Lecture 12
Slides and Posters

Prof. Dr. Jasmin Blanchette

Chair of Theoretical Computer Science and
Theorem Proving

Version of October 21, 2025

Slides

Why Give Talks?

Some people process information better when **listening** or **watching** than when reading.

Moreover, talks are sometimes **unavoidable**:

- In academia: conference talks, lectures, etc.
- In industry: yearly reports, project pitches, etc.
- In both: job interviews.

Here we focus on how to design slides for a **scientific presentation** (e.g., seminar talk, thesis defense, workshop or conference talk).

Content of Slide Decks

Purposes of your talk:

- **Advertise** your paper or thesis.
- **Teach** something interesting.

Some advice:

- Focus on **one** or **two key ideas**, ruthlessly pruning everything else.
  In particular, you can usually omit related work and references.
- Consider your **audience**. Beware of the curse of knowledge.
- Go into detail as **time permits**.

Structure of Slide Decks

Many talks have **too many slides**.
As a rule, assume that you will need 1.5 to 2 minutes per slide.
For a 20-minute talk (excluding questions), 15 slides are probably enough.

Use your **slide budget** judiciously.
Keep the introduction and background to a minimum.

Mention the **key ideas** early and often, and summarize them at the end.

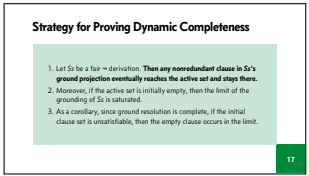
You can prepare **extra slides** and put them in an appendix.
These can be useful to answer questions.

Two Schools of Slide Design

Minimalist

- The goal is to underscore key points while letting the audience focus on what you are saying.
- This style is impactful if done right.
- This style is appropriate for less technical material.

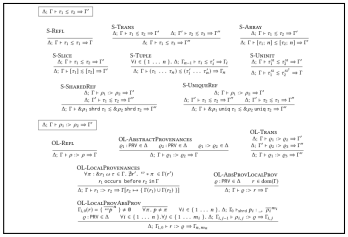
Maximalist



- The slides alone are sufficient to get the gist of the talk.
- The slides can serve as a self-contained handout.
- This style is appropriate for more technical material.

Beware of Clutter

Slides are a **visual aid**, not a paper. These are far too cluttered:



Slides should **summarize** or **supplement** your message.
They are not for reading out word for word.

Animations

Animations help the audience **follow** you through the slides.

You can reveal elements **one by one**.
But make sure that you always know what is coming.

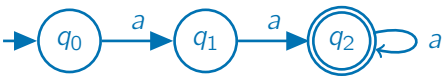
Highlighting can help draw the audience's attention.

Examples

Work with **examples**. Compare:

A DFA is a tuple $(Q, \Sigma, \delta, q_0, E)$ such that . . .

Consider the DFA



Keep slide examples as **simple** as possible.

Visuals

Images, graphs, and tiny code excerpts are doubly useful:

- They are efficient ways to **convey information**.
- They relieve from the **monotony** of textual slides.

Make sure to **explain** them in detail.

Writing

Much **writing advice** also applies to slides:

- Omit needless words.
- Use short sentences.
- Prefer the active voice over the passive.
- Prefer verbs over zombie nouns.
- Use abbreviations sparingly.

Moreover, use **consistent punctuation**, especially periods.

Formatting

Some **formatting** advice:

- Be consistent.
- Use emphasis sparingly.
- Use a pleasing color scheme.
- Use large enough fonts.
- Leave space between elements.

Live Demonstrations

Live demonstrations, including live coding and writing on the white- or blackboard, can be part of a successful talk.

You need to be **very well prepared** and have good nerves.

Presenter Notes or Scripts

You can prepare presenter notes if necessary. This may increase your confidence.
They are also helpful if you have difficulties expressing yourself in English.

However, if you stick too rigidly to the notes,
your presentation might become **stilted** and **unnatural**.

Most presentation software allows you to **see the notes** while you present the slides.
You can also print the notes.

Presentation Software

Some presentation software:

- **Microsoft PowerPoint** and **Apple Keynote** offer a "what you see is what you get" interface.
- **Google Slides** is a basic alternative that supports collaborative slide writing.
- LaTeX's `beamer` class is ideal for highly mathematical content. It is very flexible but difficult to master. Customization is necessary to make your slides look attractive.

Examples of Slide Decks

Let us look at a minimalist slide deck for a PhD defense and a maximalist a slide deck for a scientific conference talk (first draft and final version):

- Roy Overbeek, "**A Unifying Theory for Graph Transformation**," 2024.
- Lydia Kondylidou, "**Augmenting Model-Based Instantiation with Fast Enumeration: Extending SMT Solving**," 2025 (first draft).
- Lydia Kondylidou, "**Augmenting Model-Based Instantiation with Fast Enumeration in SMT**," 2025 (final version).

Posters

Poster Presentations

Poster presentations are a way to present your research,
beyond conference and workshop talks.

During a poster session, researchers present their work **in parallel**
to individual visitors who walk around from one poster to the next.

Content of Posters

Purposes of your poster:

- **Advertise** your paper or thesis.
- **Teach** something interesting.

Some advice:

- Focus on **one** or **two key ideas**, ruthlessly pruning everything else. In particular, you can usually omit related work.
- Consider your **audience**. Beware of the curse of knowledge.
- Go into detail as **space permits**.

Structure of Posters

Posters often consist of a number of sections or text boxes, each of which is **similar to a slide**.

Much of the advice on slide writing also applies here, but you generally have even less space for content (1 poster $\approx$ 9 slides).

Appealing visuals are crucial to attract attention.

Two Schools of Poster Design

Minimalist

- The goal is to underscore key points while letting the visitor focus on what you are saying.
- This style is appropriate for less technical material.

Maximalist

- The poster makes sense on its own, so it can be viewed without explanation.
- This style is appropriate for more technical material—or if you will not stand next to the poster.

Poster Software

Some poster software:

- **Microsoft PowerPoint** and **Apple Keynote** can be tweaked to produce a poster as one large slide. There is then no need to learn a new tool.
- **Adobe Illustrator** supports sophisticated graphic design and image processing.
- **LaTeX** is ideal for highly mathematical content. It is very flexible but difficult to master. Customization is necessary to make your poster look attractive.

Examples of Posters

Let us look at two posters:

- Maximilian Schäffeler, "**Verified Solution Methods for Markov Decision Processes**," 2024.
- Sara Taheri, "**ML Certification Against Data Poisoning by Barrier Function**," 2025.