

**The Name of the Title Is Hope**

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A clear and well-documented L<sup>A</sup>T<sub>E</sub>X document is presented as an article formatted for publication by ACM in a conference proceedings or journal publication. Based on the “acmart” 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.

CCS Concepts: • **Do Not Use This Code → Generate the Correct Terms for Your Paper**; *Generate the Correct Terms for Your Paper*; Generate the Correct Terms for Your Paper; Generate the Correct Terms for Your Paper.

Additional Key Words and Phrases: Do, Not, Use, This, Code, Put, the, Correct, Terms, for, Your, Paper

**ACM Reference Format:**

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**1 Introduction**

ACM’s consolidated article template, introduced in 2017, provides a consistent L<sup>A</sup>T<sub>E</sub>X style for use across ACM publications, and incorporates accessibility and metadata-extraction functionality necessary for future Digital Library endeavors. Numerous ACM and SIG-specific L<sup>A</sup>T<sub>E</sub>X templates have been examined, and their unique features incorporated into this single new template.

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Manuscript submitted to ACM

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If you are new to publishing with ACM, this document is a valuable guide to the process of preparing your work for publication. If you have published with ACM before, this document provides insight and instruction into more recent changes to the article template.

The “`acmart`” document class can be used to prepare articles for any ACM publication — conference or journal, and for any stage of publication, from review to final “camera-ready” copy, to the author’s own version, with *very* few changes to the source.

## 2 Template Overview

As noted in the introduction, the “`acmart`” document class can be used to prepare many different kinds of documentation — a double-anonymous initial submission of a full-length technical paper, a two-page SIGGRAPH Emerging Technologies abstract, a “camera-ready” journal article, a SIGCHI Extended Abstract, and more — all by selecting the appropriate *template style* and *template parameters*.

This document will explain the major features of the document class. For further information, the *LaTeX User’s Guide* is available from <https://www.acm.org/publications/proceedings-template>.

### 2.1 Template Styles

The primary parameter given to the “`acmart`” document class is the *template style* which corresponds to the kind of publication or SIG publishing the work. This parameter is enclosed in square brackets and is a part of the `documentclass` command:

```
\documentclass[STYLE]{acmart}
```

Journals use one of three template styles. All but three ACM journals use the `acmsmall` template style:

- `acmsmall`: The default journal template style.
- `acmlarge`: Used by JOCCH and TAP.
- `acmtog`: Used by TOG.

The majority of conference proceedings documentation will use the `acmconf` template style.

- `sigconf`: The default proceedings template style.
- `sigchi`: Used for SIGCHI conference articles.
- `sigplan`: Used for SIGPLAN conference articles.

### 2.2 Template Parameters

In addition to specifying the *template style* to be used in formatting your work, there are a number of *template parameters* which modify some part of the applied template style. A complete list of these parameters can be found in the *LaTeX User’s Guide*.

Frequently-used parameters, or combinations of parameters, include:

- `anonymous,review`: Suitable for a “double-anonymous” conference submission. Anonymizes the work and includes line numbers. Use with the `\acmSubmissionID` command to print the submission’s unique ID on each page of the work.
- `authorversion`: Produces a version of the work suitable for posting by the author.
- `screen`: Produces colored hyperlinks.

105 This document uses the following string as the first command in the source file:

106 \documentclass[manuscript,screen,review]{acmart}

### 108 3 Modifications

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

114 **Your document will be returned to you for revision if modifications are discovered.**

### 116 4 Typefaces

118 The “acmart” document class requires the use of the “Libertine” typeface family. Your TeX installation should include  
119 this set of packages. Please do not substitute other typefaces. The “lmodern” and “ltimes” packages should not be used,  
120 as they will override the built-in typeface families.

### 122 5 Title Information

124 The title of your work should use capital letters appropriately - <https://capitalizemytitle.com/> has useful rules for  
125 capitalization. Use the title command to define the title of your work. If your work has a subtitle, define it with the  
126 subtitle command. Do not insert line breaks in your title.

128 If your title is lengthy, you must define a short version to be used in the page headers, to prevent overlapping text.

129 The title command has a “short title” parameter:

130 \title[short title]{full title}

### 132 6 Authors and Affiliations

134 Each author must be defined separately for accurate metadata identification. As an exception, multiple authors may  
135 share one affiliation. Authors’ names should not be abbreviated; use full first names wherever possible. Include authors’  
136 e-mail addresses whenever possible.

