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The Title of Your Article [⋆]

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Abstract

This article is designed to help in the contribution for the Journal of Computational Information Science. It is divided into several sections. Section 1 consists of the styles and notes for the main text. Section 2 illustrates the Mathematical writing style. Section 3 and 4 cover the topic of drawing tables and inserting figures respectively. The residuals deal with references, appendix, acknowledges, etc.

Keywords: Style guide; Examples; Latex style

1 Main Text

- **Common** Contributions must be written in English. Each paper should be introduced by a list of keywords and a self-contained abstract of no more than thirty lines without long formulas.
- **Title** Title should be concise but informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.
- **Author** There should be and should only be one corresponding author.
- **Abstract** A concise and factual abstract, of around 100 words, is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. It must be able to stand alone, references should be avoided. Non-standard or uncommon abbreviations should be avoided.
- **Keywords** Three to five keywords are required, using British spelling and avoiding general and plural terms and multiple concepts (avoid, for example, "and", "of").
- **Headings** Papers should be divided into numbered sections, subsections and, if necessary, subsubsections (e.g. 3, 3.1, 3.1.1, etc.).

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- **Uppercase & Lowercase** Every word within the title of "section" , except empty word, should has its initial capitalized. But for the "subsection" , the only word that should be capitalized is the first one. But note that it is not the case for subsection, see subsection 1.1.

- **Mathematical Symbols** Every mathematical symbol in the text, for example, n, R, x, y etc.

- **Enumerations** Enumerations should be listed in an Item-like environment, e.g. "itemize" "enumerate".

- **Footnotes** Footnotes should be avoided if possible and as brief as possible, they should be numbered consecutively.

- **Algorithms** If you are presenting an algorithm or listing something with order, make sure you use the "itemize" or "enumerate" environment, treat each step as an "item" and label it as "(n)", where n is the sequence number of steps. For the sub-items label them as "a.", "b." , etc., see section 1.1.

- **Figures** Figures should be numbered consecutively in the order of appearance and citation in the text. Be sure to cite every figure. Handwritten lettering and low-quality computer graphics are not acceptable. EPS electronic files should be sized as they will appear in the journal.

- **Tables** Tables must be numbered and typed on separate pages. The table title, which should be brief, goes above the table. Detailed explanations or table footnotes should be typed directly beneath the table. Note that tables are usually typeset, not scanned (tables cannot be electronically reduced in size).

- **Citations** Citations should coupled with labels. That is, to make a citation , you should label the position first, then use the command "`\ref`". All citations made in this guide, including equations, tables, figures, etc., follow this rule, you can check the source file to make a clearer understood.

- **References** References must be numbered consecutively in the order of their first citation, as in the following examples: books [2, 6], articles in journals [3], papers in a contributed volume [4, 7], unpublished papers [5].

1.1 Only the first word in the title of "subsection" be capitalized

We place a paradigm for the algorithm here:

(1) The first step.

(2) The second step.

  a. substep1.

  b. substep2.

(3) The last step.

In the ".tex" file it may look like the following:

```
\begin{enumerate}[(1)]
\item The first step.
\item The second step.
  \begin{enumerate}[a.]
  \item substep1.
  \item substep2.
  \end{enumerate}
\item  The last step.
\end{enumerate}
```

You can also use description environment, for example

Step 1 The first step.

Step 2 The second step.

Step 3 The second Step.

In the ".tex" file it may look like the following:

```
\item[Step 1] The first step.
\item[Step 2] The second step.
\item[Step 3] The second Step.
```

Note: Package "enumerate" is needed for this kind of usage of environment of enumerate.

2 Mathematical Notation

2.1 Build-in environments

This document class has provided you some commonly used environments:

- Definition environment
  `\begin{defn}` ······ `\end{defn}`
- Lemma environment
  `\begin{lem}` ······ `\end{lem}`
- Theorem environment
  `\begin{thm}` ······ `\end{thm}`
- Proof environment
  `\begin{pf*}{Proof}` ······ `\end{pf*}`
- Corollary environment
  `\begin{col}` ······ `\end{col}`

- Proposition environment
  `\begin{pro}` $\cdots\cdots$ `\end{pro}`

The following examples demonstrate the usage of the above environments.

