

Intelligent Computing L^AT_EX Template

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Abstract

The abstract should be a single paragraph written in plain language that a general reader can understand. Do not include citations, figures, tables, or undefined abbreviations in the abstract. The length should be 200 words and not exceed 250 words, to include:

- An opening sentence that states the question/problem addressed by the research AND
- Enough background content to give context to the study AND
- A brief statement of primary results AND
- A short concluding sentence.

1 INTRODUCTION

Your manuscript should contain all of the numbered sections specified in this template: Introduction, Results, Discussion, Materials and Methods.

The manuscript should start with a brief introduction that lays out the problem addressed by the research and describes the paper's importance. The scientific question being investigated should be described in detail. The introduction should provide sufficient background information to make the article understandable to readers in other disciplines and provide enough context to ensure that the implications of the experimental findings are clear.

Citations

Citations of references in the text should be identified using numbers in square brackets e.g., “as discussed by Cui [1]” or “as discussed elsewhere [1–5].” All references should be cited within the text and uncited references will be removed.

As an example, this template includes a “sample.bib” file containing the references in BibTeX.

28 Equations

29 Equations should be provided in a text format, rather than as an image. Equations should be num-
30 bered consecutively, in round brackets, on the right-hand side of the page by using the “\begin{equation}”
31 command. They should be referred to as Equation 1, etc. in the main text.

32 For example, see Equation 1 and Equation 2 below.

$$a^2 + b^2 = c^2 \tag{1}$$

33

$$\begin{aligned} A &= \frac{\pi r^2}{2} \\ &= \frac{1}{2}\pi r^2 \end{aligned} \tag{2}$$

34 Figures

35 For initial submissions, Figures should be embedded within the main submission Word file at their
36 first mention in the text. This will facilitate evaluation of the paper. Figures should be called out
37 within the text and numbered in the order of their citation (with title and caption formatted as
38 below). See below for detailed instructions on preparation of and preferred formats for your figures.
See Figure 1 for example.



Figure 1: Each figure legend should start with a short title. All figure titles should be phrases or sentences; do not mix the two styles. No single legend should be longer than about 200 words. Nomenclature, abbreviations, symbols, and units used in a figure legend (and in the figure itself) should match those used in the text.

39

40 Figures should be displayed on a white background. When preparing figures, consider that they
41 can occupy either a single column (half page width) or two columns (full page width), and should
42 be sized accordingly.

43 If a figure consists of multiple panels, they should be ordered logically and labelled with roman
44 letters (i.e., A, B, C, etc.). All labels should be explained in the legend. See Figure 2 for example.

45 While they should appear embedded in the text at the place of first citation in initial submission,
46 we ask that Figures and Tables also be submitted as separate, raw files should your submission move
47 past the revision stage. This will make the production process easier should the paper be accepted.
48 Acceptable file types are Adobe Portable Document Format (PDF), Adobe Illustrator (AI), or
49 Encapsulated PostScript (EPS) for illustrations or diagrams; Tagged Image File Format (TIFF),
50 JPEG, PNG, PhotoShop (PSD), EPS, or PDF for photography or microscopy. Bitmap formats
51 (Photoshop, TIFF, JPEG, PNG) images should be of at least 300 dpi resolution, unless due to the
52 limited resolution of a specific instrument. If a bitmap image has labels, the image and labels should
53 be embedded in separate layers. Additional guidelines for preparing figures can be found at https://spj.science.org/pb-assets/SPJ/CustomPages/Misc/SPJ_Figure_Preparation_Guide.pdf
54

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56 tain permission for reuse and/or modification of the material. Please carefully review the Image
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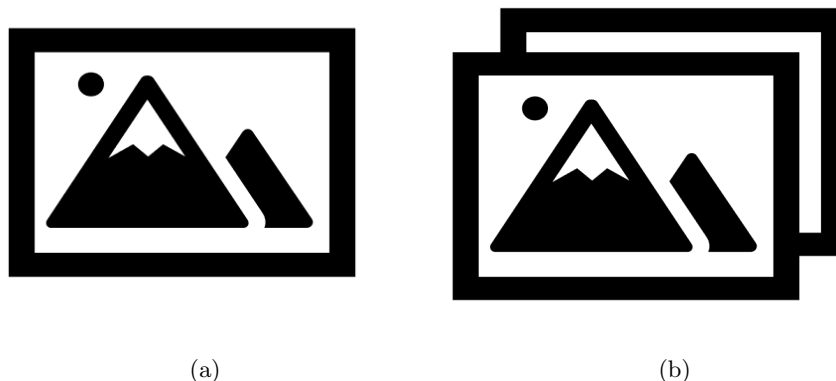


