

cs-techrep

Technical Reports in Computer Science and Software Engineering

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Version 0.5

Abstract

The `cs-techrep` class provides a convenient environment for writing technical reports in computer science and software engineering. The style is adopted from IEEE. The `cs-techrep` class requires the `latex/pdflatex` in combination with `bibtex` using a `biber` backend.

1 Installation

The `zip` or `tar.gz` file comes with a `cs-techrep.ins` and a `cs-techrep.dtx` file included which contains the \LaTeX stuff.

To extract the class files call:

```
$ latex cs-techrep.ins
```

This call will extract all \LaTeX specific files to the current directory. You can either use the files for a single cv project or you can integrate the files into your \TeX installation.

If you just want to use `cs-techrep` for a single curriculum vitae project, the simplest way is just to copy the generated files to the folder of the project.

If you want to integrate `cs-techrep` into your \TeX installation, create a directory `tex/latex/cs-techrep` beneath your \TeX installation (e.g. beneath `/usr/share/texmf`) and copy all files from the current directory there. Now call:

```
$ mktexlsr
```

to update the file-cache of \LaTeX .

Hint: The `cs-techrep` distribution contains a sample `docstrip` configuration in `docstrip.cfg` via which files can be distributed automatically to their correct positions inside a \LaTeX installation. Feel free to adapt this file to your environment and afterwards call `latex cs-techrep.ins` to install the package to its right place.

2 Templates

For a quick start the `iaria-lite` distribution contains document templates. The templates can be found in the `cs-techrep-example-neumann.zip` file.

3 Documentclass

`documentclass cs-techrep` This package provides the documentclass `cs-techrep`. The documentclass supports the following options:

- `conference` Passed to `IEEEtran`
- `a4paper` Passed to `IEEEtran`
- `subfig` Loads `subfig` package with custom style settings
- `subcaption` Loads `subcaption` package with custom style settings
- `flushend` Activate `flushend` package (compatible with arXiv build process)
- `pbalance` Activate `pbalance` package (incompatible with arXiv build process)

A Remark about two-column document balancing on the last page: The `flushend` package is recommended, because it works within the arXiv automated build process. However, `flushend` has a major incompatibility with package `lineno`, which is, e.g., transitively loaded by package `mindflow`. Thus, in case when `flushend` does not have any effect, check whether one of your packages loads `lineno`. Usually you are stuck with your packages and, thus, will instead be forced to switch from `flushend` to `pbalance`. Please be aware that `pbalance` works great and has high compatibility, but unfortunately it will not have any effect within the arXiv automated build process. In case of both, a somehow needed `lineno` package and an intended arXiv upload, I recommend to do without two-column balancing on the last page and just to stay away from both `flushend` and `pbalance`, in order to ensure that your paper is layouted identically in any initial publication and a later arXiv upload. I hope this remark proves helpful, it took me some nerve to find out.

There is also another important difference between `flushend` and `pbalance`: the handling of footnotes on the last page. `Flushend` provides a decent result, but the result of `pbalance` is incomprehensible. I strongly recommend avoiding footnotes on the last page. If you absolutely need footnotes on the last page, consider staying away from two-column balancing on the last page.

About subfigures: Both well-known packages `subfig` and `subcaption` can be used. However, they are not compatible with each other and we can either load one or the other. The document class provides options to load them for you with some customized style settings.

4 Requirements

We instrument several other \LaTeX packages for different purposes, which must be available under your installation.

- IEEEtran
- acronym
- afterpage
- babel
- biblatex
- booktabs
- ccicons
- cleveref
- csquotes
- diagbox
- doclicense
- etoolbox
- extdash
- flushend
- fontenc
- graphicx
- hypcap
- hyperref
- hyperref
- inputenc
- lipsum
- listings
- lmodern
- lscape
- microtype
- newtxtt
- orcidlink

- paralist
- pbalance
- pdfcomment
- pdfscape
- siunitx
- stfloats
- subcaption
- subfig
- tcolorbox
- times
- upquote
- url
- xcolor
- xpatch
- xspace

