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論文タイトル

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論文概要

This document is a template of bachelor, master, or Ph.D. thesis.

Abstract is here. Maybe it's better to write abstract at the end of your thesis writing.

謝辞

Let's thank people who somehow contribute to complete your thesis work here.

<div align="right">

2020 年 11 月 25 日

Author name

</div>

目次

図目次

表目次

第 1 章

Introduction

This chapter shows some examples of LaTeX writing.

1.1 Equations

There are several commands to write equations such as \equation, \eqnarray, and \align. This section shows examples of \align as

$$y = Ax + b. \tag{1.1}$$

You can refer any equation by using \ref command as 式 **??**. This thesis template defines a useful command \eref 式 (**??**).

\align can shows multiple equations as

$$y = Ax + b, \tag{1.2}$$
$$x = K[R|t]X. \tag{1.3}$$

It is possible to assign a label to each equation as 式 (**??**) and 式 (**??**).

Matrix can be written by \matrix commands. When you need bracket (or parenthesis), you can use \bmatrix (or \pmatrix) as 式 (**??**)

$$P = \begin{bmatrix} p_{11} & p_{12} & p_{13} & p_{14} \\ p_{21} & p_{22} & p_{23} & p_{24} \\ p_{31} & p_{32} & p_{33} & p_{34} \end{bmatrix}. \tag{1.4}$$

1.2 Figures

Here's an example how to put a figure. Each figure should have a caption, which explains the contents of the figure, below the figure. The size of a figure is adjustable
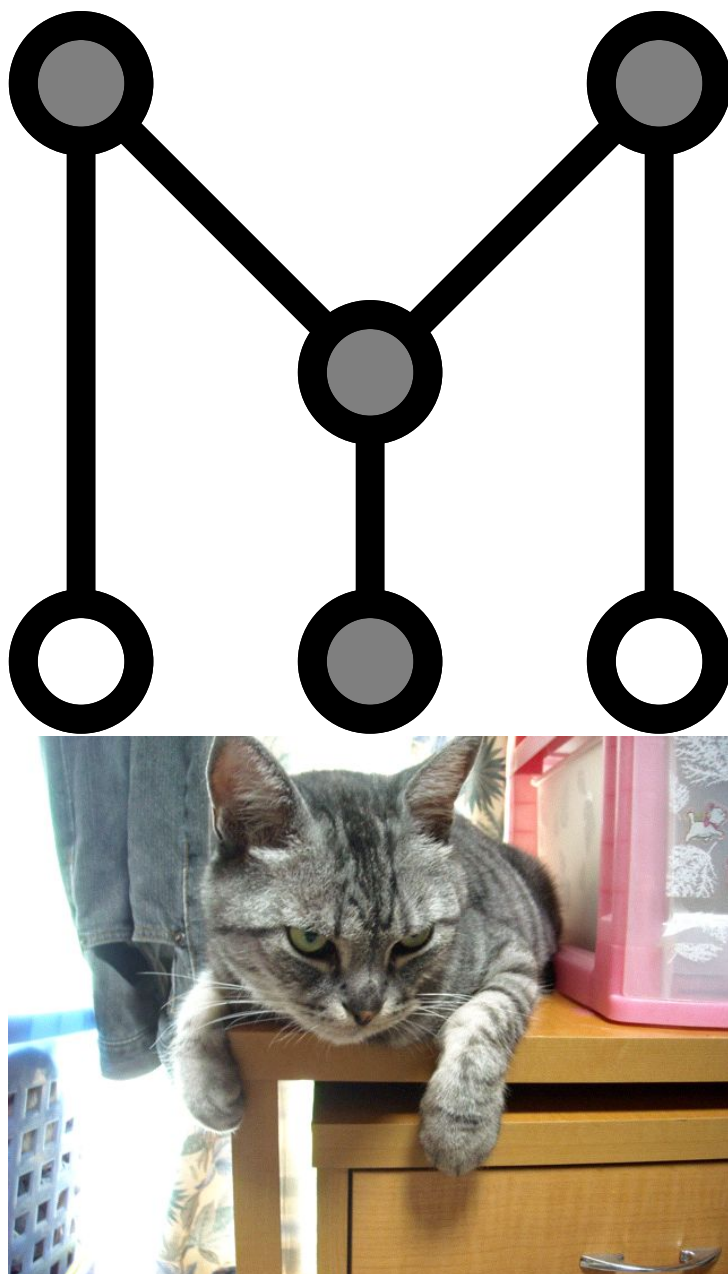
図 1.1　Example of figure

by specifying its size. In this example, the size is set as the width of the figure equals 60%
of column width. Same as equations, you can refer any figure by using \ref command
as 図 **??**. This thesis template defines a useful command \fref as 図 **??**.

