How to format your workshop paper

Tetiana A. Vakaliuk^{1,2,3,4}, Viacheslav V. Osadchyi^{5,4} and Olga P. Pinchuk²

¹Zhytomyr Polytechnic State University, 103 Chudnivsyka Str., Zhytomyr, 10005, Ukraine

²Institute for Digitalisation of Education of the NAES of Ukraine, 9 M. Berlynskoho Str., Kyiv, 04060, Ukraine

³Kryvyi Rih State Pedagogical University, 54 Gagarin Ave., Kryvyi Rih, 50086, Ukraine

⁴Academy of Cognitive and Natural Sciences, 54 Gagarin Ave., Kryvyi Rih, 50086, Ukraine

⁵Borys Grinchenko Kyiv University, 18/2 Bulvarno-Kudriavska Str., Kyiv, 04053, Ukraine

Abstract

A clear and well-documented LATEX document is presented as an article formatted for publication your workshop paper in the CEUR Workshop Proceedings (CEUR-WS). Based on the "ceurart" document class, this article presents and explains many of the common variations, as well as many of the formatting elements an author may use in the preparation of the documentation of their work.

Keywords

LaTeX class, paper template, paper formatting, CEUR-WS

1. On the LATEX

You can freely use any LTEX compatible typesetting system (e.g., TeXStudio + TexLive is a good choice for any operating systems), but if you don't to be involved into the LTEX system administration, we propose to use a cloud based LTEX editors like Overleaf (www.overleaf.com). After registering at www.overleaf.com, you can start your paper revision with this template using 'New Project' – 'Upload Project' menu (figure 1).

6 Your Projects - Ov	rerleaf, Online × +					- 🗆 ×
← → ♂ ⊕ 0	https://www.overleaf.com/project	⊠ ☆	III\ 🗊	0 ± 0	۵ 🎙	• 🗗 » 😑
Överleaf						Ē
New Project	A Search projects					
Blank Project Example Project	□ Title		Owner	Last Modified		Actions
Upload Project						

Figure 1: How to upload your project to Overleaf.

The next step is to select the template archive (figure 2).

To get a camera-ready version of your paper in PDF, you can click to "Download PDF" icon or use 'Menu' to download both LATEX source files (ZIP) and camera-ready version (PDF) (figure 3).

The most-often recommended tutorial is the '(Not So) Short Guide to $\mathbb{E}T_{E}X2\varepsilon$ ' (https://www.ctan.org/tex-archive/info/lshort/).

D 0000-0001-6825-4697 (T.A. Vakaliuk); 0000-0001-5659-4774 (V.V. Osadchyi); 0000-0002-2770-0838 (O.P. Pinchuk)

https://sites.google.com/view/neota/profile-vakaliuk-t (T. A. Vakaliuk);

https://kubg.edu.ua/prouniversitet/vizytivka/rektorat/dyrektory/1175-osadchyi-viacheslav-volodymyrovych.html (V. V. Osadchyi); https://iitlt.gov.ua/eng/structure/detail.php?ID=442 (O. P. Pinchuk)

^{© 02025} Copyright for this paper by its authors. Use permitted under Creative Commons License Attribution 4.0 International (CC BY 4.0).



Figure 2: Overleaf, online LATEX editor.

	Source	PDF	he author and affi Add comment
Ac	tions		G

Figure 3: How to download your project from Overleaf.

2. On the template

This proceedings article template provides a consistent LargeX style for use across workshop publications, and incorporates accessibility and metadata-extraction functionality. This document will explain the major features of the document class¹.

If you are new to publishing with CEUR-WS, this document is a valuable guide to the process of preparing your work for publication.

The "ceurart.cls" document class can be used to prepare articles for any CEUR-WS publication, and for any stage of publication, from review to final "camera-ready" copy with *very* few changes to the source.

This class depends on the following packages for its proper functioning:

- natbib.sty for citation processing;
- geometry.sty for margin settings;
- graphicx.sty for graphics inclusion;
- hyperref.sty optional package if hyperlinking is required in the document;
- fontawesome5.sty optional package for bells and whistles.

All the above packages are part of any standard LaTEX installation. Therefore, the users need not be bothered about downloading any extra packages.

¹You can use this document as the template for preparing your publication. We recommend using the latest version of the ceurart style.

An extra files ceur-ws-logo.pdf and cc-by.pdf are provides the logotypes of CEUR-WS and CC BY 4.0 respectively.

3. Modifications

Modifying the template — including but not limited to: adjusting margins, typeface sizes, line spacing, paragraph and list definitions, and the use of the \space command to manually adjust the vertical spacing between elements of your work — is not allowed.

4. Front matter

4.1. Title information

The titles of papers should be either all use the regular English style. It does not make a good impression if you or your authors mix the styles.

Use the \title command to define the title of your work. Do not insert line breaks in your title.

4.2. Title variants

\title command have the below options:

• title: Document title. This is default option.

```
\title[mode=title]{This is a title}
```

You can just omit it, like as follows:

\title{This is a title}

• sub: Sub title.

```
\title[mode=sub]{This is a sub title}
```

You can just use \subtitle command, as follows:

```
\subtitle{This is a sub title}
```

4.3. Authors and affiliations

Each author must be defined separately for accurate metadata identification. Multiple authors may share one affiliation. Authors' names should not be abbreviated; use full first names wherever possible. Include authors' e-mail addresses whenever possible.

