Posters in \LaTeX

JOORDAN ROBERTS

DEPARTMENT OF MECHANICAL ENGINEERING
AUBURN UNIVERSITY

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Options for Creating Posters in \LaTeX

- baposter class
- a0poster class
- beamerposter package
baposter class

- created and maintained by Brian Amberg
- most posters look the same
- limited options
- seems to be the least supported option

Downloads and documentation can be found here:
http://www.brian-amberg.de/uni/poster/
Reconstructing High Quality Face-Surfaces using Model Based Stereo
Brian Amberg1, Andrew Blake2, Andrew Fitzgibbon2, Sami Romdhani3, and Thomas Vetter1
University of Basel, Switzerland

Introduction

baposter
Example Output

Face
Camera 1
Camera 2
Sample Point

10% 18%
1st 2nd
63% 82%
Landmark + Silhouette + Colour
62% 74%
7% 18%
19% 37%
74% 85%
50% 68%
76% 82%
1st 2nd
1st 2nd

S. Romdhani and T. Vetter. Estimating 3D Shape and Texture
Multiview
Ground Truth
Multiview
Input Images
L.+Silhouette
L.+S.+Colour
Ground Truth
Ground Truth
Multiview
Monocular
Monocular
Landmarks

Ambient Lighting
Directed Lighting

Silhouette Cost
The silhouette cost measures the distance of the silhouettes to image edges. An edge cost surface is created from the image, by combining the distance transforms of edge detections with different thresholds. The cost is integrated over the projection of 3D sample points at the vertices of the polygon.

Colour Reprojection Cost
The reprojection cost measures the image colour difference between the projected positions of sample points in two images. The sample points are spaced out regularly in the projected images.

Contribution
We present a method to fit a detailed 3D morphable model to multiple images. Our formulation allows for fitting of the model without determining the lighting conditions and albedo of the face, making it easier to apply to large sets of images of faces in unknown and uncontrolled conditions. Silhouette, colour and multi-view data are integrated to generate coherent estimates of shape and appearance. The model was trained on 200 images and the method evaluated on 900 images.

The new stereo algorithm is robust under directed ambient lighting and yields significantly more accurate surface reconstructions than the monocular algorithm. The use of multi-view information results in a much higher accuracy than achievable by the monochromatic method. A higher frequency of lower residuals is returned. A stereo result is shown.

The point wise distance from the reconstruction to the ground truth is shown in the inset head renderings. Here green is a perfect match, and red denotes a distance of 3mm or more. The best of the three monocular results is shown.

The columns labelled “1st” show the frequency of correct results, “2nd” is the frequency with which the correct result was within the first two subjects returned. The angle between the shape coefficients was used as the distance measure. Texture information should be used to achieve state of the art recognition results.

References

Evaluation: Gold Standard

Evaluation: Face Recognition

Figure: baposter example
baposter

Usage

- Works with:
  - miktek 2.7
  - texlive 2007
- Does not work with:
  - miktek 2.2
  - older versions of tetex
  - possibly older versions of pgf
  - xkeyvals older than v2.5
a0poster class

- developed by Gerlinde Kettl and Matthias Weiser
- Composed of four files
  - a0poster.cls Defines the class file
  - a0size.sty Defines the font sizes
  - a0_eng.tex Manual in English
  - a0.tex Manual in German
- font sizes 12pt ("tiny) up to 107 pt ("VERYHuge)

Downloads and documentation can be found here: http://www.ctan.org/tex-archive/help/Catalogue/entries/a0poster.html
Pitfalls

- Claims to work with A0, A1, A2, A3, and A4
- Has issues with scaling to sizes other than A0
  - *may* have been fixed with latest revision
- Requires absolute positioning
- *They* prefer `\LaTeX` to `pdflatex` to take advantage of PStricks
a0poster
Things to know

- `a0poster.cls` based on article class
- `a0header.ps` file is created used by dvips to manage size
- `a0poster` does not support colors or pictures without `pstricks` etc.
Usage

Sample Code

\documentclass[portrait,a0,final]{a0poster}
\begin{document}
% Write poster here
\end{document}

Replace portrait with landscape to be in landscape mode.
## a0poster

### Usage

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>landscape</td>
<td>landscape format <em>(default)</em></td>
</tr>
<tr>
<td>portrait</td>
<td>portrait format</td>
</tr>
<tr>
<td>a0b</td>
<td>DIN A0 big. Full width of HP Designjet 650C <em>(default)</em></td>
</tr>
<tr>
<td>a0</td>
<td>DIN A0</td>
</tr>
<tr>
<td>a1</td>
<td>DIN A1</td>
</tr>
<tr>
<td>a2</td>
<td>DIN A2</td>
</tr>
<tr>
<td>a3</td>
<td>DIN A3</td>
</tr>
<tr>
<td>draft</td>
<td>reduces PS output to DIN A4 size</td>
</tr>
<tr>
<td>final</td>
<td>PS output in original size <em>(default)</em></td>
</tr>
</tbody>
</table>
### a0poster

