The HEP-CV package*

Curricula vitae, cover letters and publication lists

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?

Abstract

The HEP-CV package and class provide a compact CV layout for academic applications. The package defines the left-column CV line and entry layout, list styling, month helpers, and bibliography support, while the class adds article-based CV defaults, contact and photo title pages, cover-letter helpers, section and page styles, and subfile support.

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1 Introduction

The HEP-CV package enables the user to write an appealing curriculum vitae (CV). The style is heavily influenced by the MODERNCV package [1]. In order to use the package layout macros the user has to load only the HEP-CV package in addition to the `article` class.

```
\documentclass{article}
\usepackage{hep-cv}
```

The source also provides a `hep-cv` class for complete CV documents and a `hep-cv-bibliography` module for CV bibliography layouts.

1.1 Options

`date` `list`

The `date` option switches to a compact CV date scheme: it defines the month macros described in section 2.2 and makes the bibliography module print months with these macros and years in the short form `'25`. Without it, the usual date scheme is kept. The `list=false` option prevents the package from adjusting the standard list environments.

2 Macros

`\setleftwidth` `\setseperatorwidth` `\cvline`

The layout can be tuned by setting the `\setleftwidth` and `\setseperatorwidth` macros.

The `\cvline[`⟨*left*⟩`]{`⟨*main*⟩`}` adds an unformatted line to the CV.

```
\cvline[left]{cvline example}
```

`\cventry`

The `\cventry[`⟨*left*⟩`]{`⟨*main 1*⟩`}[`⟨*main 2*⟩`]`⟨***⟩`[`⟨*...*⟩`]` macro adds a boldface entry to the CV. The contents passed to the following arguments alternate between upright and italic text. Starred optional arguments begin on a new line. For example:

```
\cventry[left]{cventry example}[one][two]*[starred three][four]
\cventry[left]{cventry example}[one]
\cventry[left]{cventry example}
```

2.1 Lists

`itemize` (*env.*) `enumerate` (*env.*) `description` (*env.*) `enumdescript` (*env.*)

The `itemize` environment is adjusted using the `enumitem` package [2]. The `enumerate` environment is adjusted. The `description` environment is adjusted. The `enumdescript` environment of the `hep-text` package [3] is adjusted.

2.2 Months

`\Jan` `\Feb` `\Mar` `\Apr` `\May` `\Jun` `\Jul` `\Aug` `\Sep` `\Oct` `\Nov` `\Dec`

With the `date` option, the month macros spread a short month name evenly across the width of 'May' in the current font and are intended for compact date columns. They are robust and print the plain month name in PDF strings such as bookmarks.

3 Class additions

The `hep-cv` class is based on `article` and loads the package layout with full-page CV defaults.

`font` `serif` `hyperref`

The class accepts a `font=`⟨*size*⟩ option (the standard size options `10pt`, `11pt` and `12pt` are

shortcuts for it), the `serif` option, and a `hyperref` switch that controls whether HEP-REFERENCE is loaded for PDF metadata and links.

`\address` `\addressfont` `\addcontactline`

The `\address{`⟨*text*⟩`}` macro stores contact information, `\addressfont` controls its font, and `\addcontactline{`⟨*text*⟩`}` appends additional contact material.

`\opening` `\closing`

The cover-letter helpers store opening and closing text, typeset a letter title and closing, and provide a `letter` environment that wraps one letter page.

`\makelettertitle` `\makeletterclosing` `letter` (*env.*)

The class title page uses `\author` for the name, optional `\photo{`⟨*file*⟩`}` material, `\addtitleline{`⟨*label*⟩`}{`⟨*text*⟩`}` for title metadata, and `\addcontactline` for contact metadata. The `\titlefont` and `\infofont` macros control the title and metadata fonts.

`\titlefont` `\infofont` `\addtitleline` `\photo` `\maketitle` `abstract` (*env.*)

The class renames the abstract to 'Summary' and formats it in the CV left-column layout.

`\cvpart` `\insubfile`

The `\cvpart{`⟨*name*⟩`}` macro stores the current CV part for headers and PDF metadata, and `\insubfile{`⟨*code*⟩`}` emits ⟨*code*⟩ only when a subfile is compiled on its own with the SUBFILES class, e.g. `\insubfile{\cvpart{Education}}` in the preamble of a subfile. When the subfile is included in the main CV with `\subfile`, the code is ignored.

4 Bibliography

The bibliography module mirrors the standalone HEP-CV-BIBLIOGRAPHY package. It defines CV date sorting, section-level bibliography headings, left-column date and index helpers, and `unnumbered`, `numbered`, and `starrednumbered` bibliography environments for publication lists. The `date` option described above can also be given to the bibliography module, `\usepackage[date]{hep-cv-bibliography}`, which passes it on to HEP-CV, also if the `hep-cv` class has already loaded it.