\author command have the below options:

- orcid: ORCID
- email: E-mail
- url: URL

Author names can have some kinds of marks and notes:

- affiliation mark: \author[<num>]
- email: \ead{<email>}
- url: $ead[url] {<url>}$

The author names and affiliations could be formatted in two ways:

1. Group the authors per affiliation.

2. Use an explicit mark to indicate the affiliations.

Author block example:

```
\author[1,2]{Author Name}[%
    orcid=0000-0000-0000,
    email={name@example.com},
    url={https://name.example.com}
]
\address[1]{Affiliation #1}
\address[2]{Affiliation #2}
```

4.4. Abstract and keywords

Abstract shall be entered in an environment that starts with \begin{abstract} and ends with \end{abstract}.

```
\begin{abstract}
  This is an abstract.
\end{abstract}
```

The key words are enclosed in a keywords environment. Use \sep to separate keywords.

```
\begin{keywords}
  First keyword \sep
  Second keyword \sep
  Third keyword \sep
  Fourth keyword
  \end{keywords}
```

At the end of front matter add \maketitle command.

5. Sectioning commands

Your work should use standard $\[Mathbb{E}X\]$ sectioning commands: \section, \subsection, \subsection, \subsection, and \paragraph. They should be numbered; do not remove the numbering from the commands.

Simulating a sectioning command by setting the first word or words of a paragraph in boldface or italicized text is not allowed.

6. Tables

The "ceurart" document class includes the "booktabs" package — https://ctan.org/pkg/booktabs — for preparing high-quality tables.

Tables should be numbered sequentially throughout the text and referred to in the text by number (table 1, etc, **rather than** tab. 1). Each table should be a float and be positioned within the text at the most convenient place near to where it is first mentioned in the text. It should have an explanatory caption which should be as concise as possible. Table captions are placed *above* the table.

Because tables cannot be split across pages, the best placement for them is typically the top of the page nearest their initial cite. To ensure this proper "floating" placement of tables, use the environment table to enclose the table's contents and the table caption. The contents of the table itself must go in

Table 1Frequency of special characters.

Non-English or Math	Frequency	Comments
Ø	1 in 1,000	For Swedish names
π	1 in 5	Common in math
\$	4 in 5	Used in business
Ψ_1^2	1 in 40,000	Unexplained usage

the tabular environment, to be aligned properly in rows and columns, with the desired horizontal and vertical rules.

Immediately following this sentence is the point at which table 1 is included in the input file; compare the placement of the table here with the table in the printed output of this document.

You can find a lot of examples at Overleaf documentation on tables.

7. Math equations

You may want to display math equations in three distinct styles: inline, numbered or non-numbered display. Each of the three are discussed in the next sections.

Equations may be numbered sequentially throughout the text (i.e., (1), (2), (3), ...) or numbered by section (i.e., (1.1), (1.2), (2.1), ...) depending on the author's personal preference. In articles with several appendices equation numbering by section is useful in the appendices even when sequential numbering has been used throughout the main body of the text: for example, A.1, A.2 and so forth. When referring to an equation in the text, always put the equation number in brackets – e.g. 'as in equation (2)' or 'as in equation (2.1)' – and always spell out the word 'equation' in full, e.g. 'if equation (5) is factorized'; do not use abbreviations such as 'eqn.' or 'eq.'.

7.1. Inline (in-text) equations

A formula that appears in the running text is called an inline or in-text formula. It is produced by the math environment, which can be invoked with the usual \begin ... \end construction or with the short form \dots ... \end construction or with the short form \dots ... \end construction or with the short form \dots . You can use any of the symbols and structures, from α to ω ; this section will simply show a few examples of in-text equations in context. Notice how this equation: $\lim_{n\to\infty} \frac{1}{n} = 0$, set here in in-line math style, looks slightly different when set in display style. (See next subsection).

7.2. Display equations

A numbered display equation – one set off by vertical space from the text and centered horizontally – is produced by the equation environment. An unnumbered display equation is produced by the displaymath environment (or equation* with amsmath package).

Again, in either environment, you can use any of the symbols and structures available in LageX; this section will just give a couple of examples of display equations in context. First, consider the equation, shown as an inline equation above:

```
\begin{equation}
\lim_{n\rightarrow \infty} \frac{1}{n} = 0.
\end{equation}
```

$$\lim_{n \to \infty} \frac{1}{n} = 0. \tag{1}$$

Notice how it is formatted somewhat differently in the displaymath environment. Now, we'll enter an unnumbered equation:

 $\label{eq:started} $$ S_{n} = \sum_{i=1}^{n} x_{i} , $$ end{displaymath} $$$

$$S_n = \sum_{i=1}^n x_i$$

and follow it with another numbered equation:

```
\begin{equation} label{lim} \\ lim_{x \to 0} (1 + x)^{1/x} = e \\ end{equation} \end{cases}
```

$$\lim_{x \to 0} (1+x)^{1/x} = e \tag{2}$$

just to demonstrate LATEX's able handling of numbering.

Usually, equations should be centred and should be numbered with the number on the right-hand side. (You can find an additional examples of alignment at *Overleaf documentation on aligning equations with amsmath*).

Using \label{equation} you can refer to corresponding equation (e.g., equation (2)) by number.

8. Figures

Figures must be included in the source code of an article at the appropriate place in the text not grouped together at the end.

Each figure should have a brief caption describing it and, if necessary, interpreting the various lines and symbols on the figure. As much lettering as possible should be removed from the figure itself and included in the caption. If a figure has parts, these should be labelled (a), (b), (c), etc.

Authors should try and use the space allocated to them as economically as possible. Place the figure as close as possible after the point where it is first referenced in the text. If there are a large number of figures it might be necessary to place some before their text citation. Figures should never appear within or after the reference list.