表 1.1　Example of table

name	id	size
John Doe	1	100
Jane Doe	3	150

表 1.2　Exmple of complicated table

	pretest				posttest				Gain			
	Score		Time		Score		Time		Score		Time	
Group	A	P	A	P	A	P	A	P	A	P	A	P
Mean	18.48	14.59	5.25	5.28	28.52	21.89	3.95	4.28	10.04	7.30	1.30	1.12
Std. dev.	10.93	11.52	1.44	1.23	5.63	9.92	1.17	1.16	8.85	7.85	1.12	1.15
p	0.21		0.89		0.00		0.32		0.23		0.22	

1.3　Tables

Here's an example how to put a table. Again, you can refer any table by using \ref command as Table **??**. This thesis template defines a useful command \tref as 表 **??**. More complicated table is shown in 表 **??**.

1.4　Algorithms

Here's an example how to put an algorithm. Same as figure, you can refer any table by using \ref command as Algorithm **??**. This thesis template defines a useful command \aref as アルゴリズム **??**. アルゴリズム **??** shows another type of algorithm which contains normal text. See here for more detail about algorithm, algorithmicx, and algorithm2e packages.

1.5　Reference

Citation can be done by \cite command as [**?**] and [**?**, **?**, **?**]. For citation, it is highly recommended to use BibTeX. For more flexible bibliography, you can use natbib.

Algorithm 1 Example of algorithm copied from here

Require: $n \geq 0 \vee x \neq 0$

Ensure: $y = x^n$

  $y \leftarrow 1$

  if $n < 0$ **then**

    $X \leftarrow 1/x$

    $N \leftarrow -n$

  else

    $X \leftarrow x$

    $N \leftarrow n$

  end if

  while $N \neq 0$ **do**

    if N is even **then**

      $X \leftarrow X \times X$

      $N \leftarrow N/2$

    else $\{N$ is odd$\}$

      $y \leftarrow y \times X$

      $N \leftarrow N - 1$

    end if

  end while

Algorithm 2 Example of algorithm with text copied from here

---

  if some condition is true **then**

    do some processing

  else if some other condition is true **then**

    do some different processing

  else if some even more bizarre condition is met **then**

    do something else

  else

    do

  end if

第 2 章

Literature Review

Literature review is here. It is required but not enough to explain related works. Literature review needs to compare/cluster It is highly recommended to cluster related works based on your context.

This line shows an example of citation by \cite command [**?**].

第 3 章

Proposed Method

Please don't start describing the detail of your proposed method at the beginning of this chapter. You must control the level of detail of the description. It is highly recommended to explain an overview of the proposed method, which corresponds to the coarsest information of the proposed method, at the first paragraph of the method description chapter. It is great that you pur some figures for explaining overview.

3.1 Detail of the proposed method

第 4 章

Experimental Results

Same as **??章**, you must control the level of detail of the description. It is highly recommended to explain an overview of the experiments.

Each section must contain only one experiment, otherwise your sections may fail to tell readers wrong messages. Each experiment must clarify the following components.

1. purpose
2. procedure accomplishing the purpose
3. results obtained by performing the procedure
4. consideration by comparing the expected results and the obtained results

4.1 Experiment A

4.1.1 Purpose

4.1.2 Procedure

4.1.3 Results

4.1.4 Consideration

第 5 章

Conclusion

Conslusion is here

付録 A

Detail of implementation

Let's wrote the detail of method implementation. You can write the following information of softwares and libraries used for the implementation.

- Name
- URL
- Version
- Any tips for installation/compilation

付録 B

Basic theory of A

Appendices are supposed to be supplemental material of your thesis. You can write the following components here.

- Detail of implementation (softwares, libraries, etc.)
- Any data that does not well-fit into the main body of the thesis such as tables, figures, etc..
- Mathematical proof.
- Questionnaires for qualitative evaluations.