138 Grouping authors’ names or e-mail addresses, or providing an “e-mail alias,” as shown below, is not acceptable:

139 \author{Brooke Aster, David Mehldau}  
140 \email{dave,judy,steve@university.edu}  
141 \email{firstname.lastname@phillips.org}

143 The authornote and authornotemark commands allow a note to apply to multiple authors – for example, if the  
144 first two authors of an article contributed equally to the work.

146 If your author list is lengthy, you must define a shortened version of the list of authors to be used in the page headers,  
147 to prevent overlapping text. The following command should be placed just after the last \author{} definition:

148 \renewcommand{\shortauthors}{McCartney, et al.}

150 Omitting this command will force the use of a concatenated list of all of the authors’ names, which may result in  
151 overlapping text in the page headers.

153 The article template’s documentation, available at <https://www.acm.org/publications/proceedings-template>, has a  
154 complete explanation of these commands and tips for their effective use.

155 Note that authors’ addresses are mandatory for journal articles.

## **157 7 Rights Information**

**158** Authors of any work published by ACM will need to complete a rights form. Depending on the kind of work, and the  
**159** rights management choice made by the author, this may be copyright transfer, permission, license, or an OA (open  
**160** access) agreement.

**161** Regardless of the rights management choice, the author will receive a copy of the completed rights form once it  
**162** has been submitted. This form contains L<sup>A</sup>T<sub>E</sub>X commands that must be copied into the source document. When the  
**163** document source is compiled, these commands and their parameters add formatted text to several areas of the final  
**164** document:

- 167** • the “ACM Reference Format” text on the first page.
- 168** • the “rights management” text on the first page.
- 169** • the conference information in the page header(s).

**170** Rights information is unique to the work; if you are preparing several works for an event, make sure to use the  
**171** correct set of commands with each of the works.

**172** The ACM Reference Format text is required for all articles over one page in length, and is optional for one-page  
**173** articles (abstracts).

## **177 8 CCS Concepts and User-Defined Keywords**

**178** Two elements of the “acmart” document class provide powerful taxonomic tools for you to help readers find your work  
**179** in an online search.

**180** The ACM Computing Classification System — <https://www.acm.org/publications/class-2012> — is a set of classifiers  
**181** and concepts that describe the computing discipline. Authors can select entries from this classification system, via  
**182** <https://dl.acm.org/ccs/ccs.cfm>, and generate the commands to be included in the L<sup>A</sup>T<sub>E</sub>X source.

**183** User-defined keywords are a comma-separated list of words and phrases of the authors’ choosing, providing a more  
**184** flexible way of describing the research being presented.

**185** CCS concepts and user-defined keywords are required for all articles over two pages in length, and are optional  
**186** for one- and two-page articles (or abstracts).

## **191 9 Sectioning Commands**

**192** Your work should use standard L<sup>A</sup>T<sub>E</sub>X sectioning commands: \section, \subsection, \subsubsection, \paragraph,  
**193** and \ subparagraph. The sectioning levels up to \subsubsection should be numbered; do not remove the numbering  
**194** from the commands.

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

**197** Below are examples of sectioning commands.

### **201 9.1 Subsection**

**202** This is a subsection.

**203** *9.1.1 Subsubsection.* This is a subsubsection.

**204** *Paragraph.* This is a paragraph.

Table 1. Frequency of Special Characters

Non-English or Math	Frequency	Comments
$\emptyset$	1 in 1,000	For Swedish names
$\pi$	1 in 5	Common in math
\$	4 in 5	Used in business
$\Psi_1^2$	1 in 40,000	Unexplained usage

Table 2. Some Typical Commands

Command	A Number	Comments
\author	100	Author
\table	300	For tables
\table*	400	For wider tables

Subparagraph This is a subparagraph.

## 10 Tables

The “acmart” document class includes the “booktabs” package — <https://ctan.org/pkg/booktabs> — for preparing high-quality tables.

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 the **tabular** environment, to be aligned properly in rows and columns, with the desired horizontal and vertical rules. Again, detailed instructions on **tabular** material are found in the *LaTeX User’s Guide*.

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.

To set a wider table, which takes up the whole width of the page’s live area, use the environment **table\*** to enclose the table’s contents and the table caption. As with a single-column table, this wide table will “float” to a location deemed more desirable. Immediately following this sentence is the point at which Table 2 is included in the input file; again, it is instructive to compare the placement of the table here with the table in the printed output of this document.