Individual figures should normally be centred but place two figures side-by-side if they will fit comfortably like this as it saves space. At times it may be convenient to put two figures side by side or the caption at the side of a figure. To put figures side by side, within a figure environment, put each figure and its caption into a minipage with an appropriate width (e.g. 3in or 18pc if the figures are of equal size) and then separate the figures slightly by adding some horizontal space between the two minipages (e.g. $hspace{.2in}$ or $hspace{1.5pc}$. To get the caption at the side of the figure add the small horizontal space after the includegraphics command and then put the caption within a minipage of the appropriate width aligned bottom, i.e. $begin{minipage}[b]{3in} etc.$

The "figure" environment should be used for figures. One or more images can be placed within a figure.

Your figures should contain a caption which describes the figure to the reader (see figure 6). Figure captions go below the figure. Your figures should also include a description suitable for screen readers, to assist the visually-challenged to better understand your work.

For figures with fixed position in text use syntax of figure 6:

```
\begin{figure}[h]
\centering
\includegraphics[width=0.75\linewidth]{img/example-franklin}
\caption{1907 Franklin Model D roadster.}
\label{fig-0}
\end{figure}
```



Figure 4: Figure caption for first of two sided figures.



Figure 5: Figure caption for second of two sided figures.

If a figure has parts these should be labelled as (a), (b), (c) etc on the actual figure. Parts should not have separate captions (see figure 7).

```
\begin{figure}[t]
\begin{center}
\begin{minipage}[b]{0.47\columnwidth}
\includegraphics[width=1\columnwidth]{img/name.eps}
\begin{center}(a)\end{center}
\end{minipage}
\hspace{0.04\columnwidth}
\begin{minipage}[b]{0.47\columnwidth}
\includegraphics[width=1\columnwidth]{img/name.eps}
\begin{center}(b)\end{center}
\end{minipage}
\end{center}
\caption{\label{fig5}A caption of figure of two parts, (a) and (b).}
\end{figure}
```

8.1. Colour illustrations

You are free to use colour illustrations.

8.1.1. Remark

Use over 300 dpi resolution for your figures (we prefer 600 dpi).

One more remark Don't use the lossy compressed images (e.g., JPEG).



Figure 6: Mrs. F. S. Bliven in auto (circa 1908).

9. Citations and bibliographies

References should be cited in the text by placing sequential numbers in brackets using \cite (for example, [1], [2, 3, 4]) and \citet (for example, Spirin [5], Osadcha and Osadchyi [6], Vakaliuk et al. [7]). A complete reference should provide enough information to locate the article. The terms *loc. cit.* and *ibid.* should not be used.

Unpublished conferences and reports should generally not be included in the reference list and articles in the course of publication should be entered only if the journal of publication is known.

A thesis submitted for a higher degree may be included in the reference list if it has not been superseded by a published paper and is available through a library; sufficient information should be given for it to be traced readily.

9.1. Formatting reference lists

The use of BibTEX for the preparation and formatting of one's references is mandatory.

The bibliography is included in your source document with this command, placed just before the \end{document} command:

```
\bibliography{bibfile}
```

where "bibfile" is the name, without the ".bib" suffix, of the BibTEX file.



reserved for figure

(b)

(--)

Figure 7: A caption of figure of two parts, (a) and (b).

10. Bibliographic data fields

10.1. References to printed journal articles

A normal reference to a journal article is constructed as follows [8]:

10.2. References to CEUR-WS articles

Each conference proceeding published in CEUR-WS will be a separate *volume*; references should follow the style for conventional printed journals. For example [9]:

```
year = {2021},
url = {http://ceur-ws.org/Vol-2898/paper09.pdf},
}
```

CEUR-WS papers listed in DBLP (https://dblp.org/) can be cited as follows

```
@inproceedings{DBLP:conf/aredu/SemerikovMM21,
  author = {Serhiy 0. Semerikov and
            Mykhailo M. Mintii and Iryna S. Mintii},
  editor = {Svitlana H. Lytvynova and Serhiy O. Semerikov},
  title = {Review of the course { 'Development of Virtual
           and Augmented Reality Software''} for {STEM} teachers:
           implementation results and improvement potentials},
  booktitle = {{Proceedings of the 4th International Workshop on
                Augmented Reality in Education (AREdu 2021),
                Kryvyi Rih, Ukraine, May 11, 2021}},
            = {{CEUR Workshop Proceedings}},
  series
  volume
            = \{2898\},\
            = \{159 - -177\},\
  pages
  publisher = {CEUR-WS.org},
  year
            = \{2021\},\
            = {http://ceur-ws.org/Vol-2898/paper09.pdf},
  url
}
```

10.3. References to books, conference proceedings and reports

References to books, proceedings and reports are similar to journal references:

• Complete book

```
@book{Morkun,
author = {Vladimir Morkun and Serhiy Semerikov
and Svitlana Hryshchenko},
title = {Methods of Using Geoinformation Technologies
in Mining Engineers' Training},
year = {2018},
publisher = {Cambridge Scholars Publishing},
address = {Newcastle upon Tyne},
url={https://www.cambridgescholars.com/product/978-1-5275-1615-1}
}
```

• Book in series

```
@book{Dirac:1958,
author = {P. A. M. Dirac},
title = {The Principles of Quantum Mechanics},
series = {The International Series of Monographs on Physics},
number = {27},
edition = {4},
publisher = {Clarendon Press},
address = {Oxford},
year = {1967}
}
```

Book chapter or some part of book

```
@inbook{Humboldt:ch1,
publisher = {Cambridge University Press},
year = {1999},
title = {{On Language: On the Diversity of Human Language
Construction and its Influence on the Mental Development
of the Human Species}},
series={{Cambridge Texts in the History of Philosophy}},
author = {Wilhelm {Von Humboldt}},
editor={Michael Losonsky},
chapter={1},
pages={11-22},
}
```

```
(You can also cite any part of book using \cite[pp.~110--113]{Dirac:1958} or \cite[chapter 4, pp.~98--105]{Dirac:1958})
```