A Package Implementation

<*package>

A.1 Options

Load the KVOPTIONS package [4] and define a `hepcv` namespace.

```
\RequirePackage{kvoptions}
\SetupKeyvalOptions{
  family=hepcv,
  prefix=hepcv@
}
```

`date` Provide the option `date` switching to the compact CV date scheme with the month macros.

```
\DeclareBoolOption[false]{date}
\DeclareBoolOption[true]{list}

\ProcessKeyvalOptions*
```

A.2 Widths

`\hep@left@width` `\hep@seperator@width` `\hep@main@width` Define document widths.

```
\newlength{\hep@left@width}
\newlength{\hep@seperator@width}
\newlength{\hep@main@width}
```

`\hep@set@main@width` Define private macro for setting the main widths using the CALC package [5]. The main width fills the current line width. It is recomputed whenever a CV line is typeset, so that later changes of the text width, e.g. by the GEOMETRY package [6], are taken into account.

```
\RequirePackage{calc}
\newcommand*{\hep@set@main@width}{%
  \setlength{\hep@main@width}{%
    \linewidth-\hep@left@width-\hep@seperator@width%
  }%
}
```

`\setleftwidth` `\setseperatorwidth` Define macros for setting the document widths.

```
\newcommand*{\setleftwidth}[1]{%
  \setlength{\hep@left@width}{#1}%
  \hep@set@main@width
}
\newcommand*{\setseperatorwidth}[1]{%
  \setlength{\hep@seperator@width}{#1}%
  \hep@set@main@width
}
\setleftwidth{2.8cm}
\setseperatorwidth{4mm}
```

A.3 Macros

\hep@begin
\hep@end

Define private CV macros using the ARRAY and HEP-FONT packages [7, 8].

```
\RequirePackage{array}
\RequirePackage{hep-font}
\newcommand*{\hep@begin}{\hep@set@main@width\noindent\begin{tabular}{%
  @{}>{\raggedleft\arraybackslash}p{\hep@left@width}%
  @{\hspace{\hep@seperator@width}}p{\hep@main@width}@{}%
}\tstyle}
\newcommand*{\hep@end}{\end{tabular}\hfill\par}
```

\cvline

Define the \cvline macro.

```
\newcommand*{\cvline}[2][]{\hep@begin#1&#2\hep@end}
```

ck@for@optional@args
ep@next@optional@arg

Define private recursive macros for the \cventry macro.

```
\newcommand*{\hep@next@optional@arg}[1][]{%
  \em{\em{#1}}\hep@check@for@optional@args%
}
\newcommand*{\hep@check@for@optional@args}{%
  \@ifnextchar*{%
    ,\newline\@firstoftwo\hep@next@optional@arg%
  }{%
    \@ifnextchar[{, \hep@next@optional@arg}{.\hep@end}%
  }%
}
```

\cventry

Define the \cventry macro.

```
\newcommand*{\cventry}[2][]{%
  \vspace{.5ex plus .2ex minus .2ex}%
  \hep@begin#1&\textbf{#2}\hep@check@for@optional@args%
}
```

A.3.1 Dates

\hep@date@setup

The month macros are defined by \hep@date@setup. It is called below with the date option and by HEP-CV-BIBLIOGRAPHY if that package receives the date option after HEP-CV has been loaded without it.

```
\RequirePackage{etoolbox}
\newcommand*{\hep@date@setup}{%
```

\hep@longest@month
\hep@spread@even
\hep@month

Define macros of equally distributed month names. The width of the longest month name is measured each time in the current font.

```
\newlength{\hep@longest@month}%
\newcommand*{\hep@spread@even}[1]{\@tfor\next:=##1\do{\hfil\next}}%
\newcommand*{\hep@month}[1]{%
  \settowidth{\hep@longest@month}{May}%
  \makebox[\hep@longest@month][c]{\hep@spread@even{##1}}%
```

```
}%
```

\Jan \Feb \Mar \Apr \May \Jun \Jul \Aug \Sep \Oct \Nov \Dec

Apply macros of equally distributed month names. They are robust and print the plain month name in PDF strings such as bookmarks.

```
\newrobustcmd*{\Jan}{\hep@month{Jan}}%
\newrobustcmd*{\Feb}{\hep@month{Feb}}%
\newrobustcmd*{\Mar}{\hep@month{Mar}}%
\newrobustcmd*{\Apr}{\hep@month{Apr}}%
\newrobustcmd*{\May}{\hep@month{May}}%
\newrobustcmd*{\Jun}{\hep@month{Jun}}%
\newrobustcmd*{\Jul}{\hep@month{Jul}}%
\newrobustcmd*{\Aug}{\hep@month{Aug}}%
\newrobustcmd*{\Sep}{\hep@month{Sep}}%
\newrobustcmd*{\Oct}{\hep@month{Oct}}%
\newrobustcmd*{\Nov}{\hep@month{Nov}}%
\newrobustcmd*{\Dec}{\hep@month{Dec}}%
\AtBeginDocument{%
  \ifdefined\pdfstringdefDisableCommands
    \pdfstringdefDisableCommands{%
      \def\Jan{Jan}\def\Feb{Feb}\def\Mar{Mar}\def\Apr{Apr}%
      \def\May{May}\def\Jun{Jun}\def\Jul{Jul}\def\Aug{Aug}%
      \def\Sep{Sep}\def\Oct{Oct}\def\Nov{Nov}\def\Dec{Dec}%
    }%
  \fi
}%
```

End of `\hep@date@setup`.

```
}
```

Define the month macros with the `date` option.

```
\ifhepcv@date
  \hep@date@setup
\fi
```

A.3.2 Lists

Begin of list conditionals and load the HEP-TEXT [3] package.

```
\ifhepcv@list
\RequirePackage{hep-text}
```

`itemize` Adjust lists to the CV format.

```
\setlist[1]{
  leftmargin=\hep@left@width+\hep@seperator@width,
  labelwidth=\hep@left@width,
  labelsep=\hep@seperator@width,
}
\setlist{
```

```
91   nosep,
92   topsep=.5ex,
93   listparindent=0pt,
94   itemindent=0pt,
95   align=right
96 }
```

`enumerate` Adjust the `enumerate` list to the CV format.

```
97 \setlist[enumerate]{label=\arabic*}
```

