited$(n) = 0, \|c_M - c_n\| < M_{\mathrm{R}} \cdot e_{\mathrm{cell}}$
    if no such node M exists
      return $\mathcal{P}$
    end
  end
  $\mathcal{P}_{aux} \leftarrow \mathcal{P}_{aux}(C, M)$
  $C \leftarrow M$ *//Set the new current node*
  $\mathcal{P} \leftarrow \mathcal{P} \cup \mathcal{P}_{aux}$
end

[Dakulovic et al., IFAC 2011]

Instead...

- Introduce the idea
- Give examples to describe how it works
- Design examples to explain important features of the algorithm

- What the audience should takeaway?
  - Intuition behind your algorithm
  - General idea of how it works

The Results

- Should back up your claims
- Demonstrate that your approach has the desired features
- Illustrate that your approach is better than previous ones

Conclusions and Future Work

- Describe the contribution of this paper
- A good first sentence starts with “We presented a novel approach to …”
- Highlight the key idea of the work
- Talk about limitations and how they can be addressed in future work

Slide Design

- Use the provided template for your presentations
- Ensure that every slide contains the following:
  - Your name on the bottom left (Left footer)
  - The slide number on the bottom right (Right footer)
  - The name of the paper in between the left and right footers

Text

- Use sans serif fonts instead of serif fonts
- Use
  - dark text on light background (easy to read)
  - light text on dark background (not so easy to read)

Left aligned text is easier to read…
Than centered text

- Avoid putting too much onto one slide (avoid clutter)

Text Color

- Check readability
- Check readability
- Check readability
- Check readability
- Red and green are hard to distinguish for a large fraction of the population

- Check readability, maybe ask others!

Text Size

- Make sure that everyone can read the text (26Pt)
- Make sure that everyone can read the text (23 Pt)
- Make sure that everyone can read the text (20 Pt)
- Make sure that everyone can read the text (16 Pt)
- Make sure that everyone can read the text (14 Pt)
- Make sure that everyone can read the text (12 Pt)
- Make sure that everyone can read the text (10 Pt)

- The caption should not be smaller than text on the slide

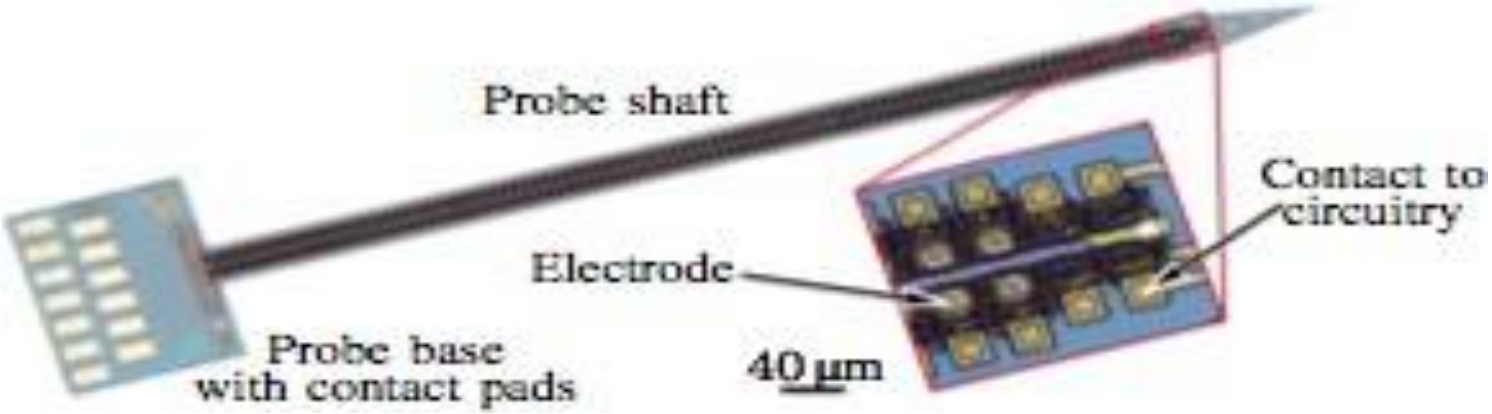
Abbreviations

- Abbreviations reduce the length of the text
- Abbreviations → Use them sparingly!
  - make you appear like an insider
  - while making others feel like outsiders
- Avoid abbreviations (unless they are common)
  - DIY, ASAP, UK, USA → Common abbreviations
  - PQ, SQ, RQ → Uncommon abbreviations
- Especially avoid uncommon abbreviations in titles