Always use midrule to separate table header rows from data rows, and use it only for this purpose. This enables assistive technologies to recognise table headers and support their users in navigating tables more easily.

## 11 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.

### 11.1 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{math} . . . \end{math}` construction or with the short form `$ . . . $`. You can use any

261 of the symbols and structures, from  $\alpha$  to  $\omega$ , available in L<sup>A</sup>T<sub>E</sub>X [25]; this section will simply show a few examples of  
 262 in-text equations in context. Notice how this equation:  $\lim_{n \rightarrow \infty} x = 0$ , set here in in-line math style, looks slightly  
 263 different when set in display style. (See next section).

## 264 11.2 Display Equations

265 A numbered display equation—one set off by vertical space from the text and centered horizontally—is produced by the  
 266 **equation** environment. An unnumbered display equation is produced by the **displaymath** environment.

267 Again, in either environment, you can use any of the symbols and structures available in L<sup>A</sup>T<sub>E</sub>X; this section will just  
 268 give a couple of examples of display equations in context. First, consider the equation, shown as an inline equation  
 269 above:

$$274 \quad \lim_{n \rightarrow \infty} x = 0 \quad (1)$$

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

$$277 \quad \sum_{i=0}^{\infty} x + 1$$

278 and follow it with another numbered equation:

$$279 \quad \sum_{i=0}^{\infty} x_i = \int_0^{\pi+2} f \quad (2)$$

280 just to demonstrate L<sup>A</sup>T<sub>E</sub>X's able handling of numbering.

## 281 12 Figures

282 The “figure” environment should be used for figures. One or more images can be placed within a figure. If your figure  
 283 contains third-party material, you must clearly identify it as such, as shown in the example below.

284 Your figures should contain a caption which describes the figure to the reader.

285 Figure captions are placed *below* the figure.

286 Every figure should also have a figure description unless it is purely decorative. These descriptions convey what's in  
 287 the image to someone who cannot see it. They are also used by search engine crawlers for indexing images, and when  
 288 images cannot be loaded.

289 A figure description must be unformatted plain text less than 2000 characters long (including spaces). **Figure**  
 290 **descriptions should not repeat the figure caption – their purpose is to capture important information that is**  
 291 **not already provided in the caption or the main text of the paper.** For figures that convey important and complex  
 292 new information, a short text description may not be adequate. More complex alternative descriptions can be placed in  
 293 an appendix and referenced in a short figure description. For example, provide a data table capturing the information in  
 294 a bar chart, or a structured list representing a graph. For additional information regarding how best to write figure  
 295 descriptions and why doing this is so important, please see <https://www.acm.org/publications/taps/describing-figures/>.

### 296 12.1 The “Teaser Figure”

297 A “teaser figure” is an image, or set of images in one figure, that are placed after all author and affiliation information,  
 298 and before the body of the article, spanning the page. If you wish to have such a figure in your article, place the  
 299 command immediately before the `\maketitle` command:

300 Manuscript submitted to ACM



Fig. 1. 1907 Franklin Model D roadster. Photograph by Harris & Ewing, Inc. [Public domain], via Wikimedia Commons. (<https://goo.gl/VLCRBB>).

```
344  
345 \begin{teaserfigure}  
346   \includegraphics[width=\textwidth]{sampleteaser}  
347   \caption{figure caption}  
348   \Description{figure description}  
349 \end{teaserfigure}
```

### 356 13 Citations and Bibliographies

357 The use of Bib<sup>T</sup>E<sub>X</sub> for the preparation and formatting of one's references is strongly recommended. Authors' names  
358 should be complete — use full first names ("Donald E. Knuth") not initials ("D. E. Knuth") — and the salient identifying  
359 features of a reference should be included: title, year, volume, number, pages, article DOI, etc.  
360

361 The bibliography is included in your source document with these two commands, placed just before the \end{document}  
362 command:  
363

```

365 \bibliographystyle{ACM-Reference-Format}
366 \bibliography{bibfile}
367

```

where “`bibfile`” is the name, without the “`.bib`” suffix, of the BibTeX file.

