LATEX Slides Template
for Talks at the i6

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Outline

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1 Introduction - Requirements - Recommendations

Contents

This latex beamer slide style was created by Philippe Dreuw and Thomas Deselaers and should be used for talks presented at the Lehrstuhl fuer Informatik 6 at the RWTH Aachen University.

Any requests or comments should be sent to

▶ `mailto:{deselaers,dreuw}@informatik.rwth-aachen.de`

▶ `http://www-i6.informatik.rwth-aachen.de/`

1.1   Literature

▶ **Talks presented at the** i6 **should always have a literature part in front of the talk.**

▶ **You should not just copy bibitems from your `*.bbl` files into a minipage and an `\itemize` environment.**

▶ **Depending on the public where you will present your talk you should adapt your literature slide.**

▶ **you should describe the content of the SOTA literature with your own words**

Literature Examples

T. Starner, J. Weaver, A. Pentland: Real-time american sign-language recognition using desk and wearable computer based video. *PAMI 1998*.

▶ HMM based isolated sign language recognition. Explain the main content here.

Povey: Papertitle. *ICASSP 2007*.

▶ something new in speech recognition. Explain the main content here.

[Loupias & Sebe^{+} 00]: Papertitle. *CONFNAME 2007*.

▶ image retrieval. Explain the main content here.

1.2   State of the Art

▶ **Talks presented at the i6 should also always have a state of the art part in front of the talk.**

▶ **Depending on the public where you will present your talk you should adapt your state of the art slide.**

▶ **This can be in relation with literature section**

1.3 Results

▶ **Talks presented at the** i6 **should always have a result section somewhere at the end of the talk.**

▶ **Depending on the public should highlight the advantages/disadvantages of your presented work in comparison to other results achieved by other groups on the same (publicly available) benchmark database**

1.4   Misc

▶ **you should always check your slites fohr teipos!!!**

▶ **use e.g. `flyspell` within emacs or `ispell` from the command line**

2 The `HyperSlides` Style

Contents

The following slides will explain how to use the HyperSlides style.

2.1   Style Parameters

TODO

2.2   Including Images

▶ **You can include your images with the `\includegraphics[options]{<filename>}` command. A short caption may be written with the `\caption{<name>}` command. Examples:**
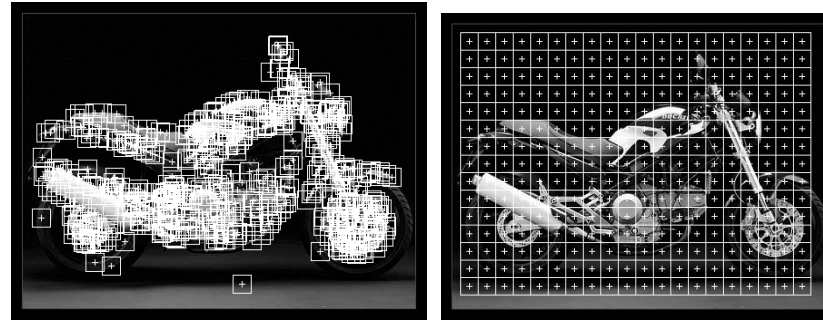

| Car | Airplane | Motorbike |

Images With Caption below

▶ **Images can be scaled relatively to the `\textwidth` or `\linewidth` of the slides:**

▶ **You should always provide images in JPEG/PNG/PDF– and EPS/PS–format.**

▶ **you can insert `xfig` images in pdftex or pstex manner by using the `\inputfigure{<filename>}` or the `\inputfigurex{<filename>}{<width>}{<height>}`**

▶ **Example:** test image   with xfig   **and**   test image   with xfig

▶ **convert the `xfig`- into `eps`-images: `/u/hasan/bin/fig2eps <filename>`**

▶ **if you want to change the image paths, you should redefine the `\graphicspath` option and the paths using:**

```
\renewcommand*{\imagedir}{./images/}
\renewcommand*{\imagetemplatedir}{/u/figures/}
\renewcommand*{\xfigdir}{./xfigures/}
\renewcommand*{\logodir}{./logos/}
\renewcommand*{\audiodir}{./audio/}
\renewcommand*{\videodir}{./video/}
\renewcommand*{\sourcedir}{./sources/}
```