Figure 2: This is an example of a figure consisting of multiple panels. (a) This is the first panel. (b) This is the second panel.

58 Tables

59 Tables should supplement, not duplicate, the text. They should be called out within the text and
60 numbered in the order of their citation in the text. As with Figures, please embed Tables within
61 the text of the initial submission as near to their first reference as possible.

62 Every table must have a descriptive title beginning with “Table [Number] . . .” as noted in Table
63 1. If numerical measurements are given, the units should be included in the column heading. Every
64 vertical column should have a heading, followed by a unit of measure (if any) in parentheses. Units
65 should not change within a column. Vertical rules should not be used.

66 Centered headings of the body of the table can be used to break the entries into groups. Do
67 not use footnotes in column heads; include any such details in sentence form in the table legend.

68 Footnotes should contain information relevant to specific cells of the table; use lowercase letters in
69 alphabetical order, as needed: a, b, c, etc. Shading and highlighting is not permitted; instead, use
70 bold or italics and explain what the special formatting indicates (in a footnote).

71 **2 MATERIALS AND METHODS (or METHODS)**

72 The materials and methods section should provide sufficient information to allow replication of the
73 results. This section should be broken up by subheadings. Under exceptional circumstances, when a
74 particularly lengthy description is required, a portion of the materials and methods can be included
75 in the Supplementary Materials.

76 **2.1 Experimental Design**

77 Begin with a section titled Experimental Design describing the objectives and design of the study
78 as well as prespecified components.

79 **2.2 Statistical Analysis**

80 If applicable, include a section titled Statistical Analysis that fully describes the statistical methods
81 with enough detail to enable a knowledgeable reader with access to the original data to verify the
82 results. The values for N, P, and the specific statistical test performed for each experiment should
83 be included in the appropriate figure legend or main text.

84 **2.3 Human and Animal Research**

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86 obtained after the nature and possible consequences of the study was explained.

87 For authors using experimental animals, a statement must be included indicating that the ani-
88 mals' care was in accordance with institutional guidelines.

89 **3 RESULTS AND DISCUSSION (or RESULTS)**

90 The results should describe the experiments performed and the findings observed. The results section
91 should be divided into subsections to delineate different experimental themes.

- 92 • All data should be presented in the Results. No data should be presented for the first time in
93 the Discussion. Data (such as from Western blots) should be appropriately quantified.

Table 1: This is an example table.

Column 1	Column 2	Column 3
Cell 1	Cell 2	Cell 3
Cell 4	Cell 5	Cell 6

- 94 • Subheadings must be either all complete sentences or all phrases. They should be brief, ideally
95 less than 10 words. Subheadings should not end in a period. Your paper may have as many
96 subheadings as are necessary.
- 97 • Figures and tables must be called out in numerical order. For example, the first mention of
98 any panel of Fig. 3 cannot precede the first mention of all panels of Fig. 2. The supplementary
99 figures (for example, fig. S1) and tables (table S1) must also be called out in numerical order.

100 **4 CONCLUSION (and/or DISCUSSION)**

101 Include a Discussion that summarizes (but does not merely repeat) your conclusions and elaborates
102 on their implications. There should be a paragraph outlining the limitations of your results and
103 interpretation, as well as a discussion of the steps that need to be taken for the findings to be
104 applied. Please avoid claims of priority.

105 **Acknowledgments**

106 Anyone who made a contribution to the research or manuscript, but who is not a listed author, should
107 be acknowledged (with their permission). Note that Research Articles require author contributions,
108 funding, and competing interest statements. Types of acknowledgements include:

109 **General**

110 Thank others for any contributions, whether it be direct technical help or indirect assistance

111 **Author Contributions**

112 Describe contributions of each author to the paper, using the first initial and full last name.

113 Examples:

114 “S. Zhang conceived the idea and designed the experiments.”