Authored chapter

```
@Incollection{Shramko2016,
author="Shramko, Yaroslav",
editor="Bimb{\'o}, Katalin",
title={{Truth, Falsehood, Information and Beyond:
        The American Plan Generalized}},
bookTitle={{J. Michael Dunn on Information Based Logics}},
year="2016",
publisher="Springer International Publishing",
address="Cham",
pages="191--212",
isbn="978-3-319-29300-4",
doi="10.1007/978-3-319-29300-4_11",
}
```

• Article in conference proceedings

```
@inproceedings{DBLP:conf/dhw/SemerikovMM21,
         = {Serhiv 0. Semerikov and
author
Iryna S. Mintii and
Rusudan K. Makhachashvili},
title
          = {Digital Humanities Event Horizon},
booktitle = {{DHW} 2021: Digital Humanities Workshop,
             Kyiv, Ukraine, 23 December 2021},
         = \{1-28\},\
pages
publisher = \{\{ACM\}\},\
year
          = \{2021\},\
doi
          = \{10.1145/3526242.3526243\},\
}
```

or @conference or @incollection.

How to Cite Osadchvi, V. V., Valko, N. V., & Kushnir, N. O. (2020). **Export Citations** DESIGN OF THE EDUCATIONAL ENVIRONMENT FOR STEM-ORIENTED LEARNING. Information Technologies and Learning Tools, 75(1), 316-330. BibTeX × https://doi.org/10.33407/itlt.v75i1.3213 More Citation Formats ACM @article{10.1145/3178315.3178327, author = {Lee, Amanda}, title = {One-Time Contributors to FLOSS: Surveys and Data ACS APA Analysis}, RESEARCH-ARTICLE vear = {2018} ABNT sea = [2010]; issue_date = {January 2018}, publisher = {Association for Computing Machinery}, address = {New York, NY, USA}, One-Time ata Chicag Harv Analysis volume = {43}, $number = \{1\},\$ IEEE in 🔨 issn = {0163-5948}, url = {https://doi.org/10.1145/3178315.3178327}, MLA Turabian Author: (2) Amanda 🕈 🖻 Vancouve Download Citation ACM SIGSOFT Software Engineering Notes, Volume 43, Issue 1 • January 2018 • pp 1-6 • https://doi.org/10.1145 La Endnote/Zotero/Mendeley (RIS) /3178315.3178327 📥 ВіБТ (b) (a) Export document settings 📀 Select your method of export Cite This O R MENDELEY O EXLIDIS All O RIS Format O CSV 🔘 BibTeX BibTeX Plain Text RIS Refworks EndNote, Excel Reference Manager Citation & Abstract 🗘 Copy | 🕹 Download What information do you want to export? of HT V/s @ARTICLE{1580868, author={Fuks, D. and Kiv, A. and Roizin, Y. and Gutman, M. and Avichail-Bibi, R. and Maxim-journal={IEEE Transactions on Electron Devices}, title={The nature of HT V/sub t/ shift in NROM memory transistors}, Cite This Citation information Bibliographical information year={2006}, Author(s) ☐ Affiliations volume={53}, □ Serial identifiers (e.g. ISSN) Author(s) ID number={2} pages={304-313} PubMed ID Document title doi={10.1109/TED.2005.862236}} Year Publisher 🗆 EID Editor(s) Source title □ Language of original document Abstract: Physical mechanisms of VJsub t/ shift in NROM (micro FLASH) memory transistors microFLASH memory is the trademark of Tower Semiconductor Ltd. microFLASH is based on the NROM technology. NROM is the trademark of Saifun Semiconductor Ltd. after cycling are considered. Computer simulation is combined with analytical description of kinetics of "fast" V/sub t/ shift after cycling. The distinguishing feature of the developed model is its consistency with the positions of trapped charges obtained from charge pumping measurements and account for Coulomb correlation effects in the dynamics of injected charges in ONA. Accumulation of Abstract: volume, issue, pages Correspondence address Citation count Abbreviated source title □ Source & document type Publication Stage DOI Open Access (d) (c) Decision Making: Algorithms and Abilities Free Full Text from Publisher Full Text Links 🛩 Export ^ Add To Nadia Kabachi ¹ 🖾, Arnold Kiv ^{2, 3} 🖾 EndNote online EndNote desktor IESIEA-Recherche, Franc THE CLOUD TECHNOLOGIES OF LEARNING: ORIGIN Add to my Publons pro Ben-Gurion University of the Negev, Israel lain text file /a, OM (Markova, Oksana M.) ¹; Sem South-Ukrainian Pedagos By: Marke View Web of Science ResearcherID and ORCID (provided by Clarivate) BibTeX Available online 19 May 2017. INFORMATION TECHNOLOGIES AND LEARNING TOOLS Volume: 46 Issue: 2 Page: 29-44 DOI: 10.33407/itl:v46/21.234 Published: 2015 Document Type: Article Tab delimited file Show less Printable HTML file + Add to Mendeley 🚓 Share 🤧 Cite Abstract aal is to investigate the evolution of the concept of ut ts and expanded overview of the D. F. Parkhill's resul ation. Functionally identity of the computer utility an odels. There was proposed the interpretation of the er the past 55 years and their relationship with the de prospects of the dowlengement of the property of the dowlengement of t irch goal is to ii 59-1966. First the A O. Mann's re https://doi.org/10.1016/S1474-6670(17) Get right Save to Refworks > Export citation to RIS Abstract Keywords Author Keywords: In this paper, the decision-malo > Export citation to BibTeX group was (f) (e)

Figure 8: Export citations into a BibTEX file.

