

L^AT_EX Paper Template

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Abstract

The abstract should summarize the entire paper, clearly stating the novel contributions. It generally should not include any mathematical notation, formulas, or citations. Write the abstract knowing that it is the only part of your paper that a large majority of readers will ever see.

1 Introduction

The introduction should grab the reader's attention. It is your opportunity to excite the reader and motivate them to continue reading the rest of the paper. Use the introduction to provide basic background and notation, clearly stating your motivation and novel contributions. Depending on the customs in your particular research area, the introduction may also include a review of the relevant literature if the following (optional) Literature Review section (i.e., §2) is not included.

2 Literature Review

This section should review the relevant literature if such a review has not been provided in §1. Observe in the L^AT_EX file how to embed citations such as this one [1] or this one [1, Theorem 1], where the latter refers to a specific part of the given reference.

3 Novel Content

It is impossible to overstate the importance of presenting your contributions in a clear and concise manner. Choose notation carefully and present your work logically. Use in-line mathematical expressions such as $Ax = b$, but switch to display-mode for important expressions that may require a reference number such as

$$Ax = b. \tag{3.1}$$

Use theorem environments such as the following to highlight important developments in the paper.

Theorem 3.1. *Equation (3.1) has zero, one, or an infinite number of solutions.*

Notice in the L^AT_EX file that shortcuts have been defined in this template for equations and theorems. Normally, the tags for the equation environment looks like this (see the L^AT_EX file):

$$Ax = b. \tag{3.2}$$

Similarly, the tags for the theorem environment looks like this (see the L^AT_EX file):

Theorem 3.2. *Equation (3.2) has zero, one, or an infinite number of solutions.*

See the commands.sty file for other shortcuts that have been defined and can be used. Also consider defining your own shortcuts for commands that you use often.

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4 Additional Novel Content

Tables are often centered as Table 4.1 is below.

7C0	hexadecimal
3700	octal
11111000000	binary
1984	decimal

Table 4.1: The number 1984 written in various numerical bases

If the text following a table is supposed to be a continuation of the paragraph preceding the table, then you can use the command preceding this text in the L^AT_EX document to ensure that the text is not indented.

Figures are often centered as Figure 4.1 is below.

Figure 4.1: Lehigh University logo



Captions can be made to appear above or below a table or figure depending on the order of the commands written in the table or figure block. Also, be aware that the placement of the `\label{...}` command within the table and figure blocks above (see the L^AT_EX document) does matter. Be sure to place the `\label{...}` command after the `\caption{...}` command as is done above so that the numbering will be correct.

5 Conclusion

The conclusion should summarize the paper and (optionally) discuss future work. This should not be a repeat of the summary provided in the abstract and/or introduction. At this point in the paper, the reader has (supposedly) seen the details of your work, so your concluding remarks should be specific and insightful. It is also appropriate in this section to discuss issues and/or open questions the paper does not cover.

References

- [1] J. Farkas. Über die Theorie der Einfachen Ungleichungen. *Journal für die Reine und Angewandte Mathematik*, 124:1–27, 1902.

Appendix A

Your paper can be written initially using this template. Note, however, that journals have macros involving their own style files and class definitions, meaning that at some point your document will need to be converted into their format. This requires some effort, and unfortunately can only be done once you have chosen the journal to which you plan to submit the paper. If you know the intended journal from the beginning, it may be wise to write the entire paper using their macros from the start.