This is my LaTeX

IEEE YP Particpants

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Contents

Abstract

IEEE Young Professionals Affinity Group in the Montreal chapter is hosting a free virtual LaTeXtraining workshop. All students at all levels are welcome to attend, however, registration is mandatory through the secure IEEE web portal. This workshop will cover all your needs to write your technical reports, thesis, and paper, by introducing the well-known libraries to deal with math typing, figures, algorithms, tables, references, etc. We will have virtual breaks as well as a Q&A section.

1 Agenda

Introduction
Hello World and document structure
Typesetting syntax
Labeling and referring
Math typing
Figures and subfigures
Tables
Citations and Bibliography
Useful commands and definitions
Templates: IEEE, Elsevier, Thesis, etc.
Overleaf: fast collaboration tools
Some advanced hints and tricks

2 Introduction

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magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

We already covered this section over the slides.

3 Hello World

We did it in the early times.

4 Typesetting Syntax

4.1 Paragraph

This is my paragraph: Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

4.1.1 Sub paragraph

This is my subparagraph: IEEE Young Professionals Affinity Group in the Montreal chapter is hosting a free virtual LaTeX training workshop. All students at all levels are welcome to attend, however, registration is mandatory through the secure IEEE web portal. This workshop will cover all your needs to write your technical reports, thesis, and paper, by introducing the well-known libraries to deal with math typing, figures, algorithms, tables, references, etc. We will have virtual breaks as well as a Q&A section.

4.2   Table of contents:

We have generated our table of contents by using command `\tableofcontents`.

4.3   Font Effects

There are some commands in Latex that allows you deal with effects. For instance, if you want to make a bold font, you can write **like this**. So the command to do it is `\textbf{text}`. How to make it italic? This is *italic word*. We made it by using command `\textit{text}`. ***this is my bold and italic text simultaneously***. <u>This is underlined text</u>. THIS IS MY SMALL CAPITAL TEXT.

4.3.1   Font Size

This is my tiny text.

This is my script size text.

This is my footnote size

This is my small size text.

This is my normal size text.

this is my large text

This is my Large text

This is my very LARGE text

This is my huge text.

4.3.2   Colors

Latex supports a package for coloring. Just you need to use `\usepackage{color}`. We need to put this command before `\begin{document}`. The only thing that you need to have is using command `{\color{your color}  your text goes here.}`
This is my red font text. This is my green font text. This is my blue font text. This is my yellow font text. This is my cyan font text. This is my magenta font text.

5   Labeling and Referencing

Here I would like to call introduction section by using command `\ref{label}`. Section 2. Let us call subsection! In subsection 4.1, we covered paragraph.

6   Math Typing

If you want to put a math notation in your body text, you need to use the sign `$ your notation goes here $`. I would like to write x in mathematics mode. Here is how I can do it: x. I would like to call Alpha like this α, or β. $P_{s,cache}(N, \gamma_r) = \frac{1}{N} P_{hit}$. Here is my generate math from online tools: $\sum_{i=1}^{N} \frac{1}{i^N}$.

Notation	Description
x	This is the description for this notation
y	This is the description for this notation
z	This is the description for this notation
w	This is the description for this notation
α	This is the description for this notation
β	This is the description for this notation
$\int_a^b f(x)$	This is the description for this notation
λ	This notation is related to Eq. 4

Table 1: THIS IS MY FIRST TABLE

$$\sum_{i=1}^{N} \frac{1}{i^N} \tag{1}$$

In Eq. 1, we showed....

$$\int_{y=c}^{y=d} \int_{x=a}^{x=b} \prod_{i=1}^{N} \sum_{n=1}^{n=N} f(x, y, n, i) \tag{2}$$

I want to call second equation like this: Eq. 2.

$$\int_{y=c}^{y=d} \int_{x=a}^{x=b} \prod_{i=1}^{N} \sum_{n=1}^{n=N} f(x, y, n, i) \tag{3}$$

$$\int_{y=c}^{y=d} \int_{x=a}^{x=b} \prod_{i=1}^{N} \sum_{n=1}^{n=N} f(x, y, n, i)$$

$$\int_{y=c}^{y=d} \int_{x=a}^{x=b} \prod_{i=1}^{N} \sum_{n=1}^{n=N} f(x, y, n, i) \tag{4}$$

$$\int_{y=c}^{y=d} \int_{x=a}^{x=b} \prod_{i=1}^{N} \sum_{n=1}^{n=N} f(x, y, n, i) \tag{5}$$

7 Tables

Here we are going to deal with the table stuff in LaTeX. The very first version of our table can be designed like this:

8 Figures

Here we will need to have a specific package called \usepackage{graphicx, graphics, subcaption}. Then, we need to define the path of the figures. We need to do it right after \begin{document} and the command to do that is graphicspath{the path goes here}. Now, we are all set to use packages.

I would like to call figure like this. Fig. **??**. Now, how to deal with the subfigures.

9 Bibliography and Citations

First, you need to create a bib file. Then, you put your bibtex inside it. Further, you need to call it before \end{document}. Let us call the reference [1].

References

[1] Y. Liu, F. Ke, and H. Song. Preference-aware utility optimization for cache-aided ultra-dense relay networks: A matching perspective. In *2020 IEEE Wireless Communications and Networking Conference Workshops (WC-NCW)*, pages 1–7, 2020.

Notation	Description
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Table 2: THIS IS MY FIRST TABLE