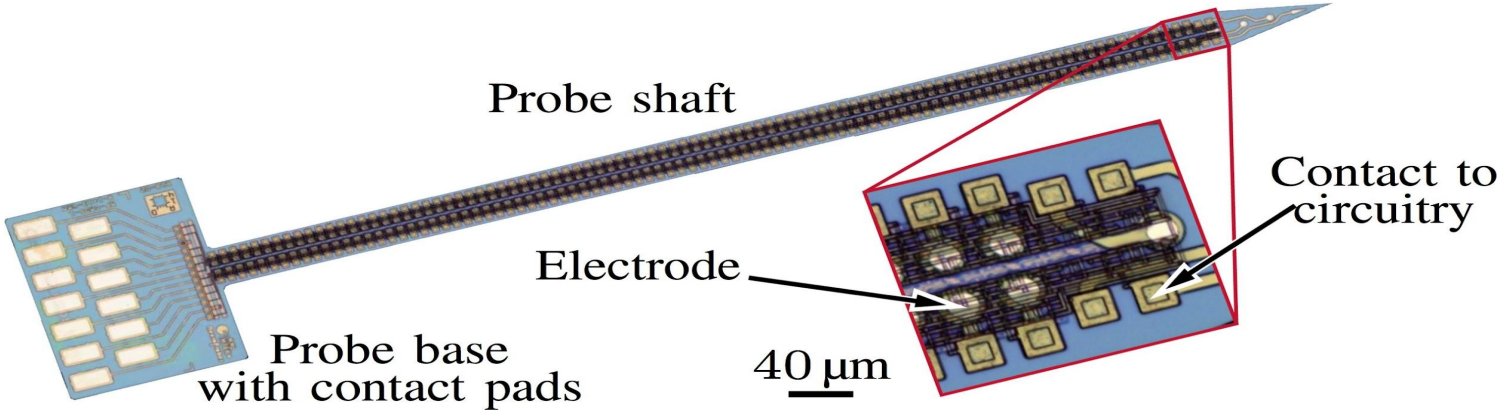
Figures

- Prefer vector graphics over images
- Grab an image from a paper at the highest resolution
- Zoom into the picture before grabbing it
- If the image is pixelated, redraw the figure!
- To check, connect your computer to an LCD monitor and check the quality by going close to the screen

A Low Resolution Figure



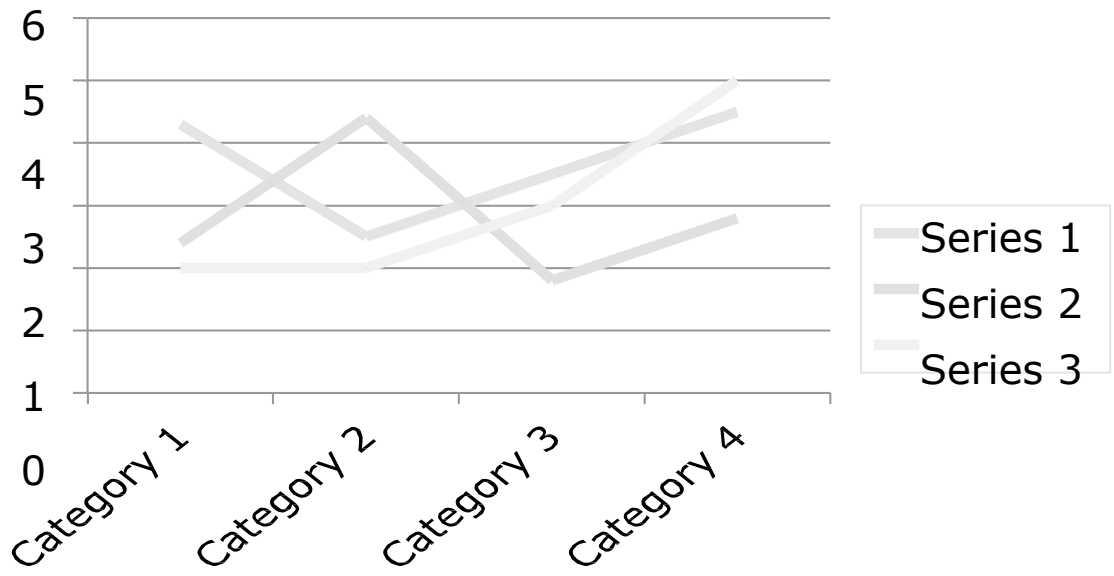
Higher Resolution is better!