► **if you want to extend the path you should use `\extendgraphicspath`**

Including Images

car label

- ▶ my
- ▶ image
- ▶ description
- ▶ using `minipage` environment
- ▶ my
- ▶ image
- ▶ description

Including Images

▶ my

▶ image

▶ description

▶ using `tabular` environment

▶ image

▶ description

Including Images

my image using `hvcenter` environment

Recommendation

► **You should always specify the full image path for images from** `/u/figures/<user>/<name>_<User>_<DDMmmYY>` **e.g.** `/u/figures/dreuw/TangentDistance_Dreuw_18Jul06`

► **the package** `epsf` **and** `psfig` **must be replaced by the newer** `graphicx.sty`

► **you can use** `\usepackage{afterpage}` **to flush all images first before the next text part begins, by calling** `\afterpage{\clearpage}`

► **do not use the following deprecated commands, as they will cause problems with pdfTeX (pdfTeX can also run in DVI-mode).**

```
\newif\ifpdf
\ifx\pdfoutput\undefined
    \pdffalse          %NO Pdflatex
\else
    \pdfoutput=1       %PDFLatex
    \pdftrue
\fi
```

► `\usepackage{ifpdf}` **is already part of the style and runs also under MacOSX and is used instead. It provides the** `\ifpdf` **command.**

2.3   Default Search Paths

▶ `<filename>` means the path to the file (with or without parent folder depending on the `\graphicspath` option **without the file extension** (e.g. *.pdf_t, *.jpg, or *.eps).

▶ you can store your `xfig` figures in the `./xfigures/` folder as this path is already declared in the `\graphicspath` option but `\u\figures` is preferred.

▶ you can define `\renewcommand*{\defaultaudiodir}{\audiodir}` to specify the default search directory for audio files. [Default is ./audio/]

▶ you can define `\renewcommand*{\defaultvideodir}{\videodir}` to specify the default search directory for video files. [Default is ./video/]

▶ you **should** set `\renewcommand*{\defaultaudiodir}{}` or `\renewcommand*{\defaultvideodir}{}` to clear the default search path for videos in order to use absolute filenames e.g. `\videofilelogobox{/u/wherever/you/want/i6gesture.avi}`

2.4 Running External Applications

▶ **You can call every external application with `\href{run:<script>}` command. For this you have to specify a shell script, in which you can execute any system commands. This will work with Xpdf and AdobeAcrobat .**

▶ **Shell demo starting xclock will open a new terminal which will start the `xclock` on your computer.**

▶ **Also you can use this command to play movies. Clicking on the image will**

play a movie
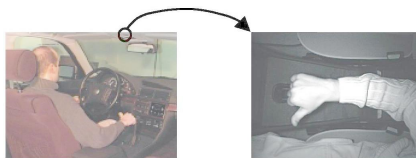
2.5   Hyperlinks

► **You can link to an url with the `\url{<link>}` command, e.g.** `www.google.com`**. If you have a long url name or you want to change the name of the url anchor then use `\href{<link>}{<name>}`, e.g.** Google**.**

► **use the `\urllogo{<link>}` or `\urllogobox{<link>}` to create links with an additional icon before like** 🌐 `www.google.com` **or** 🌐 `www.google.com`

► **With the `\hyperlink{<anchor>}{<linkname>}` and `\hypertarget{<anchor>}{<targetname>}` commands you can create links inside your slides. Example: this can be usefull to link to slides from the appendix (e.g. the data used to create a plot).**

► **Use the `\autoref{<anchor>}` command to automatically refer to Figure 4, Equation 1, or Table 1.**

2.6   Playing Audio Files

Audio examples from the Verbmobil corpus:

- ▶ `\audiofilelogobox{<file>}`: 🔊 **example-verbmobil-1.wav**

- ▶ `\audiofilelogo{<file>}`: 🔊 **example-verbmobil-3.wav**

- ▶ `\audiofilebox{<file>}`: **example-verbmobil-2.wav**

- ▶ `\audiofile{<file>}`: **example-verbmobil-1.wav**

- ▶ `\audiofiletext{<file>}{<text>}`: **Example 2 from Verbmobil2**

2.7 Playing Video Files

Video examples from the LTI–Gesture and i6–Gesture database:

▶ `\videofilethumbnailbox{<file>}{<param>}{<image>}:`

▶ `\videofilethumbnail{<file>}{<param>}{<image>}:`

▶ `\videofilelogobox{<file>}:` `./video//i6gesture.avi`

▶ `\videofilelogo{<file>}:` `./video//i6gesture.avi`

▶ `\videofilebox{<file>}:` `./video//i6gesture.avi`

▶ `\videofile{<file>}:` `./video//i6gesture.avi`

▶ `\videologo{<file>}:`

▶ `\videofiletext{<file>}{<text>}:` **Example from i6–Gesture database**

There are also icons for CDs and DVDs which you can use to play videos from an external device. Just write a script to mount the device and a player command which will start playing a file from the mounted device.

2.8   Page Numbering

▶ **you can use the package option `lastpage` or `userlastpage` to enable a page numbering like "n of m", otherwise the pages will have a single page number.**

▶ **if you use the package option `userlastpage` you have to call `\LastPage` or `\FinalPage` at the end of your last slide to enable a correct numbering of the slides.**

▶ **`\FinalPage` will automatically generate a "Thank you for your attention page" with your name, email and www address.**

▶ **you can change the layout of *your* last page by using `\LastPage` at the end of your last slide. This will simply insert a blank page and enable a correct numbering of the slides.**

▶ **you can also use `\LastPage` or `\FinalPage` without specifying the package option `lastpage`. This won't affect the page numbering.**

▶ **to disable the page numbering you must use the the package option `nonumber`.**

2.9 Changing Logos

▶ **you can display a third logo in the topleft corner on each slide by redefining** `\topleftlogo`

   ▷ **Example 1:**

```
\renewcommand*{\topleftlogo}{\includegraphics[height=6mm]{\logodir YOUR-THIRD-LOGO}}
```

   ▷ **Example 2:**

```
\renewcommand*{\topleftlogo}{\includegraphics[height=6mm]{/u/path/to/your/third/LOGO}}
```

▶ **Also you could redefine the other logos** `\toprightlogo` **and** `\bottomrightlogo` **in this way**

▶ **if you are still not happy you might change** `\lhead`, `\rhead` **or** `\rfoot` **at your own "risk"**

2.10 Page Titles

You can break pages if you choose the option `allowpagebreaks`, the title will be repeated on the next slide ...

... as you can see (or not, depending on the option) !

2.11   Overlay Slides

► **you can use the `\NewOverlay` command to create overlay slides, i.e. to correctly number the pages**

► **you will get pdfTeX warnings about duplicate identifiers with `pdflatex`. Use `make slides.pdf` instead.**

 ▷ not yet ...

Overlay Slides

▶ **you can use the `\NewOverlay` command to create overlay slides, i.e. to correctly number the pages**

▶ **you will get pdfTeX warnings about duplicate identifiers with `pdflatex`. Use `make slides.pdf` instead.**

   ▷ **not yet ... but now, and look at the page number**

2.12 Predefined Custom Commands

Changing description layout:

FirstDescription is usually only black and bold.

SecondDescription is usually only black and bold.

ThirdDescription is usually only black and bold.

vertical centered Block Environment

vertical and horizontal centered Block Environment

► **Most commands make usage of the `\xspace` command, which allows a context sensitive whitespace placement after macros.**

  ▷ **some math symbols with ensured math mode: $\mathbb{N}$, $\mathbb{R}$, $\cong$**

  ▷ **some operators: argmin_x, argmax_y, $\frac{1}{10}$**

  ▷ **arrows: $\Rightarrow$**

  ▷ **e.g. something, E.g., i.e. nothing, I.e., c.f. page, C.f., etc., something vs. nothing, w.r.t. t, d.o.f., Author et al., z.B. auf Deutsch, Z.B.**

3   LaTeX Tips

Contents

Some general LaTeX recommendations and tips:

▶ **replace:** `$$...$$` **by** `\[...\]`

▶ **replace:** `\centerline{...}` **by** `{\centering ...}` **or the** `center` **environment**

▶ **replace:** `eqnarray` **environment where possible by** `align`

3.1   Formulas

Write formulas with the `\begin{equation}` environment or with the double `$$` signs, use a single `$` sign if you want to write a formula on the same text line.

