Paper Template for AACS Workshop

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Abstract. Use the `\title`, `\author`, `\institution` and `\email` commands for providing author information. Use `\headerTitle` and `\headerAuthor` for providing the short form of the title and author, that will appear on the header of the pages. Please take care having only one header row. When for this reason the title has to be truncated, use `\dots` at the end of the truncated title. When the paper has more than 2 authors, then provide only the first author in `\headerAuthor` and append "et al." after it. Use the abstract environment for creating the abstract section. The length of the abstract must be between 100 and 150 words. There are two categories of the papers that can be submitted. The length of full papers must between 8 and 12 pages, the length of short papers must be at least 6 pages.

Keywords: Tutorial; Template; AACS Workhsop; (list of 5-7 keywords in this format)

1 Introduction

Authors of the AACS Workhsop are encouraged to create their papers to the workshop in LaTeX using the style file provided at www.aut.bme.hu/aacs.

Use the `\title`, `\author`, `\institution` and `\email` commands for providing author information. Use `\headerTitle` and `\headerAuthor` for providing the short form of the title and author, that will appear on the header of the pages. Please take care having only one header row. When for this reason the title has to be truncated, use `\dots` at the end of the truncated title. When the paper has more than 2 authors, then provide only the first author in `\headerAuthor` and append "et al." after it.

In this short template, you have some examples how to import figures, tables into the document, how to write equations, and how to reference these objects within the text of your paper. The commands for these operations are not explicitly noted in this text, but having the LaTeX source file of this template, you can find it.

The organization of this template is as follows. Section 2 shows how tables and figures can be inserted into the paper. Section 3 provides some example about mathematical formulas. Section 4 shows how theorem-like environments have to be used, and how you can typeset algorithms. Section 5 shows and example for citing and inserting bibliography entries into the paper.

2 Tables and Figures

In LaTeX you can work with two types of picture formats, the one with the extension of .eps and with other type of pictures like .png, .jpg, .pdf etc. In the first case the output of the source code is .dvi, and you have to convert it with *dvi2pdf* into pdf. In the latter case you can directly create pdf files from the LaTeX source using the `PDFLaTeX` command. **Please use .png as your picture extension for the AACS workshop.**

You can insert figures into the text practically in two ways. When you need more space for a figure, simply insert it as single figure as shown in Figure 1.

Figure 1: The logo of the University

However because of space saving reasons you can put two figures in the same row as shown in Figure 2(a) and 2(b).

(a)

(b)

Figure 2: (a) BME logo 1 (b) BME logo 2

You can also use the **subfloat** package for arranging your figures. In this case, you can easily reference only the part of the whole figure. For example Figure 3a is the first part of the Figure 3.

(a) The first figure

(b) The second figure

Figure 3: Some logo of the BME

For the camera ready manuscript you have to provide the source code of your LaTeX work (.tex file, the figures and the .bib files compressed (zip)).

You can create tables as shown in Table 1. Please insert the caption of the table above the table by placing the caption just after the `\begin{table}` command.

Table 1: Sample table using the different Greek letters

Command	Appearance
`$\alpha$`	α
`$\beta$`	β
`$\Gamma$`	Γ
`$\gamma$`	γ
`$\sigma$`	σ

3 Mathematical formulas

In order to obtain a mathematical formula using LaTeX, you must enter mathematics mode before the formula and leave it afterwards. Mathematical formulae can occur either embedded in text (in-line mode) or else displayed between lines of text. When a formula occurs within the text of a paragraph one should place a $ sign before and after the formula, in order to enter and leave mathematics mode.

For example the command `$\sigma_{min}$` will cause σ_{min} in the text. You can insert more complex formulas as well, for example: $\sum_{i=1}^{n} i^2$ is created by the command `$\sum_{i=1}^{n}i^{2}$`.

Not in-line equation can be created as shown in Eq. (1). In case of not in-line equations please always use numbered equations.

$$S = \sum_{i=1}^{n} \alpha * i^2 \tag{1}$$

When you want to write more equations in succession you can do this as shown in Eq. (2).

$$\begin{aligned} 4x - 1 &= 2x + 4 \\ 2x - 1 &= 4 \\ 2x &= 5 \\ x &= \frac{5}{2} \end{aligned} \tag{2}$$

A more complex equation can be seen in Eq. 3.

$$f(x) = \begin{cases} 1 \text{ if } x \in A \\ 0 \text{ otherwise} \end{cases} \tag{3}$$

Take care of using `\eqref` when referencing the number of an equation.

4 Theorem environments

You can use several theorem-like environments that are defined in the style file. For the proofs use `\begin{proof}` and `\end{proof}` commands.

Definition 1. This is a definition. The typesetting of the definition is predefined in the style file. The numbering of the different theorem-like environments are continuous.

Theorem 2. *This is the first theorem of the paper.*

Proof. This is the proof of Theorem 2 □

You can use the environments shown in Table 2.

Table 2: Different environments

Environment name	Appearing text
theorem	Theorem
cor	Corollary
lemma	Lemma
claim	Claim
axiom	Axiom
conj	Conjecture
fact	Fact
hypo	Hypothesis
assumption	Assumption
proposition	Proposition
crit	Criterion
definition	Definition
example	Example
remark	Remark
problem	Problem
prin	Principle
alg	Algorithm

When you want to typeset the pseudocode of an algorithm you can use the Algorithm environment as shown in Algorithm 1.

5 Bibliography

You have to use the `\makeAutBib` command for your bibliography. The input parameter of the command is the comma separated list of bib files without the extension. You can also find a sample bib file on the Workshop's web site where also the style file and this sample LaTeX template are provided. You can cite

Algorithm 1 Pseudo code of the Apriori algorithm

```
1: procedure Apriori(σ_min)
2: L^1 = find frequent 1-itemsets
3: for k = 2;L^{k-1} ! = null;k++ do
4:    C^k = AprioriGen(L^{k-1})
5:    for all transaction t ∈ D_I do
6:       C^t = subset(C^k, t)
7:       for all candidate c in C^t  do
8:          c.counter++
9:          for all c in C^k do
10:            if  c.counter > σ_min then
11:               L^k.Add(c)
12: return C^k
```

any of the entries of the bib files for example [1] or [2]. The advantage of using bib files is that only those bibliographies will appear in the References section that are cited in the text [3].

If you have any question related to writing your LaTeX paper please contact the chair of the conference(e-mail: aacs@aut.bme.hu).

You can submit your paper via the web page of the conference. The submission of the papers will be opened soon.

Acknowledgments

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References

[1] J. Han, J. Pei, and Y. Yin, "Mining frequent patterns without candidate generation," in *Proc. of ACM SIGMOD International Conference on Management of Data* (W. Chen, J. Naughton, and P. A. Bernstein, eds.), pp. 1–12, ACM Press, 05 2000.

[2] D. Burdick, M. Calimlim, and J. Gehrke, "Mafia: A maximal frequent itemset algorithm for transactional databases.," in *Proc. of the 17th International Conference on Data Engineering, (ICDE'01),* ***hhtp: // avalon. aut. bme. hu/ ~reni***, pp. 443–452, IEEE Computer Society, 2001.

[3] Reni, "Matlab scripts." `http://avalon.aut.bme.hu/~agi/research/`.

[1] Please mention the name of your advisor in the Acknowledgements section.

[2] Please mention the institution or organization that has supported your research work.