Citations and references are numbered by default. A small number of ACM publications have citations and references formatted in the “author year” style; for these exceptions, please include this command in the **preamble** (before the command “`\begin{document}`”) of your L<sup>A</sup>T<sub>E</sub>X source:

```

373 \citetstyle{acmauthoryear}
374

```

Some examples. A paginated journal article [2], an enumerated journal article [11], a reference to an entire issue [10], a monograph (whole book) [24], a monograph/whole book in a series (see 2a in spec. document) [18], a divisible-book such as an anthology or compilation [13] followed by the same example, however we only output the series if the volume number is given [14] (so Editor00a’s series should NOT be present since it has no vol. no.), a chapter in a divisible book [37], a chapter in a divisible book in a series [12], a multi-volume work as book [23], a couple of articles in a proceedings (of a conference, symposium, workshop for example) (paginated proceedings article) [3, 16], a proceedings article with all possible elements [36], an example of an enumerated proceedings article [15], an informally published work [17], a couple of preprints [6, 8], a doctoral dissertation [9], a master’s thesis: [4], an online document / world wide web resource [1, 29, 38], a video game (Case 1) [28] and (Case 2) [27] and [26] and (Case 3) a patent [35], work accepted for publication [32], ‘YYYYb’-test for prolific author [33] and [34]. Other cites might contain ‘duplicate’ DOI and URLs (some SIAM articles) [22]. Boris / Barbara Beeton: multi-volume works as books [20] and [19]. A presentation [31]. An article under review [7]. A couple of citations with DOIs: [21, 22]. Online citations: [38–40]. Artifacts: [30] and [5].