5 The Code

```

1 @echo off
2
3 rem *****
4 rem * author: Christoph P. Neumann
5 rem *****
6 cd /d "%~dp0"
7
8 echo == ..\examples\* ==
9 for /D %%D in (..\examples\*) do (
10 echo == %%D ==
11 xcopy /Y ".\*.cls" "%%~D"
12 )
13
14 pause
15 %# Copyright (c) 2023-2024 Christoph P. Neumann,
16 %# Copyright (c) 2018-2021 Oliver Kopp
17 %# Reference: https://latextemplates.github.io/
18
19 % !TeX spellcheck = en-US
20 % LTeX: language=en-US
21 % !TeX encoding = utf8
22 % !TeX program = pdflatex
23 % !BIB program = biblatex / biber

```

```

24
25 \NeedsTeXFormat{LaTeX2e}
26
27 \ProvidesClass{cs-techrep}[2024/10/24 Technical Reports in Computer Science and Software Engi
28
29 % Define marker counter for options (counter are global in latex):
30
31 \newcounter{cstechrep@subfigtracker}
32 \newcounter{cstechrep@subcaptiontracker}
33 \newcounter{cstechrep@pbalancetracker}
34 \newcounter{cstechrep@flushendtracker}
35
36 % Declare options:
37
38 \DeclareOption{subfig}{
39   \setcounter{cstechrep@subfigtracker}{1}
40   \typeout{cs-techrep class: subfig option is set (use subfloat command).}
41 }
42 \DeclareOption{subcaption}{
43   \setcounter{cstechrep@subcaptiontracker}{1}
44   \typeout{cs-techrep class: subcaption option is set (use subfigure command).}
45 }
46
47 % IEEE option onecolumn will be ignored
48 \DeclareOption{onecolumn}{\OptionNotUsed}
49
50 \DeclareOption{pbalance}{
51   \setcounter{cstechrep@pbalancetracker}{1}
52   \typeout{cs-techrep class: pbalance option is set.}
53 }
54 \DeclareOption{flushend}{
55   \setcounter{cstechrep@flushendtracker}{1}
56   \typeout{cs-techrep class: flushend option is set.}
57 }
58
59 % We'll pass any document class options along to the underlying class
60 % (recommended IEEE options: conference,a4paper)
61 \DeclareOption*{%
62   \PassOptionsToClass{\CurrentOption}{IEEEtran}
63 }
64
65 % Now we'll execute any options passed in
66 \ProcessOptions\relax
67
68 % Instead of defining each and every little detail required to create a new
69 % document class, you can base your class on an existing document class.
70 \LoadClass{IEEEtran}
71
72 % This template has been tested with IEEEtran of 2015.
73
74 % =====
75 % USER PROVIDED VARIABLES
76
77 \makeatletter