10.4. A case of non-Latin source

When non-Latin alphabet publication cited, the title of the publication (e.g., book or article) in the original language need to be both transliterated and translated in English. Other bibliographic components (including authors, publisher, address and journal name) are transliterated only [1]:

@article{IA2000,

```
author ={Semerikov, S. O. and Soloviov, V. M. and Teplytskyi, I. O.},
year=2000,
title= {Instrumentalne zabezpechennia kursu kompiuternoho modeliuvannia
       [{I}nstrumental support of the course of computer modeling]},
journal= {Kompiuter u shkoli i simi},
number=4,
pages={28-31},
url={https://lib.iitta.gov.ua/704129/}
}
```

10.5. Best practices: export citations into a BibTEX file

A good way to make your bibliography is to exclude manual creation bibliography items whenever it possible. We strongly recommend to use the "Cite" (export) facilities to BibTEX which available in the most of OJS installations (figure 8a), ACM Digital Library (figure 8b), Scopus (figure 8c), IEEE Xplore (figure 8d), ScienceDirect (figure 8e), Web of Science (figure 8f) etc.

10.6. Some examples

A paginated journal article [2], an enumerated journal article [10, 11], a monograph (whole book) [3], a monograph/whole book in a series [12], a divisible-book such as an anthology or compilation [4] followed by the same example, however we only output the series if the volume number is given [13] (so series should not be present since it has no volume number), a chapter in a divisible book [14], a chapter in a divisible book in a series [15], a multi-volume work as book [16], an article in a proceedings (of a conference, symposium, workshop for example) (paginated proceedings article) [17, 18], a proceedings article with all possible elements [19], an informally published work [20], a doctoral dissertation [21], a master's thesis: [22], an online document / world wide web resource [23, 24, 25], a video game (Case 1) [26] and (Case 2) [27] and [28] and (Case 3) a patent [29], work accepted for publication [30]. Multi-volume works as books [31] and [32]. A couple of citations with DOIs: [33, 34]. Online citations: [35, 23, 36, 37].

A lot of citations with \cite: [38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64].

Same citations with \citet: Shramko and Rossman [38], Zhaldak [39], Kiv et al. [40], Shramko and Wansing [41], Descartes [42], Plato [43], Teplytskyi [44], Zhaldak [45], Shramko [46], Osadchyi et al. [47], Puu and Sushko [48], Russell [49], Koryakova and Epimakhov [50], Semerikov et al. [51], Trius et al. [52], Konoplya [53], Morkun et al. [54], Saptsin and Soloviev [55], Kalitkin and Kuz'mina [56], Haveman and Gualtieri [57], Kerley [58], Sutherland [59], Von Humboldt [60], Shramko [61], Dirac [62], Tkachuk et al. [63], Goncharov et al. [64].

11. Ethical disclaimers

A disclaimer is a note of disclaimer of responsibility [?]. For example, authors' statements about conflicts of interest, author contributions, acknowledgements, etc.

Authors should not prepare these disclaimers as a numbered or unnumbered \section; please use the special environments instead.

11.1. Author contributions

The Committee on Publication Ethics (COPE) draws attention to the problem of authorship [?]. The CRediT system (https://credit.niso.org/) is proposed to formalize author roles. The CRediT (Contributor Roles Taxonomy) offers 14 possible author roles [?]. This is not really a taxonomy, but a faceted classification. Author roles are not always independent in themselves.

The following statements should be used Conceptualization, X.X. and Y.Y.; methodology, X.X.; software, X.X.; validation, X.X., Y.Y. and Z.Z.; formal analysis, X.X.; investigation, X.X.; resources, X.X.; data curation, X.X.; writing—original draft preparation, X.X.; writing—review and editing, X.X.; visualization, X.X.; supervision, X.X.; project administration, X.X.; funding acquisition, Y.Y. Please add at the end of the statement: All authors have read and agreed to the published version of the manuscript.

This section has a special environment:

\begin { authorcontributions }
 ...
\end { authorcontributions }

11.2. Funding

Disclaimer *funding* refers primarily to external funding if the research was externally initiated. If the research is entirely the initiative of the author's team, it is better to indicate gratitude for partial funding of some of the stages of the research in the *Acknowledgments* section. The fact that the author's team has received external funding should be recorded in the disclaimer as a matter of course. When mentioning the sponsor, its exact data (name of the organization, grant number, etc.) and the country of its location should be specified (for example *This research was funded by NAME OF FUNDER grant number XXX*). If there is any support, it is recommended to clarify in the *Conflicts of interest* section at which stages of the research and how the support was used. If there is no external funding, it is written: *This research received no external funding*. If it is impossible to obtain information from the authors about the source of funding, then write: *Not specified*.

This section has a special environment:

begin { funding } ... **end** { funding }

11.3. Data availability statement

Data are particularly important in reproducible researches. The data availability statement tells the reader where the research data related to the article are located and under what conditions the data can be accessed. References to the dataset are also provided.

If no new data is created or analyzed, please write: *No new data were created or analyzed in this study. Data sharing is not applicable.*

This section has a special environment:

\begin { dataavailability }
 ...
\end{ dataavailability }

11.4. Conflicts of interest

This disclaimer must be included.

Conflicts of interest can comment on various aspects, but usually the author's past or current employment is indicated. Grants (especially from for-profit companies) received not only by the author but also by the organization for which he or she works are indicated. If the author is associated with a sponsor, it is indicated where the research was conducted.

If there is no conflict of interest, then the corresponding statement should also be included: *The authors declare no conflict of interest*.

This section has a special environment:

```
\begin { conflictsofinterest }
...
\end { conflictsofinterest }
```

11.5. Acknowledgments

Identification of funding sources and other support, and thanks to individuals and groups that assisted in the research and the preparation of the work should be included in an acknowledgment section, which is placed just before the reference section in your document.