#### Usage

<table>
<thead>
<tr>
<th>Font Size Option</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>\tiny</td>
<td>12pt</td>
</tr>
<tr>
<td>\scriptsize</td>
<td>14.4pt</td>
</tr>
<tr>
<td>\footnotesize</td>
<td>17.28pt</td>
</tr>
<tr>
<td>\small</td>
<td>20.74pt</td>
</tr>
<tr>
<td>\normalsize</td>
<td>24.88pt</td>
</tr>
<tr>
<td>\large</td>
<td>29.86pt</td>
</tr>
<tr>
<td>\Large</td>
<td>35.83pt</td>
</tr>
<tr>
<td>\LARGE</td>
<td>43pt</td>
</tr>
<tr>
<td>\huge</td>
<td>51.6pt</td>
</tr>
<tr>
<td>\Huge</td>
<td>61.92pt</td>
</tr>
<tr>
<td>\veryHuge</td>
<td>74.3pt</td>
</tr>
<tr>
<td>\VeryHuge</td>
<td>89.16pt</td>
</tr>
<tr>
<td>\VERYHuge</td>
<td>107pt</td>
</tr>
</tbody>
</table>
a0poster
Usage

**a0poster positioning**

- Positioning is done by order of code. Unless...
- you use the `textpos` package
- `\usepackage[absolute,overlay]{textpos}`

**textpos options**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>absolute</td>
<td>makes origin upper left corner</td>
</tr>
<tr>
<td>overlay</td>
<td>gives text blocks opaque backgrounds</td>
</tr>
<tr>
<td><code>\textblockcolour{color_name}</code></td>
<td>changes color of background</td>
</tr>
<tr>
<td>showboxes</td>
<td>draws rectangle around text block</td>
</tr>
</tbody>
</table>
**a0poster**

**Usage**

```
\textblock usage
\begin{textblock}{hsize}(hpos, vpos)
Some text
\end{textblock}
```

`hsize` and `hpos` given in units of module `\TPHorizModule`
`vpos` based on module `\TPVertModule`

```
\textblock usage
\begin{textblock}{20.5}(1.5, 2.5)
Some text
\end{textblock}
```
We define `\TPHorizModule` and `\TPVertModule` in the preamble as follows

```
\setlength{\TPHorizModule}{1cm}
\setlength{\TPVertModule}{1cm}
```

We can also place a grid with
```
\includepackage[colorgrid,texcoord]{eso-pic}
```
beamerposter

Background

- \LaTeX\ beamerposter package
- Created by Philippe Dreuw and Thomas Deselaers
- Extension of beamer and a0poster class
- Creates posters in DIN-AX sizes and custom sizes
- applicable to custom beamer slides
\textbf{LaTeX Requirements}

- beamer class
- fp package (in version supporting choice keys, e.g. v2.5f)
- type1cm package for scalable and huge math fonts
beamerposter package available several places:

- http://tug.ctan.org/cgi-bin/ctanPackageInformation.py?id=beamerposter

google group
http://groups.google.com/group/beamerposter
Current version of beamerposter package is 1.11
ProTeXt release has v1.07
Release Notes:

- `beamerposter.sty.111` - refined incompatible paralist package, bugfixed list indentation problem
- `beamerposter.sty.110` - improved package errors, warnings, and info messages
- `beamerposter.sty.109` - bugfixed list indentation problem (e.g. itemize/enumerate/description/etc.), added printer option for external printer definition files
- `beamerposter.sty.108` - supports external printer definition files, added grid mode option, renamed beamer specific variables, added font size normalization (scale=1.0 is now default for all DIN-A(n) sizes)
"documentclass[final, hyperref={pdfpagelabels=false}]{beamer}
"mode<presentation> { "% check http://www-i6.informatik.rwth-aachen.de/~dreuw/latexbeamerposter.php for examples
"\usepackage[english]{babel}
"\usepackage[latin1]{inputenc}
"\usepackage[amsmath, amsthm, amsxym, latexsym]
"% \usepackage{times} "usefonttheme{professionalfonts} % times is obsolete
% \usefonttheme{onlymath}{serif}
% \boldmath
% \usepackage[orientation=portrait, size=a0, scale=1.4, debug]{beamerposter} % e.g. for DIN-A0 poster
% \usepackage[orientation=portrait, size=a1, scale=1.4, grid, debug]{beamerposter} % e.g. for DIN-A1 poster, with optional grid and debug output
% \usepackage[size=custom, width=200, height=120, scale=2, debug]{beamerposter} % e.g. for custom size poster
% \usepackage[orientation=portrait, size=a0, scale=1.0, printer=ruth-glossy-uv.df]{beamerposter} % e.g. for DIN-A0 poster with ruth-glossy-uv printer check
% ...
% "
% "title[Fancy Posters]{Making Really Fancy Posters with \LaTeX}"
% "author[Dreuw \& Deselaers]{Philippe Dreuw and Thomas Deselaers}"
% "institute[RWTH Aachen University]{Human Language Technology and Pattern Recognition, RWTH Aachen University}"
% "date[Jul. 31th, 2007]"
% "begin(document)"
% "begin(frame){"
% "vfill"
% "begin(block){"large Fontsizes"
% "centering"
% "{tiny tiny}" "par"
% "{scriptsize scriptsize}" "par"
% "{footnotesize footnotesize}" "par"
% "{normalsize normalsize}" "par"
% "{large large}" "par"
% "{Large Large}" "par"
% "{LARGE LARGE}" "par"
% "{veryHuge veryHuge}" "par"
% "{VeryHuge VeryHuge}" "par"
% "{VERYHuge VERYHuge}" "par"
% "end(block)"
% "vfill"
% "end(frame)"
% "end(document)"
beamerposter Example

Figure: Simple beamerposter output
“So don’t ask me no questions, and I won’t tell you no lies.” - Ronnie VanZant
Using any of the three packages discussed, successfully compile any example poster. Submit code and poster printout using a “fit to paper” command in adobe or your choice of pdf or ps viewer.