`description` Adjust the `description` list to the CV format.

```
98 \setlist[description]{font=\normalfont}
```

`enumdescript` Adjust the `enumdescript` list to the CV format.

```
99 \setlist[enumdesc]{label=\arabic*}
```

End of lsit conditional.

```
100 \fi
```

</package>

B Class implementation

<*class>

Base the CV on the article class.

```
101 \PassOptionsToClass{a4paper}{article}
102 \LoadClass{article}
```

B.1 Options

Load the KVOPTIONS package [4] and define a `hepcv` namespace.

```
103 \RequirePackage{kvoptions}
104 \SetupKeyvalOptions{
105   family=hepcv,
106   prefix=hepcv@
107 }
```

`font` Define a `font=`⟨*size*⟩ option. Make 11 pt the default font size. The standard size options `10pt`,
`10pt` `11pt` and `12pt` are shortcuts for it, so that they are not overridden by the size of HEP-FONT.
`11pt`
`12pt`

```
108 \DeclareStringOption[11pt]{font}
109 \DeclareVoidOption{10pt}{\def\hepcv@font{10pt}}
110 \DeclareVoidOption{11pt}{\def\hepcv@font{11pt}}
111 \DeclareVoidOption{12pt}{\def\hepcv@font{12pt}}
```

sansserif Define the option pair `serif` and `sansserif` controling the font shape of the whole document.

```
\DeclareBoolOption[false]{serif}
\DeclareComplementaryOption{sansserif}{serif}
```

hyperref Provide the option `standalone` in order to use the CV macros in other packages.

```
\DeclareBoolOption[true]{hyperref}
```

```
\ProcessKeyvalOptions*
```

B.2 Packages

Load the HEP-CV and FULLPAGE packages [9] and the CALC [5] packages.

```
\PassOptionsToPackage{
  size=\hepcv@font,
  sans=\ifhepcv@serif false\else true\fi,
  oldstyle
}{hep-font}
\RequirePackage{hep-cv}
% \RequirePackage{fullpage}
\setleftwidth{2.8cm}
\setseperatorwidth{4mm}
```

B.3 Address field

Load the PHONENUMBERS package [10].

```
\PassOptionsToPackage{foreign}{phonenumbers}
\RequirePackage{phonenumbers}
```

\address \addressfont Define contact information macros.

```
\newcommand*\address[1]{\long\gdef\hep@address{#1}}
\newcommand*{\addressfont}{\itshape\small}
```

\hep@address@field Define `\hep@address@field` macro.

```
\newcommand*{\hep@address@field}{
  \ifdef{\hep@address}{\hep@address\\}{}\strut
}
```

B.4 Cover letter

\opening \makelettertitle Define `\lettertitle` macros. The opening is empty unless it is set.

```
\newcommand*\opening[1]{\long\gdef\hep@opening{#1}}
\opening{}
\newcommand*\makelettertitle{{%
    \raggedleft\addressfont
    \textbf{\@author}\\
    \hep@address@field
```

```
  }\\\raggedright\bigskip\hep@opening\par
}
```

`\closing` `\makeletterclosing` Define macros for the letter closing. The closing is empty unless it is set.

```
\newcommand*\closing[1]{\long\gdef\hep@closing{#1}}
\closing{}
\newcommand*\makeletterclosing{%
  \par\bigskip\hep@closing\par\textbf{\@author}%
}
```

`letter` Define `letter` environment.

```
\newenvironment{letter}{%
  \thispagestyle{plain}\makelettertitle%
}{%
  \makeletterclosing\clearpage%
}
```

B.5 Title

`\HUGE` `\titlefont` Define the `\HUGE` fontsize for the title using the `anyfontsize` package [11]. It replaces the `\HUGE` of the FONTSIZE package loaded by HEP-FONT.

```
\RequirePackage{anyfontsize}
\DeclareRobustCommand*\HUGE{\@setfontsize\HUGE{38}{47}}
\newcommand*{\titlefont}{\HUGE}
\newcommand*{\infofont}{\small}
```

`\addtitleline` Define macros for further identity informations.

```
\newcommand*{\hep@title@lines}{}
\newcommand*{\addtitleline}[2]{%
  \let\@hep@title@lines\hep@title@lines
  \expandafter\renewcommand\expandafter*\expandafter\hep@title@lines\expandafter{%
    \@hep@title@lines\cvline[#1]{#2}%
  }%
}
```

`\hep@contact@lines` `\hep@contact@line` `\addcontactline` Define the `\hep@contact@line` macro.

```
\newcommand*{\hep@contact@lines}{}
\newcommand{\addcontactline}[1]{%
  \ifx\hep@contact@lines\@empty
    \gappto\hep@contact@lines{#1}%
  \else
    \gappto\hep@contact@lines{\\#1}%
  \fi
}
\newcommand*{\hep@contact@line}{%
  \ifdef{\hep@address}{%
    \hep@address\\[-1.5ex]\strut
```

```
    \ifx\hep@contact@lines\@empty
    \else
      \\%
    \fi
  }{}%
  \hep@contact@lines
}
```

`\hep@head` `\hep@tail` Define head and tail macros.

```
\newcommand*\hep@head[1]{%
  \expandafter\@hep@head\expandafter\expandafter#1 \@nil%
}%
\newcommand*\@hep@head{}%
\def\@hep@head#1 #2\@nil{#1\unskip}%
%
\newcommand*\hep@tail[1]{%
  \expandafter\@hep@tail\expandafter\expandafter#1 \@nil%
}%
\newcommand*\@hep@tail{}%
\def\@hep@tail#1 #2\@nil{#2\unskip}%
```