This section has a special environment:

```
\begin { acknowledgments }
    These are different acknowledgments .
    \end { acknowledgments }
```

so that the information contained therein can be more easily collected during the article metadata extraction phase, and to ensure consistency in the spelling of the section heading.

11.6. Declaration on Generative Al

Either: The author(s) have not employed any Generative AI tools.

or (by using the activity taxonomy in https://ceur-ws.org/genai-tax.html): During the preparation of this work, the author(s) used X-GPT-4 and Gramby in order to: Grammar and spelling check. Further, the author(s) used X-AI-IMG for figures 3 and 4 in order to: Generate images. After using these tool(s)/service(s), the author(s) reviewed and edited the content as needed and take(s) full responsibility for the publication's content.

This section has a special environment:

```
\begin { aideclaration }
    ...
\end { aideclaration }
```

12. Appendices

If your work needs an appendix, add it before the $\end{document}$ command at the conclusion of your source document.

Start the appendix with the \appendix command:

```
\ appendix
```

and note that in the appendix, sections are lettered, not numbered.

Author Contributions: Conceptualization, Manfred Jeusfeld and Ilaria Tiddi; methodology, Manfred Jeusfeld; writing—original draft preparation, Dmitry S. Kulyabov; writing—review and editing, Manfred Jeusfeld. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Data Availability Statement: No new data were created or analysed during this study. Data sharing is not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

Acknowledgments: Thanks to the developers of ACM consolidated LaTeX styles https://github.com/borisveytsman/ acmart and to the developers of Elsevier updated LTEX templates https://www.ctan.org/tex-archive/macros/latex/contrib/ els-cas-templates.

Declaration on Generative AI: The authors have not employed any Generative AI tools.

References

- S. O. Semerikov, V. M. Soloviov, I. O. Teplytskyi, Instrumentalne zabezpechennia kursu kompiuternoho modeliuvannia [Instrumental support of the course of computer modeling], Kompiuter u shkoli i simi (2000) 28–31. URL: https://lib.iitta.gov.ua/704129/.
- [2] A. E. Kiv, V. N. Soloviev, The grasshopper effect in the diamond lattice, physica status solidi (b) 94 (1979) K91-K95. doi:10.1002/pssb.2220940160.
- [3] V. Morkun, S. Semerikov, S. Hryshchenko, Methods of Using Geoinformation Technologies in Mining Engineers' Training, Cambridge Scholars Publishing, Newcastle upon Tyne, 2018. URL: https://www.cambridgescholars.com/product/978-1-5275-1615-1.
- [4] I. Editor (Ed.), The title of book one, volume 9 of *The name of the series one*, 1st. ed., University of Chicago Press, Chicago, 2007. doi:10.1007/3-540-09237-4.
- [5] O. Spirin, The Present-Day Tendencies of Teaching Informatics in Ukraine, in: From Computer Literacy to Informatics Fundamentals, volume 3422 of *Lecture Notes in Computer Science*, Springer Berlin Heidelberg, Berlin, Heidelberg, 2005, pp. 75–83. doi:10.1007/978-3-540-31958-0_10.
- [6] K. P. Osadcha, V. V. Osadchyi, The use of cloud computing technology in professional training of future programmers, CEUR Workshop Proceedings 2879 (2020) 155–164. URL: http://ceur-ws.org/ Vol-2879/paper05.pdf.
- [7] T. A. Vakaliuk, O. M. Spirin, N. M. Lobanchykova, L. A. Martseva, I. V. Novitska, V. V. Kontsedailo, Features of distance learning of cloud technologies for the organization educational process in quarantine, Journal of Physics: Conference Series 1840 (2021). doi:10.1088/1742-6596/1840/ 1/012051.
- [8] A. Striuk, Formation of software design skills among software engineering students, Educational Dimension 58 (2022) 1–21. doi:10.31812/educdim.4519.
- [9] S. O. Semerikov, M. M. Mintii, I. S. Mintii, Review of the course "Development of Virtual and Augmented Reality Software" for STEM teachers: implementation results and improvement potentials, CEUR Workshop Proceedings 2898 (2021) 159–177. URL: http://ceur-ws.org/Vol-2898/ paper09.pdf.
- [10] T. Kavetskyy, M. Alipour, O. Smutok, O. Mushynska, A. Kiv, D. Fink, F. Farshchi, E. Ahmadian, M. Hasanzadeh, Magneto-immunoassay of cancer biomarkers: Recent progress and challenges in biomedical analysis, Microchemical Journal 167 (2021) 106320. doi:10.1016/j.microc.2021. 106320.
- [11] S. O. Semerikov, A. M. Striuk, T. A. Vakaliuk, A. V. Morozov, Quantum information technology on the Edge, CEUR Workshop Proceedings 2850 (2021) 1–15. URL: http://ceur-ws.org/Vol-2850/ paper0.pdf.
- [12] D. Harel, First-Order Dynamic Logic, volume 68 of *Lecture Notes in Computer Science*, Springer-Verlag, New York, NY, 1979. doi:10.1007/3-540-09237-4.
- [13] I. Editor (Ed.), The title of book two, The name of the series two, 2nd. ed., University of Chicago Press, Chicago, 2008. doi:10.1007/3-540-09237-4.
- [14] A. Z. Spector, Achieving application requirements, in: S. Mullender (Ed.), Distributed Systems, 2nd. ed., ACM Press, New York, NY, 1990, pp. 19–33. doi:10.1145/90417.90738.
- [15] B. P. Douglass, D. Harel, M. B. Trakhtenbrot, Statecarts in use: structured analysis and objectorientation, in: G. Rozenberg, F. W. Vaandrager (Eds.), Lectures on Embedded Systems, volume 1494 of *Lecture Notes in Computer Science*, Springer-Verlag, London, 1998, pp. 368–394. doi:10. 1007/3-540-65193-4_29.
- [16] D. E. Knuth, The Art of Computer Programming, Vol. 1: Fundamental Algorithms (3rd. ed.), Addison Wesley Longman Publishing Co., Inc., 1997.
- [17] S. Andler, Predicate path expressions, in: B. K. Rosen (Ed.), Proceedings of the 6th. ACM SIGACT-SIGPLAN symposium on Principles of Programming Languages, POPL '79, ACM Press, New York, NY, 1979, pp. 226–236. doi:10.1145/567752.567774.
- [18] R. Makhachashvili, I. Semenist, Digital competencies and soft skills for final qualification assessment: Case study of students of foreign languages programs in India, in: 2021 The 7th International