## 14 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{acks}
...
\end{acks}

```

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.

Authors should not prepare this section as a numbered or unnumbered `\section`; please use the “`acks`” environment.

## 15 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. This document has two appendices, demonstrating the section and subsection identification method.

417 **16 Multi-language papers**

418 Papers may be written in languages other than English or include titles, subtitles, keywords and abstracts in different  
 419 languages (as a rule, a paper in a language other than English should include an English title and an English abstract).  
 420 Use `language=...` for every language used in the paper. The last language indicated is the main language of the paper.  
 421 For example, a French paper with additional titles and abstracts in English and German may start with the following  
 422 command  
 423

424  
 425 `\documentclass[sigconf, language=english, language=german,`  
 426       `language=french]{acmart}`

427 The title, subtitle, keywords and abstract will be typeset in the main language of the paper. The commands  
 428 `\translatedXXX, XXX` begin title, subtitle and keywords, can be used to set these elements in the other languages. The  
 429 environment `translatedabstract` is used to set the translation of the abstract. These commands and environment have  
 430 a mandatory first argument: the language of the second argument. See `sample-sigconf-i13n.tex` file for examples of  
 431 their usage.  
 432

433 **17 SIGCHI Extended Abstracts**

434 The “sigchi-a” template style (available only in L<sup>A</sup>T<sub>E</sub>X and not in Word) produces a landscape-orientation formatted  
 435 article, with a wide left margin. Three environments are available for use with the “sigchi-a” template style, and  
 436 produce formatted output in the margin:  
 437

- 438     **sidebar:** Place formatted text in the margin.
- 439     **marginfigure:** Place a figure in the margin.
- 440     **maintable:** Place a table in the margin.

441 **Acknowledgments**

442 To Robert, for the bagels and explaining CMYK and color spaces.

443 **References**

- 444 [1] Rafal Ablamowicz and Bertrand Fauser. 2007. *CLIFFORD: a Maple 11 Package for Clifford Algebra Computations, version 11*. Retrieved February 28, 2008 from <http://math.tntech.edu/rafal/cliff11/index.html>
- 445 [2] Patricia S. Abril and Robert Plant. 2007. The patent holder’s dilemma: Buy, sell, or troll? *Commun. ACM* 50, 1 (Jan. 2007), 36–44. doi:10.1145/1188913.1188915
- 446 [3] Sten Andler. 1979. Predicate Path expressions. In *Proceedings of the 6th ACM SIGACT-SIGPLAN symposium on Principles of Programming Languages (POPL ’79)*. ACM Press, New York, NY, 226–236. doi:10.1145/567752.567774
- 447 [4] David A. Anisi. 2003. *Optimal Motion Control of a Ground Vehicle*. Master’s thesis. Royal Institute of Technology (KTH), Stockholm, Sweden.
- 448 [5] Sam Anzaroot and Andrew McCallum. 2013. *UMass Citation Field Extraction Dataset*. Retrieved May 27, 2019 from <http://www.iesl.cs.umass.edu/data/data-umasscitationfield>
- 449 [6] Sam Anzaroot, Alexandre Passos, David Belanger, and Andrew McCallum. 2014. *Learning Soft Linear Constraints with Application to Citation Field Extraction*. arXiv:1403.1349 doi:10.48550/arXiv.1403.1349
- 450 [7] R. Baggett, M. Simecek, C. Chambellan, K. Tsui, and M. Fraune. 2025. Fluidity in the Phased Framework of Technology Acceptance: Case Study to Gain a Holistic Understanding of (Older Adult) Participant Advancement Through Acceptance Phases with Mobile Telepresence Robots. *Robotics Aut. Systems*. Manuscript submitted for review.
- 451 [8] Lutz Bornmann, K. Brad Wray, and Robin Haunschild. 2019. *Citation concept analysis (CCA)—A new form of citation analysis revealing the usefulness of concepts for other researchers illustrated by two exemplary case studies including classic books by Thomas S. Kuhn and Karl R. Popper*. arXiv:1905.12410 [cs.DL]
- 452 [9] Kenneth L. Clarkson. 1985. *Algorithms for Closest-Point Problems (Computational Geometry)*. Ph.D. Dissertation. Stanford University, Palo Alto, CA. UMI Order Number: AAT 8506171.

- [469] [10] Jacques Cohen (Ed.). 1996. Special issue: Digital Libraries. *Commun. ACM* 39, 11 (Nov. 1996).
- [470] [11] Sarah Cohen, Werner Nutt, and Yehoshua Sagiv. 2007. Deciding equivalences among conjunctive aggregate queries. *J. ACM* 54, 2, Article 5 (April 2007), 50 pages. doi:10.1145/1219092.1219093
- [471] [12] Bruce P. Douglass, David Harel, and Mark B. Trakhtenbrot. 1998. Statecharts in use: structured analysis and object-orientation. In *Lectures on Embedded Systems*, Grzegorz Rozenberg and Frits W. Vaandrager (Eds.), Lecture Notes in Computer Science, Vol. 1494. Springer-Verlag, London, 368–394. doi:10.1007/3-540-65193-4\_29
- [472] [13] Ian Editor (Ed.). 2007. *The title of book one* (1st. ed.). The name of the series one, Vol. 9. University of Chicago Press, Chicago, Chapter The title of the chapter, 127–238. doi:10.1007/3-540-09237-4
- [473] [14] Ian Editor (Ed.). 2008. *The title of book two* (2nd. ed.). University of Chicago Press, Chicago, Chapter 100, 25–137. doi:10.1007/3-540-09237-4