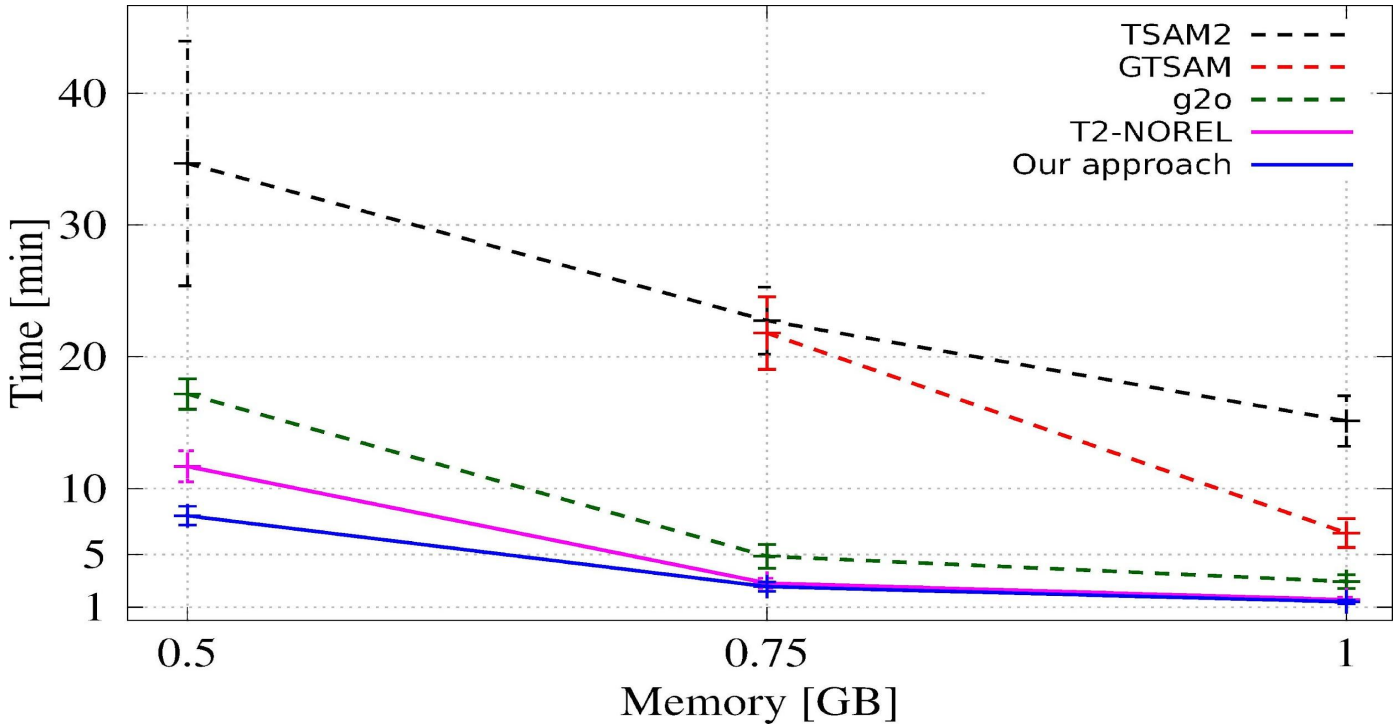
Plots

- Use colours and patterns that are easy to distinguish
- Order the legend according to the functions
- Make them high resolution
- Create your own plot if needed

Example of a Bad Plot



Example of a Good Plot



Animations

- Useful to explain content and illustrate processes
- Not meant to entertain the audience
- Often animations are distracting
  - Use animations sparsely and only where required!
- No need to demonstrate that you know every feature of the presentation tool!

Spell Checking

- Your computer can “spell-check” for you - Use it!
- Set the slide language to the language you are using

Benutzen Sie die Rechtschreibprüfung!
Benutzen Sie die Rechtschreibprüfung!

