

Complex LaTeX Document

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Abstract

This document illustrates how to manage various elements like equations, images, tables, references, lists, and superscripts in LaTeX. It includes a broad range of techniques for effective document creation.

Introduction

In this document, we will demonstrate several LaTeX techniques for handling figures, tables, citations, and lists. In particular, observe how figures and tables are numbered and referenced, and how superscripts¹ are used in conjunction with footnotes².

1 First Main Section

Sample text for the main section

1.1 First Subsection in Section 1

Sample text for the first subsection

1.2 Second Subsection in Section 1

Sample text for the second subsection

2 Second Main Section

Sample text for the second main section

2.1 First Subsection in Section 2

Sample text for the first subsection

2.2 Second Subsection in Section 2

Sample text for the second subsection

2.3 Three-Column Table

Column 1	Column 2	Column 3
Data 1	Data 2	Data 3
Data 4	Data 5	Data 6
Data 7	Data 8	Data 9

Table 1: A 3-Column Table Centered in a Column

2.4 Six-Column Table Spanning Across the Page

3 Statistical Equations

$$\mu = \frac{1}{n} \sum_{i=1}^n x_i \tag{1}$$

$$\sigma = \left[\frac{1}{n-1} \sum_{i=1}^n (x_i - \mu)^2 \right]^{0.5} \tag{2}$$

$$f(x) = \frac{1}{\sqrt{2\pi}\sigma} e^{-\frac{(x-\mu)^2}{2\sigma^2}} \tag{3}$$

4 Figures

4.1 First Figure

4.2 Second Figure

As shown in Figure 1, the first image demonstrates an example concept. The second image (Figure 2)

Col 1	Col 2	Col 3	Col 4	Col 5	Col 6
Data 1	Data 2	Data 3	Data 4	Data 5	Data 6
Data 7	Data 8	Data 9	Data 10	Data 11	Data 12
Data 13	Data 14	Data 15	Data 16	Data 17	Data 18

Table 2: A 6-Column Table Centered Across Both Columns of the Page



Figure 1: First Example Image

adds further illustration to this concept.(further illustration to this concept.further illustration to this concept.further illustration to this concept.further illustration to this concept.further illustration to this concept.further illustration to this concept.further illustration to this concept.further illustration to this concept.further illustration to this concept.further illustration to this concept.further illustration to this concept.)

Tables 1 and 2 show two different formats for tabular data.



Figure 2: Second Example Image

Col 1	Col 2	Col 3	Col 4	Col 5	Col 6
Data 1	Data 2	Data 3	Data 4	Data 5	Data 6
Data 7	Data 8	Data 9	Data 10	Data 11	Data 12
Data 13	Data 14	Data 15	Data 16	Data 17	Data 18

Table 3: A 6-Column Table in Landscape Mode on a Page of Its Own

5 More Information

Using superscripts¹ is a great way to reference specific notes that can be expanded upon in the footer².

6 Lists

6.1 Bullet List

- First bullet item
- Second bullet item
- Third bullet item
 - Sub-bullet 1
 - Sub-bullet 2
 - Sub-bullet 3

6.2 Numbered List

1. First numbered item
2. Second numbered item
3. Third numbered item
 - a) Sub-numbered a
 - b) Sub-numbered b
 - c) Sub-numbered c

References

- [1] Smith, J., "Understanding Adversarial Attacks," *Journal of Security*, 2023.
- [2] Doe, A., "Exploring Facial Recognition," *Tech Review*, 2022.
- [3] Johnson, P., "Neural Networks and Security," *Information Technology*, 2021.
- [4] White, R., "Machine Learning in Practice," *Tech Journal*, 2024.
- [5] Gray, L., "Artificial Intelligence for Authentication," *Secure Computing*, 2020.

1. Explanation for the first superscript.
2. Explanation for the second superscript.