115 “E. F. Mustermann and J. F. Smith conducted the experiments.”

116 “All authors contributed equally to the writing of the manuscript.”

117 **Funding**

118 Name financially supporting bodies (written out in full), followed by the funding awardee and asso-
119 ciated grant numbers (if applicable) in square brackets.

120 Example:

121 “This work was supported by the Engineering and Physical Sciences Research Council [grant
122 numbers xxxx, yyyy]; the National Science Foundation [grant number zzzz]; and a Leverhulme
123 Trust Research Project Grant.”

124 If the research did not receive specific funding, but was performed as part of the employment
125 of the authors, please name this employer. If the funder was involved in the manuscript writing,
126 editing, approval, or decision to publish, please declare this. If there were no sources of funding,
127 please state this in a complete sentence; for example, “The authors acknowledge that they did not
128 receive funding for this work.”

129 **Conflicts of Interest**

130 Conflicts of interest (COIs, also known as “competing interests”) occur when issues outside research
131 could be reasonably perceived to affect the neutrality or objectivity of the work or its assessment.

132 Authors must declare all potential interests – whether or not they actually had an influence – in a
133 ‘Conflicts of Interest’ section, which should explain why the interest may be a conflict. Authors must
134 declare current or recent funding (including for Article Processing Charges) and other payments,
135 goods or services that might influence the work. All funding, whether a conflict or not, must be
136 declared in a “Funding Statement.” The involvement of anyone other than the authors who 1) has
137 an interest in the outcome of the work; 2) is affiliated to an organization with such an interest; or 3)
138 was employed or paid by a funder, in the commissioning, conception, planning, design, conduct, or
139 analysis of the work, the preparation or editing of the manuscript, or the decision to publish must
140 be declared.

141 If there are none, the authors should state “The author(s) declare(s) that there is no conflict of
142 interest regarding the publication of this article.” Submitting authors are responsible for coauthors
143 declaring their interests. Declared conflicts of interest will be considered by the editor and reviewers
144 and included in the published article.

145 **Data Availability**

146 A data availability statement is compulsory for all research articles. This statement describes
147 whether and how others can access the data supporting the findings of the paper, including 1)
148 what the nature of the data is, 2) where the data can be accessed, and 3) any restrictions on data
149 access and why.

150 If data are in an archive, include the accession number or a placeholder for it. Also include any
151 materials that must be obtained through a Material Transfer Agreements (MTA).

152 **Supplementary Materials**

153 Describe any supplementary materials submitted with the manuscript (e.g., audio files, video clips
154 or datasets).

155 Please group supplementary materials in the following order: materials and methods, figures,
156 tables, and other files (such as movies, data, interactive images, or database files).

157 Example: Figures S1 to S(n)

158 Tables S1 to S(n)

159 Movies S1 to S(n)
160 Data files S1 to S(n)
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162 Be sure to submit all supplementary materials with the manuscript and remember to reference
163 the supplementary materials at appropriate points within the manuscript. We recommend citing
164 specific items, rather than referring to the supplementary materials in general, for example: “See
165 Figures S1-S10 in the Supplementary Material for comprehensive image analysis.”

166 A link to access the supplementary materials will be provided in the published article.

167 Supplementary Materials may include additional author notes—for example, a list of group
168 authors.

169 Guidelines for References

170 Authors are responsible for ensuring that the information in each reference is complete and accurate.
171 All data must be cited and references to “data not shown” or citations to unpublished results are
172 permitted.

173 All references should be cited within the text and uncited references will be removed.

174 There is only one reference list for all sources cited in the main text, figure and table legends, and
175 Supplementary Materials. Do not include a second reference list in the Supplementary Materials
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180 important enough to include, please put it into the main text. If you need to include notes, please
181 explain why they are needed in your cover letter to the editor.

182 DOIs, if available, should be included for each reference.

183 References

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192 Applications of Biosystems Design. *BioDesign Research* 2019;2019:1–4.