Consistent Colours & Shapes

- Think about the colours and shapes you intend to use
- Stick with them throughout the presentation
  - If velocity is green in one plot, ensure it is green in other plots!

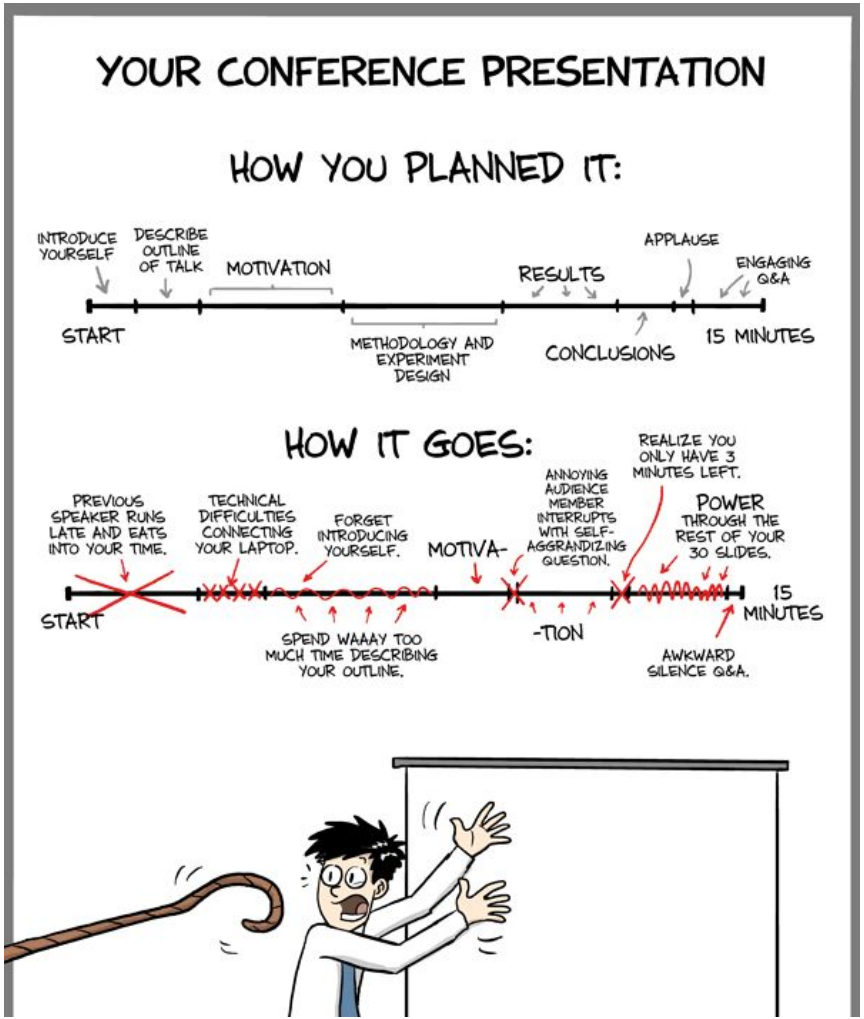
Other Important Aspects to Consider

- Check your camera and positioning beforehand
  - Be in the centre of the image
  - Make sure you're well lit, and do not sit against the light
- Be aware of your background
- Check whether videos run smoothly on the conferencing software
- Be familiar with the software: how to share the (correct) screen, enter presentation mode etc.

Your Presentation

- Plan it
- Practice it
- Time it
- Think about how to deal with interrupting questions
- Practice transitions between slides

- Keep in mind: This is your show
- Optimise it!