```

```

78 \newcommand*\DefcstechrepVar[1]{%
79 \@namedef{cstechrep#1}##1{\global\@namedef{cstechrep#1}{##1}}}
80 \makeatother
81
82 \DefcstechrepVar{AuthorListTex}
83 \DefcstechrepVar{AuthorListBib} % Use *and* as author separator!
84 \DefcstechrepVar{TitleTex}
85 \DefcstechrepVar{TitleBib}
86 \DefcstechrepVar{Department} % e.g., Department of Computer Science
87 \DefcstechrepVar{Institution} % e.g., OTH Amberg-Weiden
88 \DefcstechrepVar{Address} % e.g., Amberg, Germany
89 \DefcstechrepVar{Type} % e.g., Technical Report
90 \DefcstechrepVar{Year} % e.g., 2024
91 \DefcstechrepVar{Title}
92 \DefcstechrepVar{Month} % e.g., 10 (for October)
93 \DefcstechrepVar{Number} % e.g., CL-2024-42
94 \DefcstechrepVar{Lang} % e.g., english = en-US (or: ngerman = DE)
95 % =====
96
97 % backticks (‘) are rendered as such in verbatim environments.
98 % See following links for details:
99 % - https://tex.stackexchange.com/a/341057/9075
100 % - https://tex.stackexchange.com/a/47451/9075
101 % - https://tex.stackexchange.com/a/166791/9075
102 \RequirePackage{upquote}
103
104 % Set English as language and allow to write hyphenated"=words
105 %
106 % Even though ‘american’, ‘english’ and ‘usenglish’ are synonyms
107 % for babel package (according to
108 % https://tex.stackexchange.com/questions/12775/babel-english-american-usenglish),
109 % the llncs document class is prepared to avoid the overriding of certain
110 % names (such as "Abstract." -> "Abstract" or "Fig." -> "Figure")
111 % when using ‘english’, but not when using the other 2.
112 % english has to go last to set it as default language
113 \RequirePackage[ngerman,main=english]{babel}
114 %
115 % Hint by http://tex.stackexchange.com/a/321066/9075 -> enable "=" as dashes
116 \addto\extrasenglish{\languageshorthands{ngerman}\useshorthands{}}
117
118 % CM variant with scalable font
119 % (to prevent "pdfTeX error (font expansion):
120 % auto expansion is only possible with scalable")
121 \RequirePackage{lmodern}
122 % Times New Roman, because IEEE is based on Times (and not CM/lmodern),
123 % however, package times is not a scalable font, thus, lmodern is required
124 % additionally and must be loaded before times.
125 \RequirePackage{times}
126
127 % Links behave as they should. Enables "\url{...}" for URL typesettings.
128 % Allow URL breaks also at a hyphen, even though it might be confusing:
129 % Is the "-" part of the address or just a hyphen?
130 % See https://tex.stackexchange.com/a/3034/9075.
131 \RequirePackage[hyphens]{url}

```

```

132
133 % When activated, use text font as url font, not the monospaced one.
134 % For all options see https://tex.stackexchange.com/a/261435/9075.
135 % \urlstyle{same}
136
137 % Improve wrapping of URLs - hint by http://tex.stackexchange.com/a/10419/9075
138 \makeatletter
139 \g@addto@macro{\UrlBreaks}{\UrlOrds}
140 \makeatother
141
142 % nicer // - solution by http://tex.stackexchange.com/a/98470/9075
143 % DO NOT ACTIVATE -> prevents line breaks
144 \makeatletter
145 %\def\url@twoslashes{\mathchar'\@ifnextchar/{\kern-.2em}{}}
146 \g@addto@macro\url@specials{\do\url@twoslashes}
147 \makeatother
148
149 % use nicer font for code
150 \RequirePackage[zerostyle=b,scaled=.75]{newtxtt}
151
152 % inputenc must be loaded before biblatex
153 \RequirePackage[utf8]{inputenc}
154
155 % Has to be loaded AFTER any font packages.
156 % See https://tex.stackexchange.com/a/2869/9075.
157 \RequirePackage[T1]{fontenc}
158
159
160 % Character protrusion and font expansion.
161 % See http://www.ctan.org/tex-archive/macros/latex/contrib/microtype/
162 \RequirePackage[
163   babel=true, % Enable language-specific kerning
164   expansion=alltext,
165   protrusion=alltext-nott, % Ensure no changes at the edge of the listing.
166   nopatch=eqnum, % fix unable to apply patch eqnum
167   final % Always enable microtype, even if in draft mode.
168     % This helps finding bad boxes quickly. In the
169     % standard configuration, this template is always in the final mode,
170     % so this option only makes a difference if "pros" use the draft mode.
171 ]{microtype}
172
173 % \texttt{test -- test} keeps the "--" as "--"
174 % (and does not convert it to an en dash)
175 \DisableLigatures{encoding = T1, family = tt* }
176
177 \RequirePackage{graphicx}
178
179 % Creative Commons
180 \RequirePackage{ccicons}
181
182 % Diagonal lines in a table
183 % http://tex.stackexchange.com/questions/17745/diagonal-lines-in-table-cell
184 % Slashbox is not available in texlive (due to licensing)
185 % and also gives bad results. Thus, we use diagbox