`top@include@graphics` Include graphics top aligned using the GRAPHICX package [12].

```
\RequirePackage{graphicx}
\newcommand*{\hep@top@include@graphics}[2][]{%
  \raisebox{%
    \dimexpr-\height+\ht\strutbox\relax%
  }{%
    \includegraphics[#1]{#2}%
  }%
}
```

`\photo` Store photo path.

```
\newcommand*\photo[1]{\long\gdef\hep@photo{#1}}
```

`\maketitle` Redefine the `\maketitle` macro using the `textpos` package [13].

```
\RequirePackage{textpos}
\DeclareDocumentCommand{\maketitle}{}{%
  \par\noindent{\titlefont%
    \@ifundefined{hep@photo}{%
      \settowidth{\dimen0}{\hep@head{\@author}}%
      \ifdim\dimen0>\hep@left@width\relax%
        \noindent\begin{tabular}{l}\@author\hep@end%
      \else%
        \cvline[\hep@head{\@author}]{\hep@tail{\@author}}%
      \fi%
      {\infofont\hep@title@lines}%
    }{%
```

```
      \hep@begin%
        \hep@top@include@graphics[width=\hep@left@width]{\hep@photo}%
      &%
        \@author\newline\newline\infofont%
        \renewcommand*{\cvline}[2][]{##1&##2\\}%
        \noindent%
        \begin{tabular}{@{}r@{: }l@{}}\hep@title@lines\end{tabular}%
      \hep@end\medskip%
    }%
    \begin{textblock*}{\linewidth}[1,0](\linewidth,-4ex)%
      \raggedleft\addressfont\hep@contact@line%
    \end{textblock*}%
  }%
}
```

`abstract` (*env.*) Redfine the abstract environment.

```
\AtBeginDocument{\renewcommand*{\abstractname}{Summary}}
\renewenvironment{abstract}{\hep@begin\abstractname&}{\hep@end\bigskip}
```

B.6 Hyperref

Begin of hyperref conditional.

```
\ifhepcv@hyperref
```

Load the HEP-REFERENCE package [14].

```
\RequirePackage{hep-reference}
```

End of hyperref conditional.

```
\fi
```

`\title` The title of a CV is the author followed by the current CV part. It is not printed, but it is used for the PDF `title`, also by hooks that set it before `\maketitle`.

```
\title{\@author~----~\hep@part}
```

`\hep@pdf@info` Update the PDF `title` and `author` information at the beginning of the document if HYPERREF [15] is loaded.

```
\newcommand*{\hep@pdf@info}{%
  \ifdefined\hypersetup
    \hypersetup{pdftitle={\@title}, pdfauthor={\@author}}%
  \fi
}
\AtBeginDocument{\hep@pdf@info}
```

`\phantomsection` Provide `\phantomsection`, used by the starred sections, if HYPERREF is not loaded.

```
\AtBeginDocument{\providecommand*{\phantomsection}{}}
```

B.7 Sectioning

Begin of sectioning conditional.

```
% \ifhepcv@sectioning
```

Load the TITLESEC package [16] and deactivate section numbering.

```
\PassOptionsToPackage{compact}{titlesec}
\RequirePackage{titlesec}
\setcounter{secnumdepth}{0}
```

`\hep@dash@length` `\hep@dash@height` `\hep@dash@shift` `\hep@dash@sep` Load the DASHRULE package [17] and define dash properties.

```
\RequirePackage{dashrule}
\newcommand*{\hep@dash@length}{4pt}
\newcommand*{\hep@dash@height}{.5pt}
\newcommand*{\hep@dash@shift}{.6ex}
\newcommand*{\hep@dash@sep}{.5em}
\newlength{\hep@dash@width}
\newlength{\hep@dash@seperator}
```

```
\providecommand*{\sentence}{}
```

`\section` Redefine `\section`.

```
\titleformat{name=\section}{\Large}{%
  \setlength{\hep@dash@width}{%
    \hep@left@width-\widthof{\thesection}-\hep@dash@length-\hep@dash@sep%
  }%
  \hdashrule[\hep@dash@shift][x]{\hep@dash@width}{\hep@dash@height}{}%
  \hspace{\hep@dash@length+\hep@dash@sep}\thesection%
}{\hep@seperator@width}{\sentence}
```

`\section*` Redefine `\section*`.

```
\titleformat{name=\section, numberless}{\Large}{%
  \phantomsection%
  \setlength{\hep@dash@width}{\hep@left@width}%
  \hdashrule[\hep@dash@shift][x]{\hep@dash@width}{\hep@dash@height}{}%
}{\hep@seperator@width}{\sentence}
```

Spacing.

```
\titlespacing*{\section}{0pt}{*3}{*1.75}
```

`\subsection` Redefine `\subsection`.

```
\titleformat{name=\subsection}{\large}{%
  \setlength{\hep@dash@width}{%
    \hep@left@width-\widthof{\thesubsection}-\hep@dash@sep%
  }%
  \hdashrule[\hep@dash@shift][x]{\hep@dash@width}{\hep@dash@height}{1mm}%
```

```
  \hspace{\hep@dash@sep}\thesubsection%
}{\hep@seperator@width}{\sentence}
```

`\subsection*` Redefine `\subsection*`.

```
\titleformat{name=\subsection, numberless}{\large}{%
  \phantomsection%
  \setlength{\hep@dash@width}{\hep@left@width+\hep@dash@length}%
  \setlength{\hep@dash@seperator}{\hep@seperator@width-\hep@dash@length}%
  \hdashrule[\hep@dash@shift][x]{\hep@dash@width}{\hep@dash@height}{%
    \hep@dash@length%
  }%
}{\hep@dash@seperator}{\sentence}
```

