

How to Make a Good Presentation

Robot Learning Lab

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**UNI
FREIBURG**

With Every Presentation...

...you present yourself and your work

Outline

- The slides
 - Content and Layout
- The presentation

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The Slides

- Typically done long before the presentation
 - Rule of thumb: At most 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
-
- Include an outline slide in your presentation
 - Helps the viewer understand the flow of your talk

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)

```
1:  $C \leftarrow S$  //Set the current node to  $S$ 
2:  $\mathcal{P}_{aux} \leftarrow C$ 
3:  $\mathcal{P} \leftarrow \emptyset$ 
4: while 1
5:    $\forall n \in \mathcal{P}_{aux}, m \in \mathcal{N}, \|c_n - c_m\| < M_R \cdot e_{cell}$   
     visited( $m$ ) = 1
6:    $\forall n \in \mathcal{P}_{aux}, m \in \mathcal{N}, \|c_n - c_m\| < 2M_R \cdot e_{cell}$   
     overlapped( $m$ ) = 1
7:    $\mathcal{N}_C \leftarrow \{n \in \mathcal{N} \mid \|c_n - c_C\|_\infty = (2M_R + 1) \cdot e_{cell}$   
     and overlapped( $n$ ) = 0 and  $g(n) < \infty\}$ 
8:   if  $\mathcal{N}_C \neq \emptyset$ 
9:     find  $M \in \mathcal{N}_C$  with minimal  $g$ 
10:  else
11:    D*( $C$ ) and stop at visited( $M$ ) = 0  
      or  $\|c_M - c_o\|_\infty = e_{cell}, o \in \mathcal{O}$  and  $\exists n,$   
      visited( $n$ ) = 0,  $\|c_M - c_n\| < M_R \cdot e_{cell}$ 
12:    if no such node  $M$  exists
13:      return  $\mathcal{P}$ 
14:    end
15:  end
16:   $\mathcal{P}_{aux} \leftarrow \mathcal{P}_{aux}(C, M)$ 
17:   $C \leftarrow M$  //Set the new current node
18:   $\mathcal{P} \leftarrow \mathcal{P} \cup \mathcal{P}_{aux}$ 
19: 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

Outline

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 - Content and Layout
- The presentation

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

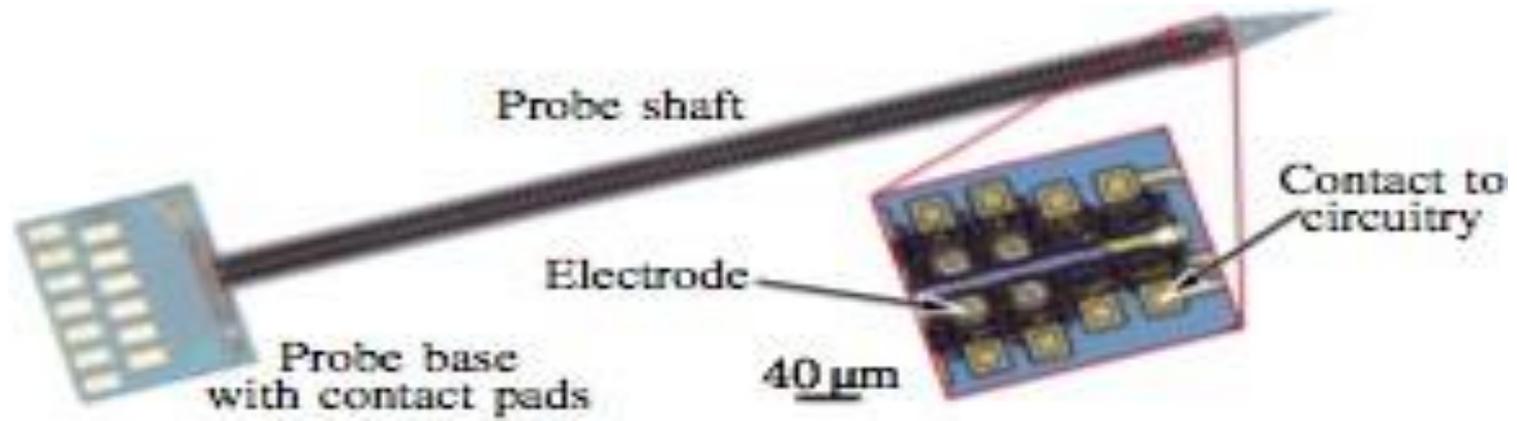
Abbreviations

- 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

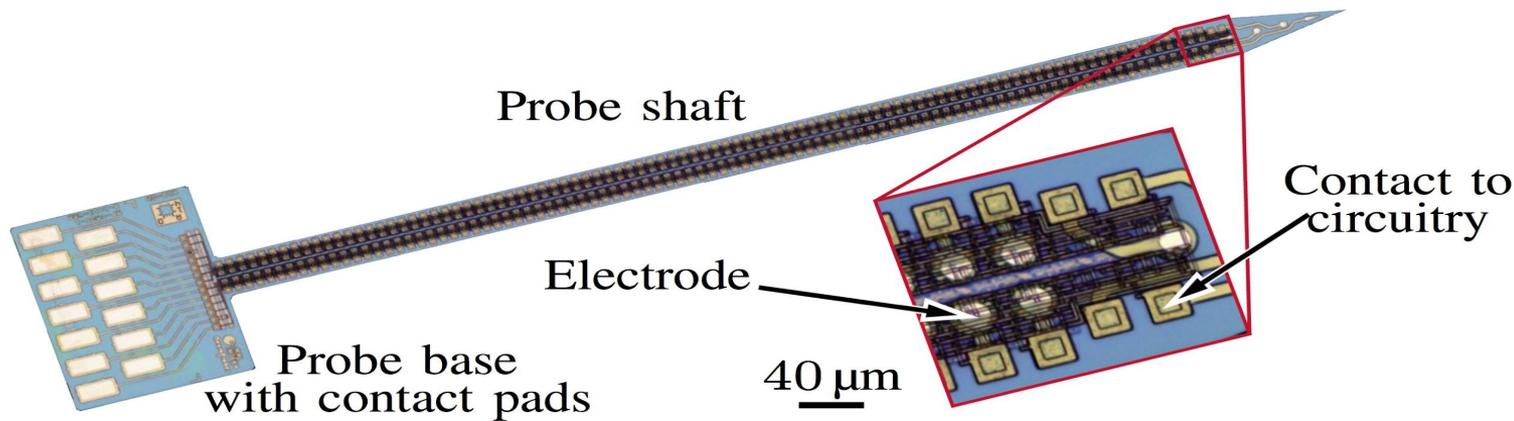
Figures

- 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



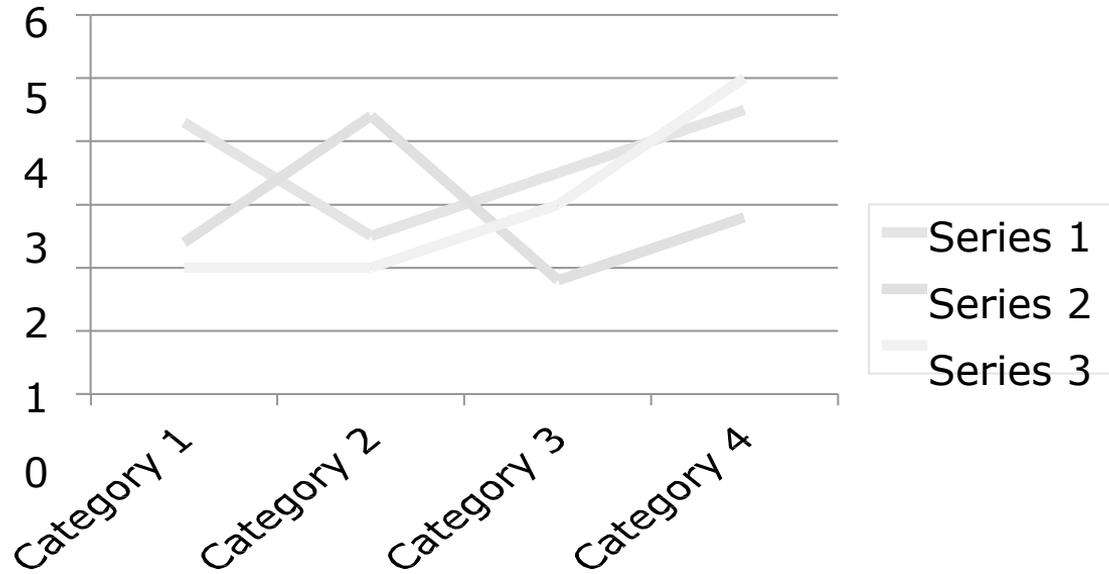
Higher Resolution is better!



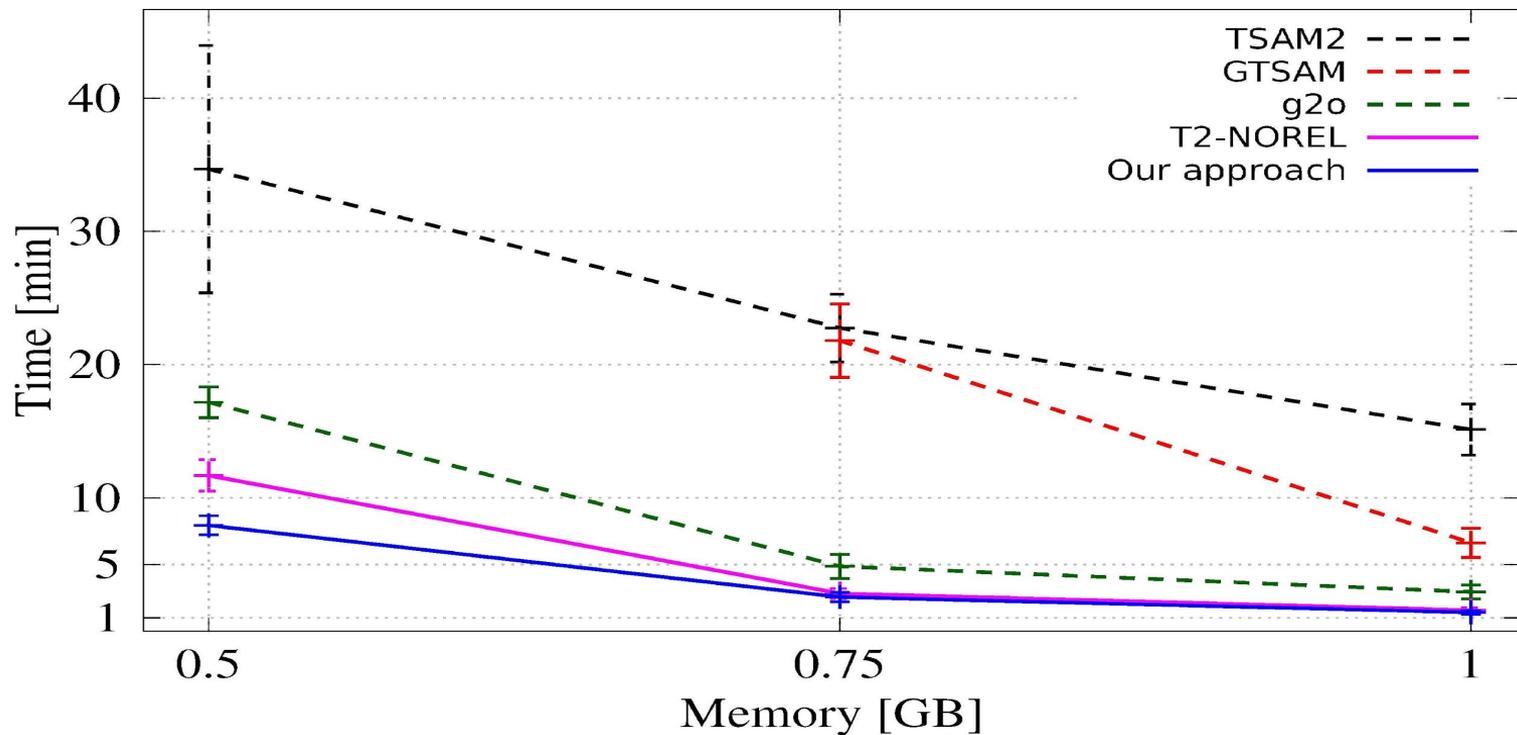
Plots