```

```

186 \RequirePackage{diagbox}
187
188 \RequirePackage[cmym, table]{xcolor}
189
190 \RequirePackage[nolist, smaller]{acronym}
191
192 % Code Listings
193 \RequirePackage{listings}
194
195 \definecolor{eclipseStrings}{RGB}{42,0.0,255}
196 \definecolor{eclipseKeywords}{RGB}{127,0,85}
197 \colorlet{numb}{magenta!60!black}
198
199 % JSON definition
200 % Source: https://tex.stackexchange.com/a/433961/9075
201
202 \lstdefinlanguage{json}{
203   basicstyle=\normalfont\ttfamily,
204   commentstyle=\color{eclipseStrings}, % style of comment
205   stringstyle=\color{eclipseKeywords}, % style of strings
206   numbers=left,
207   numberstyle=\scriptsize,
208   stepnumber=1,
209   numbersep=8pt,
210   showstringspaces=false,
211   breaklines=true,
212   frame=lines,
213   % backgroundcolor=\color{gray}, %only if you like
214   string=[s]{"}{"},
215   comment=[l]{:\ "},
216   morecomment=[l]{:"},
217   literate=
218     *{0}{{{\color{numb}0}}}{1}
219     {1}{{{\color{numb}1}}}{1}
220     {2}{{{\color{numb}2}}}{1}
221     {3}{{{\color{numb}3}}}{1}
222     {4}{{{\color{numb}4}}}{1}
223     {5}{{{\color{numb}5}}}{1}
224     {6}{{{\color{numb}6}}}{1}
225     {7}{{{\color{numb}7}}}{1}
226     {8}{{{\color{numb}8}}}{1}
227     {9}{{{\color{numb}9}}}{1}
228 }
229
230 \lstset{
231   % everything between (* *) is a latex command
232   escapeinside={(*}{*)},
233   %
234   language=json,
235   %
236   showstringspaces=false,
237   %
238   extendedchars=true,
239   %

```



```

240 basicstyle=\footnotesize\ttfamily,
241 %
242 commentstyle=\slshape,
243 %
244 % default: \rmfamily
245 stringstyle=\ttfamily,
246 %
247 breaklines=true,
248 %
249 breakatwhitespace=true,
250 %
251 % alternative: fixed
252 columns=flexible,
253 %
254 numbers=left,
255 %
256 numberstyle=\tiny,
257 %
258 basewidth=.5em,
259 %
260 xleftmargin=.5cm,
261 %
262 % aboveskip=0mm,
263 %
264 % belowskip=0mm,
265 %
266 captionpos=b
267 }
268
269 % Enable Umlauts when using \lstinputputlisting.
270 % See https://stackoverflow.com/a/29260603/873282 für details.
271 % listingsutf8 did not work in June 2020.
272 \lstset{literate=
273   {á}{\`a}}1 {ê}{\`e}}1 {í}{\`i}}1 {ó}{\`o}}1 {ú}{\`u}}1
274   {Á}{\`A}}1 {É}{\`E}}1 {Í}{\`I}}1 {Ó}{\`O}}1 {Ú}{\`U}}1
275   {à}{\`a}}1 {è}{\`e}}1 {ì}{\`i}}1 {ò}{\`o}}1 {ù}{\`u}}1
276   {Ä}{\`A}}1 {Ë}{\`E}}1 {Ï}{\`I}}1 {Ö}{\`O}}1 {Ü}{\`U}}1
277   {ä}{\`a}}1 {ë}{\`e}}1 {ï}{\`i}}1 {ö}{\`o}}1 {ü}{\`u}}1
278   {Ä}{\`A}}1 {Ë}{\`E}}1 {Ï}{\`I}}1 {Ö}{\`O}}1 {Ü}{\`U}}1
279   {â}{\`a}}1 {ê}{\`e}}1 {î}{\`i}}1 {ô}{\`o}}1 {û}{\`u}}1
280   {Â}{\`A}}1 {Ê}{\`E}}1 {Î}{\`I}}1 {Ô}{\`O}}1 {Û}{\`U}}1
281   {Ã}{\`A}}1 {ã}{\`a}}1 {Õ}{\`O}}1 {ö}{\`o}}1
282   {œ}{\`oe}}1 {Œ}{\`OE}}1 {æ}{\`ae}}1 {Æ}{\`AE}}1 {ß}{\`ss}}1
283   {ŭ}{\`H{u}}1 {Ū}{\`H{U}}1 {ɔ}{\`H{o}}1 {Ø}{\`H{O}}1
284   {ç}{\`c c}}1 {Ç}{\`c C}}1 {ø}{\`o}}1 {ä}{\`r a}}1 {Ä}{\`r A}}1
285 }
286
287 % Nicer tables (\toprule, \midrule, \bottomrule)
288 \RequirePackage{booktabs}
289
290 % Extended enumerate, such as \begin{compactenum}
291 \RequirePackage[alwaysadjust]{paralist}
292
293 % Read: Is there a disadvantage to using natbib=true with biblatex?