Spacing.

```
\titlespacing*{\subsection}{0pt}{*2}{*1.5}
```

`\subsubsection` Redefine `\subsubsection`.

```
\titleformat{name=\subsubsection}{}{%
  \setlength{\hep@dash@width}{%
    \hep@left@width-\widthof{\thesubsubsection}-\hep@dash@sep%
  }%
  \hdashrule[\hep@dash@shift][x]{\hep@dash@width}{\hep@dash@height}{%
    .7pt \hep@dash@length%
  }%
  \hspace{\hep@dash@sep}\thesubsubsection%
}{\hep@seperator@width}{\sentence}
```

`\subsubsection*` Redefine `\subsubsection*`.

```
\titleformat{name=\subsubsection, numberless}{}{%
  \phantomsection%
  \setlength{\hep@dash@width}{\hep@left@width+\hep@dash@length}%
  \setlength{\hep@dash@seperator}{\hep@seperator@width-\hep@dash@length}%
  \hdashrule[\hep@dash@shift][x]{\hep@dash@width}{\hep@dash@height}{%
    .7pt \hep@dash@length%
  }%
  }{\hep@dash@seperator}{\sentence}
```

`\paragraph` Redefine `\paragraph`.

```
\titleformat{\paragraph}[runin]{\itshape}{}{}{\sentence}[:]
```

`\subparagraph` Redefine `\subparagraph`.

```
\titleformat{\subparagraph}[runin]{\itshape}{}{%
  }{\hspace{1em}\sentence%
}[:]
```

B.8 Table of contents

Use the TITELTOC package [16] and set the table of contents (TOC) depths to 2.

```
\RequirePackage{titletoc}
\setcounter{tocdepth}{2}
\newlength{\label@width}
```

`section` Sections in TOC.

```
\titlecontents{section}[\hep@left@width+\hep@seperator@width]{%
  \setlength{\label@width}{%
    \widthof{\large\tstyle\thecontentslabel}+\hep@seperator@width%
  }%
  \vspace{1.5ex}%
}{%
  \contentslabel[\large\tstyle\thecontentslabel]{\label@width}\large%
}{%
  \large%
}{%
  \hfill\contentspage[\large\tstyle\thecontentspage]%
}[\vspace{.5ex}]
```

`subsection` Subsection in TOC.

```
\titlecontents{subsection}[\hep@left@width+\hep@seperator@width]{%
  \setlength{\label@width}{%
    \widthof{\tstyle\thecontentslabel}+\hep@seperator@width+.8em%
  }%
}{%
  \hspace{.8em}\contentslabel[\tstyle\thecontentslabel]{\label@width}%
}{%
  \hdashrule[\hep@dash@shift][x]{.8em}{\hep@dash@height}{\hep@dash@length}%
}{%
  \titlerule*[1pc]{.}\contentspage[\tstyle\thecontentspage]%
}
```

`subsubsection` Subsubsection in TOC.

```
\titlecontents{subsubsection}[\hep@left@width+\hep@seperator@width]{%
  \setlength{\label@width}{%
    \widthof{\thecontentslabel}+\hep@seperator@width+1.5em%
  }%
}{%
  \hspace{1.5em}\contentslabel[\tstyle\thecontentslabel]{\label@width}%
}{%
  \hdashrule[\hep@dash@shift][x]{1.5em}{\hep@dash@height}{%
    .7pt \hep@dash@length%
  }%
}{%
  \titlerule*[1pc]{.}\contentspage[\tstyle\thecontentspage]%
}
```

End of check for sectioning option.

```
% \fi
```

B.9 Header and Footer

Use the FANCYHDR package [18].

```
\RequirePackage{fancyhdr}
\renewcommand*{\headrulewidth}{0pt}
```

`\cvpart` Define the `\cvpart` macro. In the document body it also updates the PDF information.

```
\newcommand*\cvpart[1]{\long\gdef\hep@part{#1}\hep@cvpart@hook}
\let\hep@cvpart@hook\relax
\AtBeginDocument{\global\let\hep@cvpart@hook\hep@pdf@info}
\cvpart{Curriculum Vitæ}
```

Redefine the pagenumber using the LASTPAGE package [19].

```
\RequirePackage{lastpage}
\cfoot{\addressfont Page \thepage\ of \pageref{LastPage}}
```

`plain` Redefine the `plain` page style.

```
\fancypagestyle{plain}{%
  \rhead{}
  \lhead{}
}
```

`name` Define the `name` page style.

```
\fancypagestyle{name}{%
  \rhead{\addressfont{\@author}}
  \lhead{}
}
```

`both` Define the `both` page style.

```
\fancypagestyle{both}{%
  \rhead{\addressfont{\@author}}
  \lhead{\addressfont{\hep@part}}
}
```

B.10 Subfiles

`\insubfile` Provide subfile features using the SUBFILES package [20]. Its `\ifSubfilesClassLoaded` is true when a subfile is compiled on its own, both in the preamble and in the body.

```
\RequirePackage{subfiles}
\newcommand*{\insubfile}[1]{\ifSubfilesClassLoaded{#1}{}}
```

</class>

C Bibliography implementation

<*bibliography>

C.1 Options

Load the KVOPTIONS package [4] and define a `hepcv` namespace.

```
\RequirePackage{kvoptions}
\SetupKeyvalOptions{
  family=hepcv,
  prefix=hepcv@
}
```

