

THESIS TITLE

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THESIS TITLE

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## ACKNOWLEDGEMENTS

Acknowledgements come here...

## **ABSTRACT**

## **THESIS TITLE**

One page abstract will come here.

## ÖZET

## TEZ BAŞLIĞI

Bir sayfa uzunluğunda özet gelecektir.

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## LIST OF SYMBOLS

$a_{ij}$	Description of $a_{ij}$
$\mathbf{A}$	State transition matrix of a hidden Markov model
$\alpha$	Blending parameter <i>or</i> scale
$\beta_t(i)$	Backward variable
$\Theta$	Parameter set

## LIST OF ACRONYMS/ABBREVIATIONS

2D	Two Dimensional
3D	Three Dimensional
AAM	Active Appearance Model
ASM	Active Shape Model

## 1. INTRODUCTION

Start with an introduction...

## 2. EXPERIMENTS AND RESULTS

Experiments and results come here...

### 2.1. Sample Section

Always place some text after headings before putting a graphics into a section as seen in Figure 2.1.

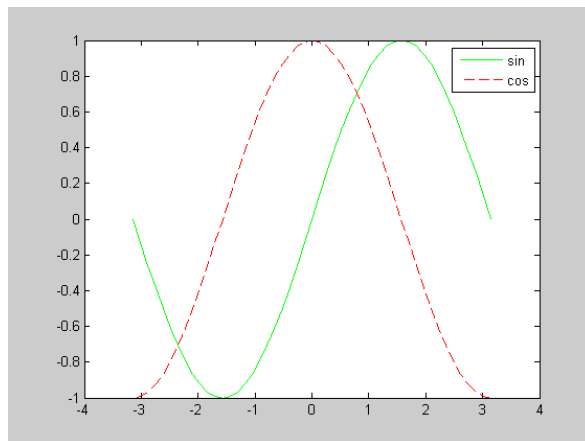


Figure 2.1. Sin and Cosine.

Also, below, you can find how to arrange figures that can span multiple pages.

Descriptive text explaining Figure 2.2. Notice that even though Figure 2.2 is on the following page, descriptive text can reside in a former page as long as the figure number is referenced.

Descriptive text explaining the continuation of Figure 2.2. Normally FBE expects this page to be fully filled with content, hence the need for shifting text from following pages into here.

Now, let us cite some studies: one source as [1], two sources as [1,2] or you may cite three or more sources as [1–3]. Observe that they are ordered in the references chapter in the same order as they are cited. Both the IEEE referencing and APA referencing methods are allowed, this document uses IEEE reference style, for more info on APA, check [6]. Also, note that since the URL is long, LaTeX has trouble in manually linebreaking, hence a modification is made in the references.bib file.