```

```

294 % https://tex.stackexchange.com/questions/149313/is-there-a-disadvantage-to-using-natbib-true
295 % Substitutions:
296 % Natbib \textcite = biblatex \textcite
297 % Natbib \citep = biblatex \parencite
298
299 \RequirePackage[
300     defernumbers=true, % required due to self-cite
301     %style=ieee,      % english only
302     sorting=none,    % nty, nyt, nyvt, anyt, anyvt, ynt, ydnt, none, debug
303     sortcites=false,
304     citestyle=numeric-comp,
305     bibstyle=numeric,
306     backend=biber,
307     bibencoding=utf8, % = auto, utf8, ascii
308     hyperref=true,   % activate hyperref support
309     backref=false,   % activate backrefs
310     isbn=true,
311     url=true,
312     doi=true,
313     urldate=terse,   % = iso, year, short, long, terse
314     maxnames=5,      % max number of names in text ??
315     minnames=1,      % min number of names in text ??
316     maxbibnames=99,  % max number of names in bibliography
317     minbibnames=1,   % number of names in bibliography (bevor et al)
318     maxcitenames=99, % max number of names in text ??
319     mincitenames=1,  % max number of names in text ??
320     giveninits=false, % abbreviate first names
321     uniquename=init, % otherwise option conflict with firstinits=true
322     autolang=other
323 ]{biblatex}
324
325 % Due to applied option defernumbers=true:
326 % Prevent citations in the references are being numbered as '0' in ArXiv
327 % https://tex.stackexchange.com/questions/463556/all-the-citations-in-the-references-are-bein
328 \makeatletter
329 \let\blx@rerun@biber\relax
330 \makeatother
331
332 % selfref.bib needs to be generated, containing a bibentry with key selfref
333 \addbibresource{selfref.bib}
334 \DeclareBibliographyCategory{selfref}
335 \addtocategory{selfref}{selfref}
336 % How to use: \printbibliography[notcategory=selfref]
337
338 % Same fontsize as without natbib
339 \renewcommand{\bibfont}{\normalfont\small}
340
341 % Enable hyperlinked author names in the case of \textcite
342 % Source: https://tex.stackexchange.com/a/76075/9075
343 \RequirePackage{etoolbox}
344 \makeatletter
345 \patchcmd{\NAT@test}{\else \NAT@nm}{\else \NAT@hyper@{\NAT@nm}}{}{}
346 \makeatother
347