`bibliography` Provide the option `bibliography` for passing a `style` string to the `biblatex` package [21] or disabling the automatic loading of `biblatex`.

```
\DeclareStringOption[numeric-comp]{bibliography}
```

`date` Provide the option `date` switching to the compact CV date scheme. It is passed on to HEP-CV, whose `\ifhepcv@date` switch is used below. The scheme is also used if HEP-CV has been loaded with the `date` option before.

```
\newif\ifhep@cv@bib@date
\define@key{hepcv}{date}[true]{\csname hep@cv@bib@date#1\endcsname}

\ProcessKeyvalOptions*
```

Load the HEP-CV package and pass the `date` option on. If HEP-CV has already been loaded without it, switch the date scheme on and define the month macros now.

```
\@ifpackageloaded{hep-cv}{}{%
  \ifhep@cv@bib@date\PassOptionsToPackage{date}{hep-cv}\fi
}
\RequirePackage{hep-cv}
\ifhep@cv@bib@date
  \hepcv@datetrue
  \@ifundefined{hep@month}{\hep@date@setup}{}%
\fi
```

C.2 Biblatex

Load the BIBLATEX [21] package and execute bibliography options.

```
\PassOptionsToPackage{style=\hepcv@bibliography}{biblatex}
\RequirePackage{biblatex}
\ExecuteBibliographyOptions{
  maxnames=99,
  uniquename=init,
  abbreviate=false,
  useeditor=false,
}
\ExecuteBibliographyOptions{sorting=ymdnt, defernumbers}
```

C.2.1 Authoryear

Adjust the `authoryear` style. The sorting template is defined in section C.4

```
\ifnum\pdf@strcmp{\hepcv@bibliography}{authoryear}=0
  \ExecuteBibliographyOptions{
    dashed=false,
    sorting=ymdnt
  }
```

`begentry` `finentry` Ensure that the `date` is printed in the left column of the CV. Each entry is a two-column tabular, which starts at the left margin and fills the line. It is opened in `begentry` and closed in `finentry`.

```
  \renewbibmacro{begentry}{%
    \hep@set@main@width
    \addtolength{\hep@main@width}{-\itemindent}%
    \begin{tabular}{%
      @{}>{\raggedleft\arraybackslash}p{\hep@left@width}%
      @{\hspace{\hep@seperator@width}}p{\hep@main@width}@{}%
    }%
    \ifhepcv@date
      \iffieldundef{month}{}{\printfield{month}\space}%
      \iffieldundef{year}{}{\printfield{year}}%
      \iffieldundef{endyear}{}{%
        --\iffieldundef{endmonth}{}{\printfield{endmonth}\space}%
        \printfield{endyear}%
      }%
    \else
      \printdate%
    \fi &%
  }
  \renewbibmacro{finentry}{\finentry\end{tabular}}
\fi
```

C.3 Dates

Begin of date conditionals.

```
\ifhepcv@date
```

Define short names for month without dots.

```
\DefineBibliographyStrings{english}{%
  january = \Jan,
  february = \Feb,
  march = \Mar,
  april = \Apr,
  may = \May,
  june = \Jun,
  july = \Jul,
  august = \Aug,
  september = \Sep,
```

```
  october = \Oct,
  november = \Nov,
  december = \Dec
}
```

\mkbibshortyear Define shortyear with apostrophe. An empty year, such as the end year of the open-ended range `2022-07/`, prints nothing.

```
\DeclareFieldFormat{shortyear}{\ifblank{#1}{}{'\mkbibshortyear{#1}}}
\newcommand*{\mkbibshortyear}[1]{%
  \hep@short@year#1\@empty\@empty\@empty\@empty\@nil%
}
\def\hep@short@year#1#2#3#4#5\@nil{#3#4}
```

Use shortyear

```
\DeclareFieldAlias{year}{shortyear}
\DeclareFieldAlias{endyear}{shortyear}
```

Use superscript ordinals

```
\DefineBibliographyExtras{british}{%
  \protected\def\mkbibordinal#1{\begingroup%
    \@tempcnta0#1\relax\number\@tempcnta
    \@whilenum\@tempcnta>100\do{\advance\@tempcnta-100\relax}%
    \ifnum\@tempcnta>20
      \@whilenum\@tempcnta>9\do{\advance\@tempcnta-10\relax}%
    \fi
    \textsuperscript{%
      \ifcase\@tempcnta th\or st\or nd\or rd\else th\fi%
    }%
  \endgroup}
}
```

Otherwise abbreviate all months to three letters and a dot, also June, July and September, which the English strings of BIBLATEX abbreviate differently. The definitions apply to the long and the short form of the strings, but the dates of the CV use the short forms anyway.

```
\else
\DefineBibliographyStrings{english}{%
  june = {Jun\adddot},
  july = {Jul\adddot},
  september = {Sep\adddot}
}
```

End of date conditional.

```
\fi
```

Format the end month like the month.

```
\DeclareFieldAlias{endmonth}{month}
```

C.4 Sorting Templates

Ensure that also the first author is written as `given-name family-name`

```
\DeclareNameAlias{sortname}{given-family}
```

`ymnt` Define the year-month-name-title sorting scheme

```
\DeclareSortingTemplate{ymnt}{
  \sort{\field{presort}}
  \sort[final]{\field{sortkey}}
  \sort{\field{sortyear}\field{year}\literal{9999}}
  \sort{%
    \field[padside=left, padwidth=2, padchar=0]{month}%
    \literal{9999}%
  }
  \sort{%
    \field[padside=left, padwidth=2, padchar=0]{day}%
    \literal{00}%
  }
  \sort{%
    \field{sortname}\field{author}\field{editor}%
    \field{translator}\field{sorttitle}\field{title}
  }
  \sort{\field{sorttitle}\field{title}}
}
```