Definition 1 *A graph G is an ordered pair of disjoint sets (V, E) such that E is a subset of the set of unordered pairs of V.*

Lemma 1 *If $m \geqslant 2n$ then $\epsilon(\overrightarrow{G}; x, y) = 0$.*

Theorem 1 *A graph is bipartite if it does not contain an odd cycle.*

Proof Suppose G is bipartite with vertex classes V_1 and V_2. Let $x_1x_2\cdots x_l$ be a cycle in G. We may assume that $x_1 \in V_1$. Then $x_2 \in V_2$, $x_3 \in V_1$,and so on: $x_i \in V_1$ if i is odd. Since $x_l \in V_2$, we find that l is even.

Suppose now that G does not contain an odd cycle. Since a graph is bipartite if each component of it is, we may assume that G is connected. Pick a vertex $x \in V(G)$ and put $V_1 = \{y|d(x, y)\text{is odd}\}$, $V_2 = V\backslash V$. There is no edge joining two vertices of the same class V_i since otherwise G would contain an odd cycle. Hence G is bipartite.

Theorem 2 *A graph is a forest if for every pair $\{x, y\}$ of distinct vertices it contains at most one x-y path.*

Proof If $x_1x_2\cdots x_l$ is a cycle in a graph G then $x_1x_2\cdots x_l$ and x_1x_l are two x_1-x_l paths in G.

Conversely, let $P_1 = x_0x_1\cdots x_l$ and $P_2 = x_0y_1y_2\cdots y_kx_l$be two distinct x_0-x_l paths in a graph G. Let $i+1$ be the minimal index for which $x_{i+1} \neq y_{i+1}$, and let j be the minimal index for which $j \geqslant i$ and y_{j+1} is a vertex of P_1, say $y_{j+1} = x_h$. Then $x_ix_{i+1}\cdots x_ky_jy_{j-1}\cdots y_{i+1}$ is a cycle in G.

Corollary 1 *Every connected graph contains a spanning tree, that is a tree containing every vertex of the graph.*

Proof Take a minimal connected spanning subgraph.

Corollary 2 *A tree of order n has size $n-1$; a forest of order n with k components has size $n-k$.*

Definition 2 *An oriented graph is a directed graph obtained by orienting the edges, that is by giving the edge ab a direction $\overrightarrow{ab}$ or $\overrightarrow{ba}$. Thus an oriented graph is a directed graph in which at most one of $\overrightarrow{ab}$ and $\overrightarrow{ba}$ occurs.*

Proposition 1 *The set*

$$S^{\mu}_{m}(\Delta) = \{f|\ \mathrm{deg} f \leqslant m, f \in S^{\mu}_{m}(\Delta)\}$$

is a finite-dimensional linear vector space on k, $m \geqslant 0$.

Lemma 2 *G is Hamiltonian if $C_n(G)$is and G has a Hamilton path if so does $C_{n-1}(G)$.*

Note: If you use the above environments, it will be numbered automatically. If the above environments failed to prove their sufficiency, feel free to define your own theorem-like environments, i.e. `\newtheorem\{Name\}\{Caption\}`.

2.2 Equations

Here are some examples of equations that cover the rules of making a equation with explanations following.

Expressions that are too long or oversized should be separated from the main text, i.e. be surrounded by `$$`$\cdots$`$$`. For example,

$$f(x) = \sum_{k=1}^{\infty} c_k T_{3^k}(x).$$

Never try to number the equation manually. If you want to number a equation, use the corresponding environment, i.e. `Equation` or `Eqnarray` if you want to display mutiple equations with numbers. Eq. (1, 2) and Eq. (3) demonstrate the usage of `Equation` and `Eqnarray` environments respectively.

$$p(x) = a_0 + a_1 + \cdots + a_n x^n. \tag{1}$$

$$[L/M] = \frac{\begin{vmatrix} a_{L-M+1} & a_{L-M+2} & \cdots & a_{L+1} \\ \vdots & \vdots & & \vdots \\ a_L & a_{L+1} & \cdots & a_{L+M} \\ \sum\limits_{j=M}^{L} a_{j-M} X^j & \sum\limits_{j=M-1}^{L} a_{j-M+1} X^j & \cdots & \sum\limits_{j=0}^{L} a_j X^j \end{vmatrix}}{\begin{vmatrix} a_{L-M+1} & a_{L-M+2} & \cdots & a_{L+1} \\ \vdots & \vdots & & \vdots \\ a_L & a_{L+1} & \cdots & a_{L+M} \\ x^M & x^{M-1} & \cdots & 1 \end{vmatrix}}. \tag{2}$$

$$\begin{aligned} K_m(t) &= \frac{1}{(m-1)!} E((x-t)_+^{m-1}; \alpha) \\ &= \frac{1}{(m-1)!} \left((\alpha - t)_+^{m-1} - \sum_{k=0}^{n} l_k(\alpha)(x_k - t)_+^{m-1} \right). \end{aligned} \tag{3}$$