▶ **numbered equation**

$$h_c(X) = \frac{1}{L_X} \sum_{l=1}^{L_X} \delta(c, c(x_l)) \tag{1}$$

▶ **unnumbered equation**

$$h_c(X) = \frac{1}{L_X} \sum_{l=1}^{L_X} \delta(c, c(x_l))$$

or use

$$h_c(X) = \frac{1}{L_X} \sum_{l=1}^{L_X} \delta(c, c(x_l))$$

▶ **with** $h_c(X) = \frac{1}{L_X} \sum_{l=1}^{L_X} \delta(c, c(x_l))$ **on the same line.**

3.2 Tables

You can use the `\begin{table}` environment to present your results. Also you can link the whole table to another slide with the `\hyperlink` command in combination with `\textcolor{black}`, otherwise the table would appear in link color.

Some results achieved at the i6.

Table caption above. **Click on the table** to jump to the Appendix

	motorbikes	bicycles	people	cars
Task 1	6,8 (17)	5,8 (15)	5,6 (15)	4,5 (17)
Task 2	2,3 (11)	2,3 (9)	2,3 (9)	2,3 (10)

Tables

Error rates [%] using the nicer *booktabs style* ordered by decimal position

Spatial derivative (Sobel)	Original	1st time derivative	2nd time derivative
no	0.0001	0.0001	15.7
horizontal	0.001	0.001	20.0
vertical	1.01	1.01	16.4
magnitude	10	10	7.1
squared magnitude	11.1	11.1	34.2

Table using cmidrule command

Densities	Pooling	Gaussian ER[%]	Laplacian ER[%]
Single	No	29.2	30.7
	Yes	29.2	30.7
Mixture	No	21.4	29.2
	Yes	23.5	27.8

Table using cmidrule command and rotated column heads

Type	Features		Error Rate	Info
	Long Feature description 1	Long Feature description 2		
nice	feature very long and centered baseline with fixed width feature very long and centered baseline with fixed width feature very long and centered baseline with fixed width	descrip-tion very long and NOT centered with fixed width	1.23%	horizontal centered w/o width

Table using *-command

Nominativ	Genetiv	Dativ	Akkusativ
die Frau	der Frau	der Frau	die Frau
der Mann	des Mannes	dem Manne	den Mann
das Kind	des Kindes	dem Kinde	das Kind

3.3   Citing

Use the `\cite{<anchor>}` command to refer to an entry in your bibliography.
You can click on the citation to jump to your bibliography.
You can use the backreferences in the bibliography to jump back to your slide.

Example* a) Results on Caltech database: [Deselaers & Keysers$^+$ 05]
　　　　　　　very good on motorbikes and airplanes, quite good on faces

Example* b) Results on medical radiographs:[Loupias & Sebe$^+$ 00]
　　　　　　　quite good, specialized approaches are better

Use the package `\usepackage{cite}` to sort your slides

*The enumerate environment from the `paralist` package can use special labels.

3.4 Colors

► **How to highlight words? This can be done by the `\alert{<text>}` command. You should use this command for important words.**

► **You can use additional colors with the `\textcolor{<color>}` command in your slides to highlight words, but don't use too much colors! The `\alert{<text>}` command should always be preferred**

Spoken:

also ich vielleicht ist grade zu der Zeit die CeBit das wäre vielleicht für uns fachlich auch ganz interessant

Recognized:

also ich vielleicht das grade zu der Zeit die CeBit das wäre vielleicht — uns fachlich auch noch ganz interessant

substitution   insertion   — deletion

$$\mathbf{WER} = \frac{1\ \mathbf{deletion} + 1\ \mathbf{insertion} + 1\ \mathbf{substitution}}{19\ \mathbf{spoken\ words}} = 15.8\%$$

4 LATEX Tricks

Contents

Some LATEX tricks

4.1 Hide Table Columns

Hide complete columns of your tables without changing the table values, e.g. hide a result of a WER% table

w/o hiding:

foo	bar	baz
blu	bli	blo

w/ hiding:

foo	baz
blu	blo

4.2   Includegraphics with Clip & Crop

If you want to crop something from an image or a plot (e.g. the title of a plot)