Conference on Frontiers of Educational Technologies, Association for Computing Machinery, New York, NY, USA, 2021, p. 21–30. doi:10.1145/3473141.3473222.

- [19] S. W. Smith, An experiment in bibliographic mark-up: Parsing metadata for xml export, in: R. N. Smythe, A. Noble (Eds.), Proceedings of the 3rd. annual workshop on Librarians and Computers, volume 3 of *LAC '10*, Paparazzi Press, Milan Italy, 2010, pp. 422–431. doi:99.9999/woot07-5422.
- [20] D. Harel, LOGICS of Programs: AXIOMATICS and DESCRIPTIVE POWER, MIT Research Lab Technical Report TR-200, Massachusetts Institute of Technology, Cambridge, MA, 1978.
- [21] K. L. Clarkson, Algorithms for Closest-Point Problems (Computational Geometry), Ph.D. thesis, Stanford University, Palo Alto, CA, 1985. doi:10.5555/911891, UMI Order Number: AAT 8506171.
- [22] D. A. Anisi, Optimal Motion Control of a Ground Vehicle, Master's thesis, Royal Institute of Technology (KTH), Stockholm, Sweden, 2003. URL: https://people.kth.se/~anisi/articles/masters_ thesis.html.
- [23] H. Thornburg, Introduction to Bayesian Statistics, 2001. URL: http://ccrma.stanford.edu/~jos/bayes/ bayes.html.
- [24] R. Ablamowicz, B. Fauser, CLIFFORD: a Maple 11 Package for Clifford Algebra Computations, version 11, 2007. URL: http://math.tntech.edu/rafal/cliff11/index.html.
- [25] Poker-Edge.Com, Stats and analysis, 2006. URL: http://www.poker-edge.com/stats.php.
- [26] B. Obama, A more perfect union, Video, 2008. URL: http://video.google.com/videoplay?docid= 6528042696351994555.
- [27] D. Novak, Solder man, in: ACM SIGGRAPH 2003 Video Review on Animation theater Program: Part I - Vol. 145 (July 27–27, 2003), ACM Press, New York, NY, 2003, p. 4. URL: http://video.google. com/videoplay?docid=6528042696351994555.
- [28] N. Lee, Interview with Bill Kinder: January 13, 2005, Comput. Entertain. 3 (2005). doi:10.1145/ 1057270.1057278.
- [29] J. Scientist, The fountain of youth, 2009. Patent No. 12345, Filed July 1st., 2008, Issued Aug. 9th., 2009.
- [30] B. Rous, The enabling of digital libraries, Digital Libraries 12 (2022). To appear.
- [31] L. Hörmander, The analysis of linear partial differential operators. IV, volume 275 of *Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences]*, Springer-Verlag, Berlin, Germany, 1985. Fourier integral operators.
- [32] L. Hörmander, The analysis of linear partial differential operators. III, volume 275 of *Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences]*, Springer-Verlag, Berlin, Germany, 1985. Pseudodifferential operators.
- [33] IEEE, IEEE TCSC Executive Committee, in: Proceedings of the IEEE International Conference on Web Services, ICWS '04, IEEE Computer Society, Washington, DC, USA, 2004, pp. 21–22. doi:10.1109/ICWS.2004.64.
- [34] M. Kirschmer, J. Voight, Algorithmic enumeration of ideal classes for quaternion orders, SIAM J. Comput. 39 (2010) 1714–1747. doi:10.1137/080734467.
- [35] TUG, Institutional members of the TEX users group, 2017. URL: http://www.tug.org/instmem.html.
- [36] R Core Team, R: A language and environment for statistical computing, 2019. URL: https://www. R-project.org/.
- [37] S. Anzaroot, A. McCallum, UMass citation field extraction dataset, 2013. URL: http://www.iesl.cs. umass.edu/data/data-umasscitationfield.
- [38] Y. Shramko, V. Rossman, Continental and analytical philosophy and intellectual multi-layerism
 an interview with the philosopher Vadim Rossman, Voprosy filosofii (2002) 106–123. URL: https://kdpu.edu.ua/shramko/files/2002_Voprosy_Filosofii_Dialog.pdf.
- [39] M. I. Zhaldak, On the Chebyshev approximation of a continuous function by a polynomial with coefficients subject to limitation, Dokl. Akad. Nauk SSSR 159 (1964) 493–496. URL: http://mi.mathnet.ru/dan30377.
- [40] A. E. Kiv, V. A. Molyako, V. L. Maloryan, I. A. Polozovskaya, Z. I. Iskanderova, The creative thinking testing by using of testing problems based on different logical schemes, Advances in Human Factors/Ergonomics 20 (1995) 443–447. doi:10.1016/S0921-2647(06)80256-X.