Use `displaystyle` to make formulas bigger when necessary.

$$f(z) \approx \frac{1 + \dfrac{1}{2}z + z^2 + \dfrac{1}{2}z^3}{1 - \dfrac{1}{2}z + z^2}. \tag{4}$$

The texts in the equations should not be writing in the mathematical form, you can use `\mbox{#text}` to achieve this, example is given in Eq. (5).

$$f(x) = \begin{cases} 3x^2 & \mbox{when } x \geqslant 0, \\ -3x^2 & \mbox{when } x \leqslant 0. \end{cases} \tag{5}$$

When dealing with well-known functions like min, sin, cos , etc., you should use their normal form in the math environment, i.e. use `\min, \sin, \cos,` $\cdots$ respectively.

$$\arg\min\{\sin x \times \cos(x)\}$$

$$\arg\min\{\sin x \times \cos(x) + f(x) - g(x) + e(x)\},$$

If a sentence is not ended at a equation, the words follows the sentence may not be initial capitalized and intend, see Eq. (6).

Then the unconditional pdf of X is

$$f_X(x) = \int f_{X|\Theta}(x|\theta) f_\Theta(\theta) d\theta, \tag{6}$$

where the integral is taken over all values of θ with positive probability.

3 Table Section

Use "Table" or "Tabular" environment as usual. You may center the table most of the time to beautify your article. You also should name each table. Table [1, 2] are two typical examples of tables.

Table 1: Observation results for LSE

k	1	2	3	4	5	6	7	8
x_k	0	1	2	3	4	5	6	7
y_k	1.4	1.3	1.4	1.1	1.3	1.8	1.6	2.3

Table 2: Primitive types in Java

Primitive type	Size	Minimum	Maximum	Wrapper type
boolean	–	–	–	Boolean
char	16-bit	Unicode 0	Unicode $2^{16} - 1$	Character
byte	8-bit	-128	+127	Byte
short	16-bit	-2^{15}	$+2^{15} - 1$	Short
int	32-bit	-2^{31}	$+2^{31} - 1$	Integar
long	64-bit	-2^{63}	$+2^{63} - 1$	Long
float	32-bit	IEEE754	IEEE754	Float
double	64-bit	IEEE754	IEEE754	Double
void	–	–	–	Void

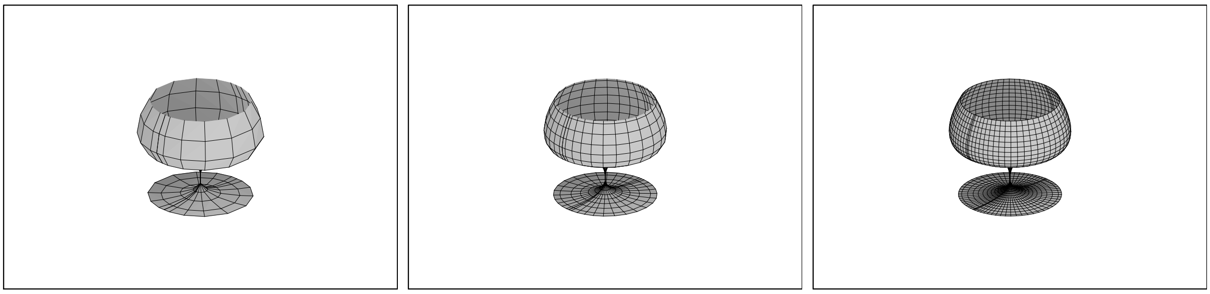

Fig. 1: The control polygon sequences of a cup-like rotation

4 Figure Section

If you have figures, include them like this:

You can then cite them in your article as following: Fig. 1 shows a process of level set based segmentation.

5 Citing a Reference

You can cite a reference by making use of the command "`\cite`" after you have labelled a bibliography[1]. An illustration of TEX/LATEXin given in [6]. Please refer to [2, 3, 5, 4] to get a detailed format of references. The citation in the former sentence can be made by using the command "`\cite{NumeApp, UncaliEu, SpaceDeform, Deformation}`", where NumApp, UncaliEu, etc., are user defined labels for references.

Acknowledgement

Acknowledge here.

Appendix

Appendix here.

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