`ymdnt` Define the year-month-descending-name-title sorting scheme

```
\DeclareSortingTemplate{ymdnt}{
  \sort{\field{presort}}
  \sort[final]{\field{sortkey}}
  \sort[direction=descending]{%
    \field[strside=left, strwidth=4]{sortyear}%
    \field[strside=left, strwidth=4]{year}\literal{9999}
  }
  \sort[direction=descending]{%
    \field[padside=left, padwidth=2, padchar=0]{month}\literal{00}%
  }
  \sort[direction=descending]{%
    \field[padside=left, padwidth=2, padchar=0]{day}\literal{00}%
  }
  \sort{%
    \field{sortname}\field{author}\field{editor}%
    \field{translator}\field{sorttitle}\field{title}%
  }
  \sort{\field{sorttitle}\field{title}}
}
```

C.5 Bibliography headings

`bibliography` `section` `subsection` `subsubsection`

Redefine the usual bibliography heading from `section` to `subsection`. Define a `section` bibliography heading. Define a `subsection` bibliography heading. Define a `subsubsection` bibliography heading.

```
\defbibheading{bibliography}[\bibname]{\subsection{#1}}
\defbibheading{section}[\bibname]{\section{#1}}
\defbibheading{subsection}[\bibname]{\subsection{#1}}
\defbibheading{subsubsection}[\bibname]{\subsubsection{#1}}
```

C.6 Macros

`related:default` Related bibliography entries.

```
\renewbibmacro*{related:default}[1]{%
  \renewcommand*{\newunitpunct}{\addcomma\space}%
  \entrydata{#1}{\usebibmacro{doi+eprint+url}}%
}
```

`titlefirst` A macro that can be used to places the title at the beginning.

```
\newbibmacro*{titlefirst}{%
  \ifboolexpr{
    test {\iffieldundef{title}}
    and
    test {\iffieldundef{subtitle}}
  }{%
  }{\printtext[title]{%
      \printfield[titlecase]{title}%
      \setunit{\subtitlepunct}%
      \printfield[titlecase]{subtitle}%
    }\newunit%
  }\printfield{titleaddon}%
}
```

`\setlengths` Set bibliography length.

```
\newcommand*{\setlengths}{%
  \setlength{\labelnumberwidth}{\hep@left@width-\hep@seperator@width}%
  \setlength{\labelwidth}{\labelnumberwidth}%
  \setlength{\leftmargin}{\labelwidth}%
  \setlength{\labelsep}{\biblabelsep}%
  \addtolength{\leftmargin}{\labelsep}%
  \setlength{\itemsep}{\bibitemsep}%
  \setlength{\parsep}{\bibparsep}%
  \addtolength{\leftmargin}{\hep@seperator@width}%
  \addtolength{\labelwidth}{\hep@seperator@width}%
}
```

`\printcvdate` Print date in the left column.

```
\newcommand*{\printcvdate}{%
  \printtext{\hfill}%
  \ifkeyword{ongoing}{\printtext{Since} }{}%
  \iffieldundef{day}{}{\printfield{day}\printtext{.\space}}%
  \smash{\vphantom{\printfield{day}}}% Why do I need this?
  \iffieldundef{month}{}{\printfield{month}\space}%
  \tstyle\iffieldundef{year}{}{\printfield{year}}%
  \iffieldundef{endyear}{}{%
    --\iffieldundef{endday}{}{\printfield{endday}. }%
    \iffieldundef{endmonth}{}{\printfield{endmonth}\space}%
    \printfield{endyear}%
  }%
}
```

`\printcvindex` Print index label in the left column. The name differs from `\printindex`, which prints the index with MAKEIDX or IMAKEIDX.

```
\newcommand*{\printcvindex}{%
  \printtext[labelnumberwidth]{%
    \printfield{labelprefix}\tstyle\printfield{labelnumber}%
  }%
}
```

`given-family-bold` Bold names.

```
\DeclareNameFormat{given-family-bold}{%
  \mkbibbold{%
    \ifgiveninits{%
      \usebibmacro{name:given-family}{\namepartfamily}%
      {\namepartgiveni}{\namepartprefix}{\namepartsuffix}%
    }{%
      \usebibmacro{name:given-family}{\namepartfamily}%
      {\namepartgiven}{\namepartprefix}{\namepartsuffix}%
    }%
  \usebibmacro{name:andothers}
  }%
}%
```

`\printissuedate` Print issue and date.

```
\newcommand*{\printissuedate}{%
  % \ifhepcv@date
  \printtext{\hfill}%
  \ifkeyword{ongoing}{\printtext{Since}}{}
  \iffieldundef{issue}{}{\printfield{issue}\space}%
  \tstyle\iffieldundef{year}{}{\printfield{year}}%
  \iffieldundef{endyear}{}{%
    --\iffieldundef{endmonth}{}{\printfield{endmonth}\space}%
    \printfield{endyear}%
  }%
}
```

`\adjustOrgLocDat` Adjust organisation, location, and Date.

```
\newcommand*{\adjustOrgLocDat}{%
  \renewbibmacro*{organization+location+date}{%
    \printlist{organization}\setunit*{\addcomma\space}%
    \printlist{location}\setunit*{\addcomma\space}\newunit%
  }%
}
```

