

# Homework of LaTeX

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**Abstract:** This is the homework of using LaTeX. In this paper, we demonstrate the application of LaTeX for academic writing, covering essential elements such as the title, authors, abstract, and main body of the paper, as well as the insertion of figures, tables, mathematical equations, and code snippets.

**Keywords:** keyword 1; keyword 2; keyword 3

## 1. Introduction

This is the introduction.

This is a cite[1]. This is another cite[2].

## 2. Materials and Methods

This is Materials and Methods.

## 3. Results

This is the results.

### 3.1. Subsection

This is a subsection.

#### 3.1.1. Subsubsection

This is a subsubsection.

These are Bulleted lists :

- First bullet;
- Second bullet;
- Third bullet.

These are Numbered lists :

1. First item;
2. Second item;
3. Third item.

### 3.2. Figures and Tables

This is a Figure 1. This is a wide Figure 2.

Received:

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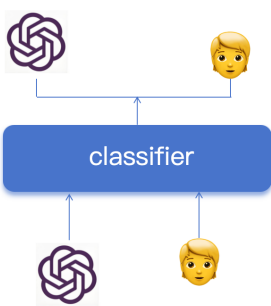


Figure 1. This is a figure.

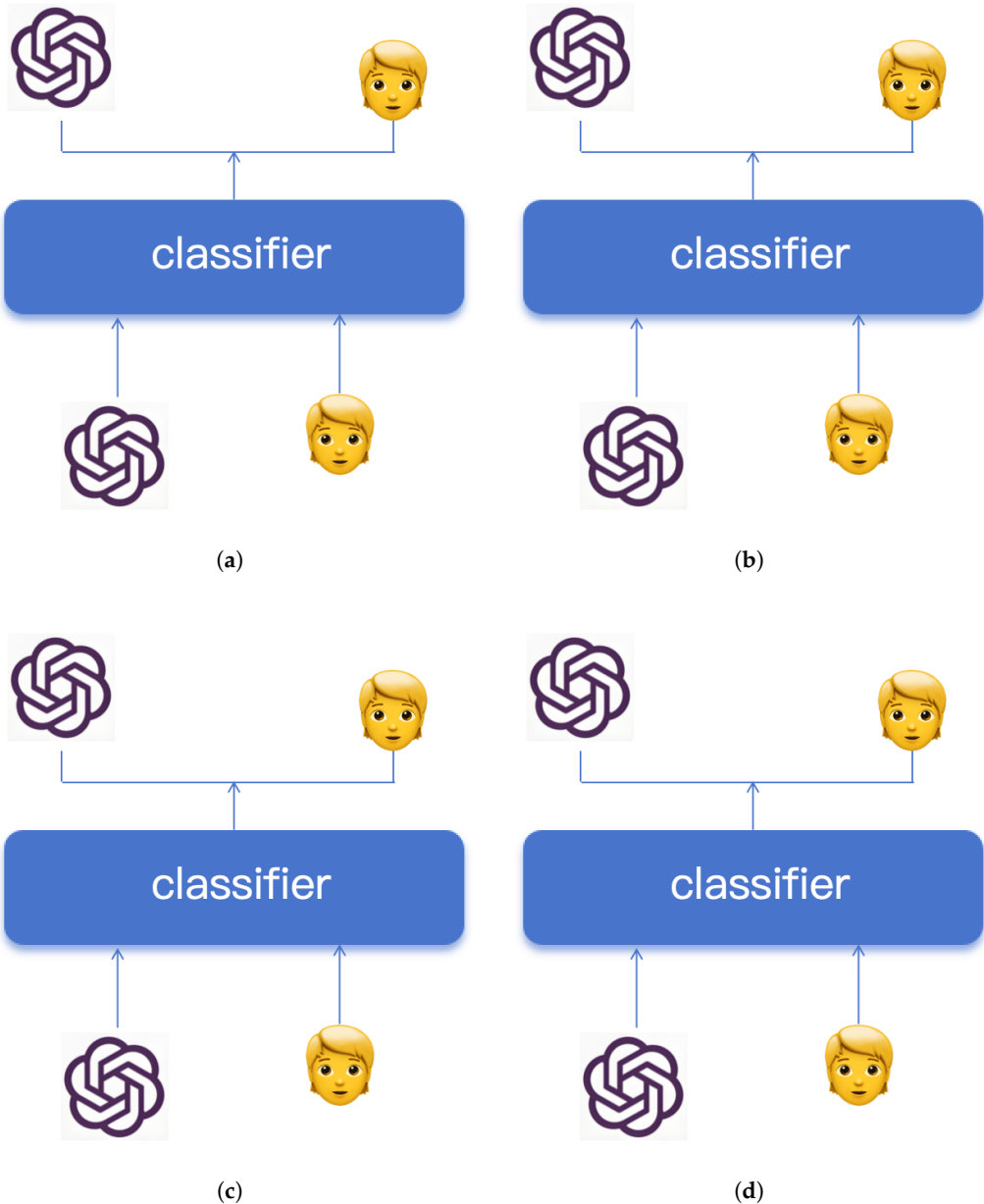


Figure 2. This is a wide figure. (a) Description of (a). (b) Description of (b). (c) Description of (c). (d) Description of (d).

This is a Table 1. This is a wide Table 2.

**Table 1.** This is a table caption.

Title 1	Title 2	Title 3
Entry 1	Data	Data
Entry 2	Data	Data <sup>1</sup>

<sup>1</sup> Tables may have a footer.

**Table 2.** This is a wide table.

Title 1	Title 2	Title 3	Title 4
Entry 1 *	Data	Data	Data
	Data	Data	Data
	Data	Data	Data
Entry 2	Data	Data	Data
	Data	Data	Data
	Data	Data	Data

\* Tables may have a footer.

3.3. *Formatting of Mathematical Components*

This is an example of equation: The loglikelihood of a token is shown in eq [1](#).

$$\ell_{\theta_n}(x_i) = \log p_{\theta_n}(x_i \mid x_{<i})$$

(1)

This is a Theorem.

**Theorem 1.** *Example text of a theorem.*

This is a Proof.

**Proof of Theorem 1.** Text of the proof.  $\square$

This is a pseudocode of an algorithm.

**Algorithm 1** Euclidean Distance Calculation

**Require:** Vectors  $\mathbf{x}, \mathbf{y}$

**Ensure:** Distance  $d$

```
1:  $d \leftarrow 0$ 
2: for  $i \leftarrow 1$  to  $n$  do
3:    $d \leftarrow d + (x_i - y_i)^2$ 
4: end for
5: return  $\sqrt{d}$ 
```

This is the code.

Listing 1: Example of Python

```
1 def factorial(n):
2     """Calculate the factorial"""
3     if n == 0:
4         return 1
5     else:
6         return n * factorial(n-1)
```

4. Conclusions

This is the conclusion.

References

1.

Author 1, T. The title of the cited article. *Journal Abbreviation* **2008**, *10*, 142–149.

2.

Author 2, L. The title of the cited contribution. In *The Book Title*; Editor 1, F., Editor 2, A., Eds.; Publishing House: City, Country, 2007; pp. 32–58.