```

```

348 \makeatletter
349 \DeclareCiteCommand{\citemonth}
350   {\usebibmacro{prenote}}
351   {%
352     \let\oldabx@bibmonth\abx@bibmonth%
353     \setkeys{blx@opt@pre}{dateabbrev=false}% nowork
354     \mkbibmonth{\thefield{month}}%
355     \let\abx@bibmonth\oldabx@bibmonth% restore
356   }
357   {\multicitedelim}
358   {\usebibmacro{postnote}}
359 \makeatother
360
361 % Enable nice comments
362 \RequirePackage{pdfcomment}
363
364 \newcommand{\commentontext}[2]{%
365   \colorbox{yellow!60}{#1}%
366   \pdfcomment[color={0.234 0.867 0.211},%
367     hoffset=-6pt,voffset=10pt,opacity=0.5]{#2}}
368
369 \newcommand{\commentatside}[1]{%
370   \pdfcomment[color={0.045 0.278 0.643},icon=Note]{#1}}
371
372 % Compatibility with packages todo, easy-todo, todonotes
373 \newcommand{\todo}[1]{\commentatside{#1}}
374
375 % Compatiblity with package fixmetodonotes
376 \newcommand{\TODO}[1]{\commentatside{#1}}
377
378 % Put footnotes below floats
379 % Source: https://tex.stackexchange.com/a/32993/9075
380 \RequirePackage{stfloats}
381 \fnbelowfloat
382
383 \RequirePackage[group-minimum-digits=4,per-mode=fraction]{siunitx}
384 \addto\extrasgerman{\sisetup{locale = DE}}
385
386 % Enable that parameters of \cref{}, \ref{}, \cite{}, ...
387 % are linked so that a reader can click on the number
388 % and jump to the target in the document
389 \RequirePackage{hyperref}
390
391 % Enable hyperref without colors and without bookmarks
392 \hypersetup{
393   hidelinks,
394   colorlinks=true,
395   allcolors=black,
396   pdfstartview=Fit,
397   breaklinks=true
398 }
399
400 % Enable correct jumping to figures when referencing
401 \RequirePackage[all]{hypcap}

```

```

402
403 \RequirePackage{orcidlink}
404
405 % For easy quotations: \enquote{text}
406 % This package is very smart when nesting is applied,
407 % otherwise textcmds (see below) provides a shorter command
408 \RequirePackage[autostyle=true]{csquotes}
409
410 % Enable using "'quote'"
411 % See: https://tex.stackexchange.com/a/150954/9075
412 \defineshorthand{"'}{\openautoquote}
413 \defineshorthand{"'"}{\closeautoquote}
414
415 % amsmath must be loaded before cleveref
416 \usepackage{amsmath,amssymb,amsfonts}
417
418 % Extensions for references inside the document (\cref{fig:sample}, ...)
419 % Enable usage \cref{...} and \Cref{...} instead of \ref:
420 % Type of reference included in the link.
421 % That means, "Figure 5" is a full link instead of just "5".
422 \RequirePackage[capitalise,nameinlink,noabbrev]{cleveref}
423
424 \crefname{listing}{Listing}{Listings}
425 \Crefname{listing}{Listing}{Listings}
426 \crefname{lstlisting}{Listing}{Listings}
427 \Crefname{lstlisting}{Listing}{Listings}
428
429 \RequirePackage{lipsum}
430
431 \RequirePackage{tcolorbox}
432 \tcboxuselibrary{listings}
433
434 %introduce \powerset
435 % See: http://matheplanet.com/matheplanet/nuke/html/viewtopic.php?topic=136492&post\_id=997377
436 \DeclareFontFamily{U}{MnSymbolC}{}
437 \DeclareSymbolFont{MnSyC}{U}{MnSymbolC}{m}{n}
438 \DeclareFontShape{U}{MnSymbolC}{m}{n}{
439 <-6> MnSymbolC5
440 <6-7> MnSymbolC6
441 <7-8> MnSymbolC7
442 <8-9> MnSymbolC8
443 <9-10> MnSymbolC9
444 <10-12> MnSymbolC10
445 <12-> MnSymbolC12%
446 }{}
447 \DeclareMathSymbol{\powerset}{\mathord}{MnSyC}{180}
448
449 \RequirePackage{xspace}
450 %\newcommand{\eg}{e.\,g.\,xspace}
451 %\newcommand{\ie}{i.\,e.\,xspace}
452 \newcommand{\eg}{e.\,g.\,\ }
453 \newcommand{\ie}{i.\,e.\,\ }
454
455 % Enable hyphenation at other places as the dash.