`\cleardate` Clear the date from the entry body, since it is printed in the left column. Besides `issue+date`, the date is printed by the `date` macro, which is used by `organization+location+date` (e.g. `@misc`), `publisher+location+date`, `institution+location+date` and `location+date`.

```
\newcommand*{\cleardate}{%
  \renewbibmacro*{issue+date}{%
    \printfield{issue}%
    \setunit*{\addspace}\newunit
  }%
  \renewbibmacro*{date}{}%
}
```

C.7 Bibliography environments

`unnumbered` (*env.*) Unnumbered bibliography environment.

```
\defbibenvironment{unnumbered}{%
  \toggletrue{blx@skiplab}%
  \cleardate
  \list{\printcvdate}{\setlengths}%
  \renewcommand*{\makelabel}[1]{\hss##1}%
}{\endlist}{\item}
```

`numbered` (*env.*) Numbered bibliography environment.

```
\defbibenvironment{numbered}{%
  \cleardate
  \list{\printcvindex\printcvdate}{\setlengths}%
  \renewcommand*{\makelabel}[1]{\hss##1}%
}{\endlist}{\item}
```

`starrednumbered` (*env.*) Starrred and numbered bibliography environment.

```
\defbibenvironment{starrednumbered}{%
  \cleardate
  \list{%
    \printcvindex%
    \ifkeyword{main5}{\hfill\textborn}{}%
    \printcvdate%
  }{\setlengths}%
  \renewcommand*{\makelabel}[1]{\hss##1}%
}{\endlist}{\item}
```

</bibliography>

D Tests

D.1 Package

<*test-sty>

```
\documentclass{article}

\usepackage{hep-cv}

\author{First Last}
\title{Test}
\date{}

\begin{document}

\maketitle

\tableofcontents

\section{Macros and environments}

\subsection{Macros}

\cvline[left]{cvline example}

\cventry[left]{cvetry example}[one][two]*[starred three][four]
\cventry[left]{cvetry example}[one]
\cventry[left]{cvetry example}

\subsection{Environments}

\subsubsection{Itemize}

\begin{itemize}
\item first
\item second
\end{itemize}

\subsubsection{Enumerate}

\begin{enumerate}
\item first
\item second
\end{enumerate}

\subsubsection{Description}

```

```
\begin{description}
\item[first] one
\item[second] two
\end{description}

\subsubsection{Enumdescript}

\begin{enumdescript}
\item{first} one
\item{second} two
\end{enumdescript}

\end{document}
\end{macro}
```

</test-sty>

D.2 Class

<*test-cls>

```
\documentclass{hep-cv}

\usepackage{blindtext}

\author{First Last}
\address{Address}
\addtitleline{Additional}{Info}
\addcontactline{Contact info}

\setcounter{secnumdepth}{2}
\opening{To whom it may concern,}
\closing{With kind regards,}
\begin{document}

\begin{letter}
Letter content
\end{letter}

\tableofcontents

\clearpage

\section{Title}

\subsection{Short name}

\author{First Last}
\maketitle

\subsection{Long name}
```

```
685
686 \author{{First-name Last-name}}
687 \maketitle
688
689 \subsection{Photo}
690
691 \author{First Last}
692 \photo{picture}
693 \maketitle
694
695 \begin{abstract}
696 \blindtext
697 \end{abstract}
698
699 \blinddocument
700
701 \end{document}
702 \end{macro}
```

</test-cls>

D.3 Bibliography

<*test-bib>

```
703 \documentclass{article}
704
705 \usepackage{hep-cv-bibliography}
706
707 \addbibresource{hep-bibliography-test.bib}
708
709 \nocite{*}
710
711 \begin{document}
712 \printbibliography[env=numbered, heading=section, title=Publications]
713 \end{document}
```

</test-bib>

E Readme

<*readme>

```
714 # The ‘hep-cv‘ package
715
716 Curricula vitae, cover letters and publication lists
717
718 ## Introduction
719
720 The ‘hep-cv‘ package and class provide a compact CV layout for HEP
721 applications. The package defines the left-column CV line and entry
```

```
layout, list styling, month helpers, and bibliography support. The class
adds article-based CV defaults, contact and photo title pages,
cover-letter helpers, section and page styles, and subfile support.

For package-only use:

    \documentclass{article}
    \usepackage{hep-cv}

For complete CV documents use the ‘hep-cv‘ class.

## Author

Jan Hajer

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‘LaTeX‘ Project Public License, either version 1.3c of this license or
(at your option) any later version. The latest version of this license is
in ‘http://www.latex-project.org/lppl.txt‘ and version 1.3c or later is
part of all distributions of LaTeX version 2005/12/01 or later.
```

</readme>

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Change History

v1.2
General: Added to the hep-paper repository with release v2.1: CV layout with a left column, CV entries, standalone loading, paper, font, language, and list options, title, photo, contact, and bibliography helpers, and cover letters. 1
v1.3
General: Added the hep-cv class and the hep-cv-bibliography package, month helpers, title pages, page styles, \cvpart, and \insubfile. 1
v1.4
General: Applied starred command definitions. 1
v1.5
General: Raised the LaTeX format requirement and expanded the documentation, README, and examples. 1
v1.6
General: First release on CTAN. Fixed spurious spaces, made the month macros robust with PDF-string fallbacks and measured their width at use time, documented the date option correctly, and fixed the class \HUGE, PDF title, \cvpart PDF update, letter defaults and starred sections without HYPERREF, and made \insubfile test for the SUBFILES class, so that it also works in the body of subfiles. Renamed the internal \printindex of the bibliography to \printcvindex, which clashed with the index packages. 1