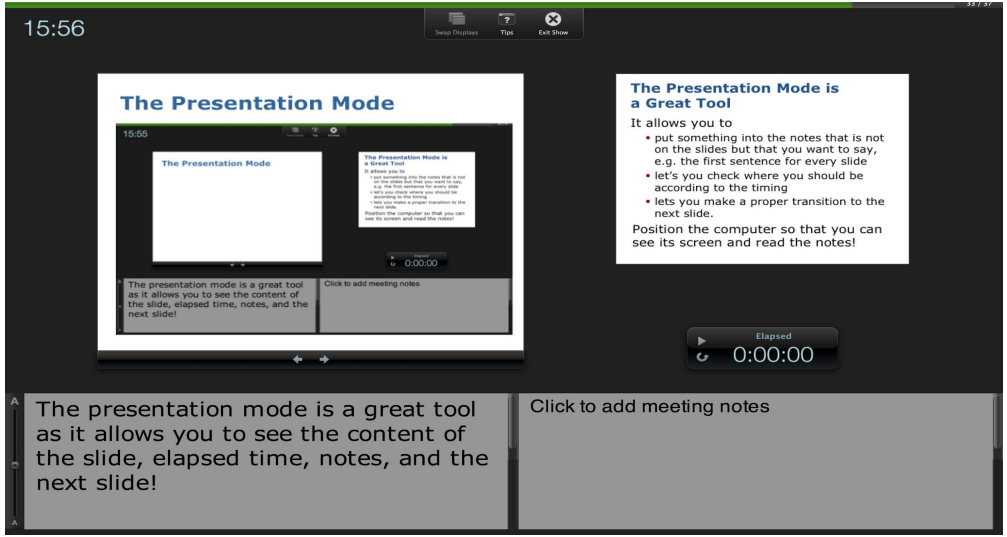

YOUR CONFERENCE PRESENTATION
HOW YOU PLANNED IT:
INTRODUCE YOURSELF
DESCRIBE OUTLINE OF TALK
MOTIVATION
RESULTS
APPLAUSE
ENGAGING Q&A
START
METHODOLOGY AND EXPERIMENT DESIGN
CONCLUSIONS
15 MINUTES
HOW IT GOES:
REALIZE YOU ONLY HAVE 3 MINUTES LEFT.
ANNOYING AUDIENCE MEMBER INTERRUPTS WITH SELF-AGGRANDIZING QUESTION.
POWER THROUGH THE REST OF YOUR 30 SLIDES.
PREVIOUS SPEAKER RUNS LATE AND EATS INTO YOUR TIME.
TECHNICAL DIFFICULTIES CONNECTING YOUR LAPTOP.
FORGET INTRODUCING YOURSELF.
MOTIVA-
START
SPEND WAAAY TOO MUCH TIME DESCRIBING YOUR OUTLINE.
-TION
15 MINUTES
AWKWARD SILENCE Q&A.

Connecting your Laptop

- Check if your laptop works before the talk
- Are the colors OK?
- Are the videos visible on both screens?
- Do not boot your computer in front of the audience (use suspend to RAM)
- Better do not close the lid before connecting your laptop
- Check the entire presentation (esp. videos) when you have to give it on a computer different from yours

The Presentation Mode

- Presentation mode
  - Allows you to view notes for each slide
  - Lets you check where you should be according to the timing
  - Lets you make a proper transition to the next slide



Laser Pointer

- Helps you to point at things
- Use the laser pointer instead of the mouse cursor
  - Clearly visible and hard to miss
  - Laser pointer visible from the presentation mode as well
- Not everything needs to be pointed at

Speaking (1)

- Speak up to make sure that everyone can hear you
- Test beforehand to make sure that your microphone picks up what you're saying
- If not
  - Try disabling the auto-gain feature (auto noise cancellation)
  - Try using a better microphone

Speaking (2)

- Avoid dialect
- Avoid idioms
- Avoid repetitions (look for alternatives or synonyms if you discover it)
- Avoid hesitation vowels like “ahem”, “uh”, “well”, “yes”

Speaking (3)

- You should always look towards the audience while speaking. They are there for you, not for the slides

- It helps to remember the 3 T's framework:
  - Touch (or indicate) the part of the slide you are referring to
  - Turn towards the audience. Not just your face, but the entire body
  - Talk. Now it's your time to shine

Questions / Interruptions?

- Think positive!
- Questions are good and show that people are interested
- Repeat the question to ensure that you understood it properly
- If you cannot answer a question, be honest about it
- Suggest to take the discussion offline, if the answer would take too long or diverges from the talk

Time Limits

- Test the duration of your presentation beforehand
- Keep a timer running
- If you tend to stumble on phrasing: Slide notes can serve as a crutch

Summary

- A talk is a unique opportunity to present yourself
- Prepare it carefully
- Practice it extensively
- There is no reason to be late with your presentation
- There is no reason not to be prepared

Thank you for your attention!

This slide appears in almost every talk but actually is superfluous

Questions