```

```

456 % Example: applicaiton\hydash specific
457 \makeatletter
458 \newcommand{\hydash}{\penalty\@M-\hskip\z@skip}
459 % Definition of "="
460 % See: http://mirror.ctan.org/macros/latex/contrib/babel-contrib/german/ngermanb.dtx
461 \makeatother
462
463 % Enable copy and paste of text from the PDF
464 % Only required for pdflatex. It "just works" in the case of lualatex.
465 \input glyphtounicode
466 \pdfgentounicode=1
467
468 \RequirePackage{lscape}
469 \RequirePackage{pdfscape}
470 \RequirePackage{afterpage}
471
472 % requires, e.g., \PassOptionsToPackage{
473 % type=CC,modifier=by,version=4.0}{doclicense} before \documentclass
474 \RequirePackage[hyperxmp=false,lang=English]{doclicense}
475
476 % Improve wrapping of URLs
477 % See: http://tex.stackexchange.com/a/10419/9075
478 \makeatletter
479 \def\ps@IEEEtitlepagestyle{
480   \def\@oddfont{\mycopyrightnotice}
481   \def\@evenfont{}}
482 }
483 \def\mycopyrightnotice{
484   {\footnotesize
485     \begin{minipage}{0.8\textwidth}
486     \centering
487     % License based on doclicense package:
488     \href{\doclicenseURL}{\doclicenseIcon}
489     This work is licensed under a \doclicenseLongNameRef{
490       (\doclicenseNameRef{ }) license.}
491     % Citation advice:
492     \Please cite as: \fullcite{selfref}.
493   \end{minipage}
494   }
495 }
496 \makeatother
497
498 \makeatletter
499 % allows for forcing command expansion inside a filecontents* environment
500 % (cf. https://tex.stackexchange.com/questions/534035/macros-commands-inside-a-filecontents-
501 \def\filecontentsForceExpansion#1#2#3{
502   \global\let\ltxspecials\dospecials
503   \gdef\dospecials{\ltxspecials
504     \catcode'#1=0
505     \catcode'#2=1
506     \catcode'#3=2
507   \global\let\dospecials\ltxspecials
508   }
509 }

```

```

510 \makeatother
511
512 \title{\cstechrepTitleTex}
513
514 \author{
515 \IEEEauthorblockN{\cstechrepAuthorListTex}
516 \IEEEauthorblockA{%
517 \cstechrepDepartment\\
518 \cstechrepInstitution\\
519 \cstechrepAddress
520 }}
521
522 \IEEEspecialpapernotice{\cstechrepType: \cstechrepNumber,
523 \citemonth{selfref} \cstechrepYear}
524
525 % subfigure captions with parentheses and footnotesize:
526 \ifnum\value{cstechrep@subfigtracker}=1
527 \typeout{cs-techrep class: load subfig package (use subfloat command).}
528 \RequirePackage[caption=false,font=footnotesize]{subfig}
529 \fi
530 \ifnum\value{cstechrep@subcaptiontracker}=1
531 \typeout{cs-techrep class: load subcaption package (use subfigure command).}
532 \RequirePackage{subcaption}
533 \captionsetup[subfigure]{labelformat=parens,font=footnotesize}
534 \fi
535
536 % Balance/level columns at the last page / in bibliography
537 % DISCLAIMER: No solution is a 100%/perfect one!
538 % Mainstream option: pbalance (see https://ctan.org/pkg/pbalance)
539 % BUT: incompatible with arxiv automated process (!)
540 \ifnum\value{cstechrep@pbalancetracker}=1
541 \typeout{cs-techrep class: load pbalance package.}
542 \RequirePackage{pbalance}
543 \fi
544 % Flushend => works with arxiv, but major incompatibility with lineno
545 % (and, thus, also with mindflow et al.)
546 \ifnum\value{cstechrep@flushendtracker}=1
547 \typeout{cs-techrep class: load flushend package.}
548 \RequirePackage{flushend}
549 \fi
550
551 % =====
552 % Packages that need to be loaded last:
553
554 % Allows to hyphenate a word that contains a dash:
555 % https://stackoverflow.com/questions/2193307/how-do-i-get-latex-to-hyphenate-a-word-that-con
556 % Use \-/ for a breakable dash that does not prevent the remainder
557 % of the word to be hyphenated.
558 \RequirePackage[shortcuts]{extdash}
559 % =====
560
561 % Finally, we'll use \endinput to indicate that LaTeX can stop reading
562 % this file. LaTeX will ignore anything after this line.
563 \endinput

```