- 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

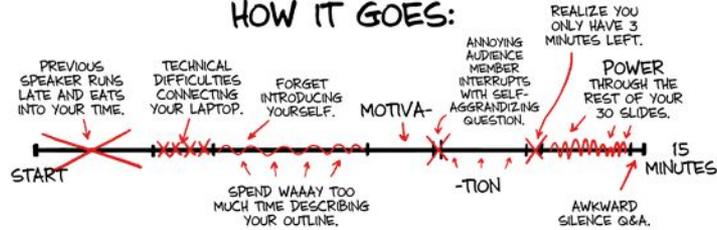
- Keep in mind: This is your show
- Optimise it!

YOUR CONFERENCE PRESENTATION

HOW YOU PLANNED IT:



HOW IT GOES:



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

The screenshot displays a presentation software interface. At the top left, the time is 15:56. The main slide area shows a slide titled "The Presentation Mode" with a smaller version of the same slide and its notes. The notes are as follows:

The Presentation Mode is a Great Tool

It allows you to

- put something into the notes that is not on the slides but that you want to say, e.g. the first sentence for every slide
- let's you check where you should be according to the timing
- lets you make a proper transition to the next slide.

Position the computer so that you can see its screen and read the notes!

Click to add meeting notes

Elapsed 0:00:00

The presentation mode is a great tool as it allows you to see the content of the slide, elapsed time, notes, and 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”

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