4.3   Phantom vs. Itemize

Phantom:

Das ist die erste Zeile

          das ist die zweite zeile

                    und die dritte

Itemize:

► **Das ist die erste Zeile**

        ▷ **das ist die zweite zeile**

                ○ **und die dritte**

4.4　Embedded Fonts

converts `foo.pdf`, a file w/o embedded fonts, into `foo2.pdf`, a file w/ embedded fonts (e.g. for IEEE PDF eXpress):

▶ `gs -sDEVICE=pdfwrite -dPDFSETTINGS=/prepress -dNOPAUSE -q`
  `-dBATCH -sOutputFile=foo2.pdf foo.pdf`

There is a bug in in ESP Ghostscript 8.15.x that may produce a "drawing error" in Acroread7.0 but not in xpdf. The newest subversion revision from January 2006 or e.g AFPL Ghostscript 8.53 fixes this problem.
This can cause also "drawing error" problems in Acroread7.0 when you use `convert` to convert e.g. a JPEG/PNG image into an EPS image.

4.5 `write18` Hacks

```
\makeatletter
\begingroup
\catcode'\%12\relax
\let\\\relax
\edef\doshell{
date '+%d.%m.%Y %r' |
      awk '{print "\\newcommand*{\\datum}{" $1 "\\xspace}";
            print "\\newcommand*{\\zeit}{" $2 "\\xspace}"
          }' > date.tex
}
\immediate\write18{\doshell}
\endgroup
\makeatother
\input{date}
```

This slide was created the 15.02.2008 at 11:35:46.

`write18` Hacks

```
\immediate\write18{%
 echo $USER $HOME $TMPDIR > variables.tex
}
```

The user, his home-directory und his scratch-directory:

```
\input{variables.tex}
```

dreuw /u/dreuw /tmp/dreuw.20080215

4.6 Fancy verbatim

```
A red word  within a verbatim environment.
```

program code can be colored by using the listings package, see dante-faq 7.3.4

4.7 Embedding graphics within a LATEX-document

TODO ...

5   Converting And Printing The Slides

▶ **XEmacs editor:**

  ▷ **change into PDF-mode with** `C-c C-t C-p` **if you want to create PDF slides, otherwise PS slides will be created**

  ▷ **run LATEX with** `C-c C-c`

  ▷ **run again to open the standard viewer** `xpdf` **or** `xdvi` **depending on the mode**

▶ **Creating PDF or PS slides on the command line:**

  ▷ **type** `pdflatex slides` **and** `xpdf slides.pdf` **to view the result**

  ▷ **type** `latex slides`, `dvips slides`, **and** `gv slides.ps` **to view the result**

▶ **Converting:**

  ▷ **use** `dvipdf slides` **to convert the created PS-dvi files into PDF-slides**

  ▷ **use** `dvips slides` **to convert the created PS-dvi files into PS-slides**

▶ **Handout Printing:**

▷ **PDF-slides**

  ○ **use the Acrobat Reader to print the slides with printer option** `/u/hasan/bin/pp -4sup`

  ○ **or convert the slides with** `pdfnup -nup 2x2 slides.pdf` **and print the generated output** `slides-2x2.pdf`

▷ **PS-slides: use gv with printer option** `/usr/bin/lpz -4slidessea` **or try** `/u/hasan/bin/pp -4sup`

Thank you for your attention

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http://www-i6.informatik.rwth-aachen.de/

PS: This page was generated automatically by calling `\FinalPage`.

References

[Deselaers & Keysers[+] 05] T. Deselaers, D. Keysers, H. Ney.: Discriminative Training for Object Recognition using Image Patches. In *CVPR 05*, in press, San Diego, CA, June 2005. 35

[Loupias & Sebe[+] 00] E. Loupias, N. Sebe, S. Bres, J. Jolion: Wavelet-based Salient Points for Image Retrieval. In *International Conference on Image Processing*, Vol. 2, pp. 518–521, Vancouver, Canada, Sept. 2000. 5, 35

Appendix: First Slide

Hyper Target on the first appendix slide. Look at the current page number.

Appendix: Table Data

Table Data on the second appendix slide. Look at the current page number.