- [474] [15] Matthew Van Gundy, Davide Balzarotti, and Giovanni Vigna. 2007. Catch me, if you can: Evading network signatures with web-based polymorphic worms. In *Proceedings of the first USENIX workshop on Offensive Technologies (WOOT '07)*. USENIX Association, Berkley, CA, Article 7, 9 pages.
- [475] [16] Torben Hagerup, Kurt Mehlhorn, and J. Ian Munro. 1993. Maintaining Discrete Probability Distributions Optimally. In *Proceedings of the 20th International Colloquium on Automata, Languages and Programming (Lecture Notes in Computer Science, Vol. 700)*. Springer-Verlag, Berlin, 253–264.
- [476] [17] David Harel. 1978. *LOGICS of Programs: AXIOMATICS and DESCRIPTIVE POWER*. MIT Research Lab Technical Report TR-200. Massachusetts Institute of Technology, Cambridge, MA.
- [477] [18] David Harel. 1979. *First-Order Dynamic Logic*. Lecture Notes in Computer Science, Vol. 68. Springer-Verlag, New York, NY. doi:10.1007/3-540-09237-4
- [478] [19] Lars Hörmander. 1985. *The analysis of linear partial differential operators. III*. Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences], Vol. 275. Springer-Verlag, Berlin, Germany. viii+525 pages. Pseudodifferential operators.
- [479] [20] Lars Hörmander. 1985. *The analysis of linear partial differential operators. IV*. Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences], Vol. 275. Springer-Verlag, Berlin, Germany. viii+352 pages. Fourier integral operators.
- [480] [21] IEEE 2004. IEEE TCSC Executive Committee. In *Proceedings of the IEEE International Conference on Web Services (ICWS '04)*. IEEE Computer Society, Washington, DC, USA, 21–22. doi:10.1109/ICWS.2004.64
- [481] [22] Markus Kirschmer and John Voight. 2010. Algorithmic Enumeration of Ideal Classes for Quaternion Orders. *SIAM J. Comput.* 39, 5 (Jan. 2010), 1714–1747. doi:10.1137/080734467
- [482] [23] Donald E. Knuth. 1997. *The Art of Computer Programming, Vol. 1: Fundamental Algorithms* (3rd. ed.). Addison Wesley Longman Publishing Co., Inc., Boston.
- [483] [24] David Kosiur. 2001. *Understanding Policy-Based Networking* (2nd. ed.). Wiley, New York, NY.
- [484] [25] Leslie Lamport. 1986. *L<sup>A</sup>T<sub>E</sub>X: A Document Preparation System*. Addison-Wesley, Reading, MA.
- [485] [26] Newton Lee. 2005. Interview with Bill Kinder: January 13, 2005. Video. *Comput. Entertain.* 3, 1, Article 4 (Jan.-March 2005). doi:10.1145/1057270.1057278
- [486] [27] Dave Novak. 2003. Solder man. Video. In *ACM SIGGRAPH 2003 Video Review on Animation theater Program: Part I - Vol. 145 (July 27–27, 2003)*. ACM Press, New York, NY, 4. doi:10.945/woot07-S422 <http://video.google.com/videoplay?docid=6528042696351994555>
- [487] [28] Barack Obama. 2008. A more perfect union. Video. Retrieved March 21, 2008 from <http://video.google.com/videoplay?docid=6528042696351994555>
- [488] [29] Poker-Edge.Com. 2006. Stats and Analysis. Retrieved June 7, 2006 from <http://www.poker-edge.com/stats.php>
- [489] [30] R Core Team. 2019. *R: A Language and Environment for Statistical Computing*. R Foundation for Statistical Computing, Vienna, Austria. <https://www.R-project.org/>
- [490] [31] Brian J. Reiser. 2014. Designing coherent storylines aligned with NGSS for the K-12 classroom. Presentation at National Science Education Leadership Association Meeting, Boston, MA, USA. <https://www.academia.edu/6884962/>
- [491] [32] Bernard Rous. 2008. The Enabling of Digital Libraries. *Digital Libraries* 12, 3, Article 5 (July 2008). To appear.
- [492] [33] Mehdi Saeedi, Morteza Saheb Zamani, and Mehdi Sedighi. 2010. A library-based synthesis methodology for reversible logic. *Microelectron. J.* 41, 4 (April 2010), 185–194.
- [493] [34] Mehdi Saeedi, Morteza Saheb Zamani, Mehdi Sedighi, and Zahra Sasanian. 2010. Synthesis of Reversible Circuit Using Cycle-Based Approach. *J. Emerg. Technol. Comput. Syst.* 6, 4 (Dec. 2010), 12 pages.
- [494] [35] Joseph Scientist. 2009. The fountain of youth. Patent No. 12345, Filed July 1st., 2008, Issued Aug. 9th., 2009.
- [495] [36] Stan W. Smith. 2010. An experiment in bibliographic mark-up: Parsing metadata for XML export. In *Proceedings of the 3rd. annual workshop on Librarians and Computers (LAC '10, Vol. 3)*, Reginald N. Smythe and Alexander Noble (Eds.). Paparazzi Press, Milan Italy, 422–431.
- [496] [37] Asad Z. Spector. 1990. Achieving application requirements. In *Distributed Systems* (2nd. ed.), Sape Mullender (Ed.). ACM Press, New York, NY, 19–33. doi:10.1145/90417.90738
- [497] [38] Harry Thornburg. 2001. *Introduction to Bayesian Statistics*. Retrieved March 2, 2005 from <http://ccrma.stanford.edu/~jos/bayes/bayes.html>, archived at <https://web.archive.org/web/20240505055615/https://ccrma.stanford.edu/~jos/bayes/bayes.html>
- [498] [39] TUG 2017. *Institutional members of the TeX Users Group*. Retrieved May 27, 2017 from <http://www.tug.org/instmem.html>
- [499] [40] Boris Veytsman. 2017. *acmart—Class for typesetting publications of ACM*. Retrieved May 27, 2017 from <http://www.ctan.org/pkg/acmart>

**A Research Methods****A.1 Part One**

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**A.2 Part Two**

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**B Online Resources**

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539 Received 20 February 2007; revised 12 March 2009; accepted 5 June 2009  
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