- [41] Y. Shramko, H. Wansing, Truth and falsehood: An inquiry into generalized logical values, Springer Netherlands, 2012. doi:10.1007/978-94-007-0907-2.
- [42] R. Descartes, The birth of peace, Common Knowledge 20 (2014) 371–386. doi:10.1215/ 0961754X-2423052.
- [43] Plato, 'Statue of Pan', Parnassus: Poetry in Review 28 (2004) 123.
- [44] I. O. Teplytskyi, Rozvytok tvorchykh zdibnostei shkoliariv zasobamy kompiuternoho modeliuvannia [Development of pupils' creative capacities by means of computer simulation], The thesis for the degree of candidate of pedagogical sciences on speciality 13.00.02 – theory and methods of teaching informatics, Kryvyi Rih State Pedagogical University, 2000. URL: http://elibrary.kdpu.edu.ua/handle/0564/1599.
- [45] M. I. Zhaldak, 2021. Private communication.
- [46] Y. Shramko, Intuitionismus und Relevanz, volume 3 of *Logische Philosophie*, Logos-Verlag, Berlin, 1999.
- [47] V. Osadchyi, K. Osadcha, V. Eremeev, The model of the intelligence system for the analysis of qualifications frameworks of European countries, International Journal of Computing 16 (2017) 133–142. doi:10.47839/ijc.16.3.896.
- [48] T. Puu, I. Sushko, Business cycle dynamics: Models and tools, Springer Berlin Heidelberg, 2006. doi:10.1007/3-540-32168-3.
- [49] B. Russell, History of Western Philosophy and its Connection with Political and Social Circumstances from the Earliest Times to the Present Day, George Allen & Unwin Ltd, London, 1947. URL: https://archive.org/details/westernphilosoph035502mbp/page/2/mode/2up.
- [50] L. Koryakova, A. Epimakhov, The Urals and Western Siberia in the Bronze and Iron Ages, Cambridge University Press, 2007. doi:10.1017/CB09780511618451.
- [51] S. O. Semerikov, I. O. Teplytskyi, V. N. Soloviev, V. A. Hamaniuk, N. S. Ponomareva, O. H. Kolgatin, L. S. Kolgatina, T. V. Byelyavtseva, S. M. Amelina, R. O. Tarasenko, Methodic quest: Reinventing the system, Journal of Physics: Conference Series 1840 (2021) 012036. doi:10.1088/1742-6596/ 1840/1/012036.
- [52] Y. V. Trius, V. N. Solov'ev, O. A. Serdyuk, O. V. Piskun, Regional educational portal as the main information resource for supporting continuous education and open learning, Upravlyayushchie Sistemy i Mashiny (2004) 74–81.
- [53] R. A. Konoplya, Quasinormal modes of a small Schwarzschild Anti-de Sitter black hole, Physical Review D 66 (2002) 044009. doi:10.1103/PhysRevD.66.044009.
- [54] V. Morkun, S. Semerikov, S. Hryshchenko, Environmental competency of future mining engineers, Metallurgical and Mining Industry 6 (2014) 4–7. URL: https://www.metaljournal.com.ua/ environmental-competency-of-future-mining-engineers/.
- [55] V. Saptsin, V. Soloviev, Relativistic quantum econophysics new paradigms in complex systems modelling, 2009. arXiv:https://arXiv.org/abs/0907.1142.
- [56] N. N. Kalitkin, L. V. Kuz'mina, Tables of thermodynamic functions of matter at high concentration of energy, Preprint 35, Institute of Applied Mathematics of the USSR Academy of Sciences, Moscow, 1975.
- [57] H. A. Haveman, G. Gualtieri, Institutional logics, 2016. URL: https://osf.io/preprints/socarxiv/3pv2k. doi:10.31235/osf.io/3pv2k.
- [58] G. I. Kerley, Equations of state for titanium and Ti6A14V alloy, Report SAND 2003-3785, Sandia National Laboratories, Albuquerque, NM, 2003.
- [59] I. E. Sutherland, A futures market in computer time, Communications of the ACM 11 (1968) 449-451. doi:10.1145/363347.363396.
- [60] W. Von Humboldt, On Language: On the Diversity of Human Language Construction and its Influence on the Mental Development of the Human Species, Cambridge Texts in the History of Philosophy, Cambridge University Press, 1999, pp. 11–22.
- Y. Shramko, Truth, Falsehood, Information and Beyond: The American Plan Generalized, in:
 K. Bimbó (Ed.), J. Michael Dunn on Information Based Logics, Springer International Publishing, Cham, 2016, pp. 191–212. doi:10.1007/978-3-319-29300-4_11.

- [62] P. A. M. Dirac, The Principles of Quantum Mechanics, number 27 in The International Series of Monographs on Physics, 4 ed., Clarendon Press, Oxford, 1967.
- [63] V. Tkachuk, Y. Yechkalo, S. Semerikov, M. Kislova, Y. Hladyr, Using Mobile ICT for Online Learning During COVID-19 Lockdown, in: A. Bollin, V. Ermolayev, H. C. Mayr, M. Nikitchenko, A. Spivakovsky, M. Tkachuk, V. Yakovyna, G. Zholtkevych (Eds.), Information and Communication Technologies in Education, Research, and Industrial Applications, Springer International Publishing, Cham, 2021, pp. 46–67. doi:10.1007/978-3-030-77592-6_3.
- [64] I. G. Goncharov, A. S. Davidkovich, A. P. Polishchuk, L. G. Sevriuk, Avtomaticheskoe regulirovanie zagruzki okatyshei na obzhigovuiu mashinu [Automatic regulation of the loading of pellets on the roasting machine], Gornyj Zhurnal (1966) 52–55. URL: https://jglobal.jst.go.jp/detail?JGLOBAL_ ID=201602008610939390.

A. Appendix

If your work needs an appendix, add it before the " $\end{document}$ " command at the conclusion of your source document.

Start the appendix with the "\appendix" command:

\appendix

and note that in the appendix, sections are lettered, not numbered.