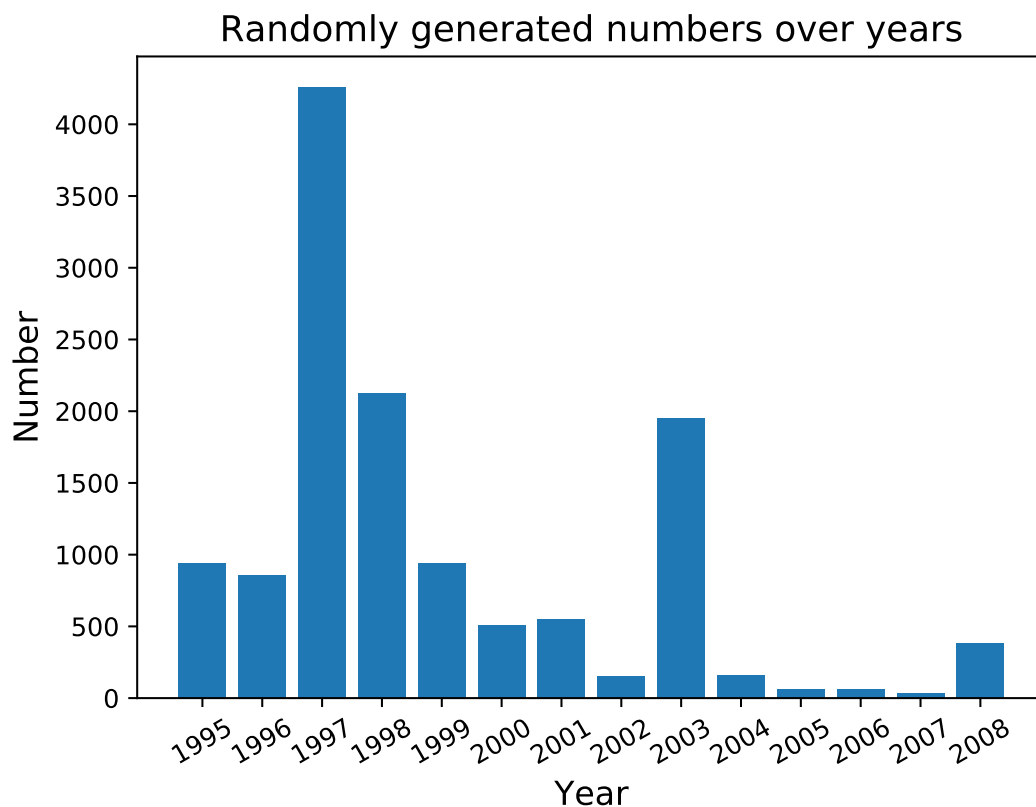


Figure 2.2. Sample Figure

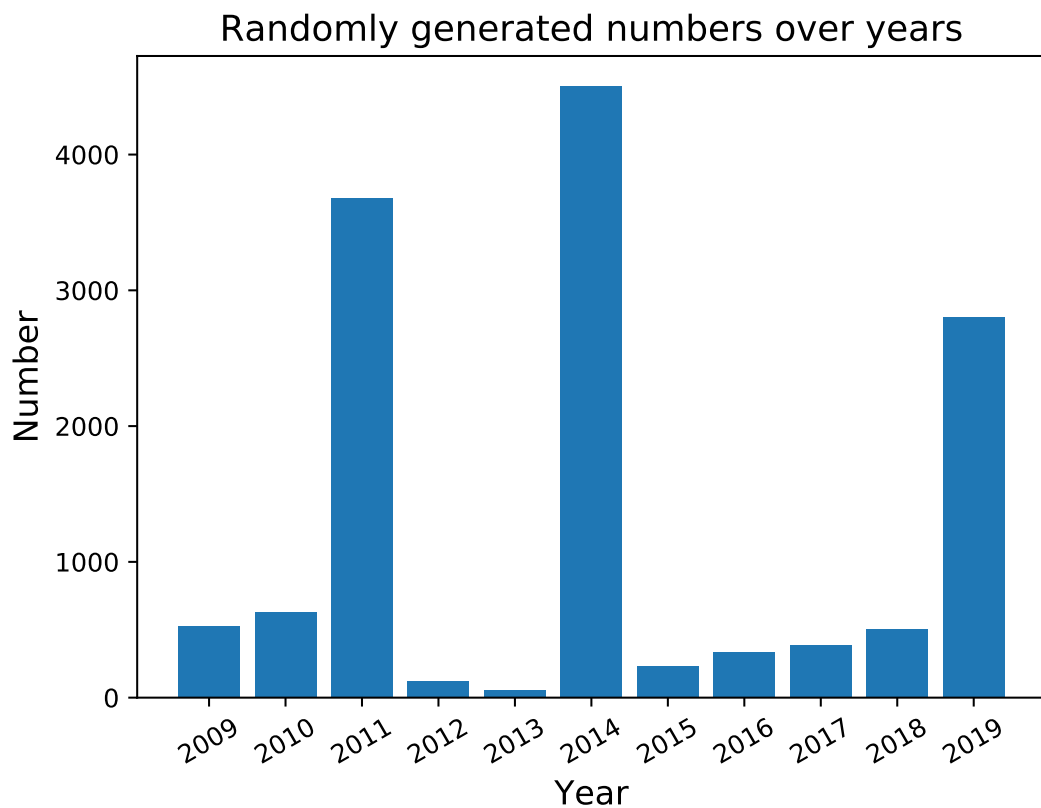


Figure 2.2. Sample Figure (cont.)

Let us put a sample table as seen in Table 2.1. Please pay attention that the caption is followed by a period.

Table 2.1. Sample table.

	Header 1	Header 2
Row 1	Bla bla bla	Bla bla bla
Row 2	Bla bla bla	Bla bla bla

Next up, there is a sample table that spans multiple pages. Normally the packages that are used for this breaks the formatting package provided by FBE, but if done like this, you won't encounter the "package conflict" error stated in the Frequently-SeenMistakes.pdf in the FBE web site.



Table 2.2. Sample table that spans multiple pages. (cont.)

Header 1	Header 2
Bla bla bla	Bla bla bla Bla bla bla Bla bla bla
Bla bla bla	Bla bla bla Bla bla bla Bla bla bla Bla bla bla
Bla bla bla	Bla bla bla Bla bla bla Bla bla bla Bla bla bla Bla bla bla

You can use the code of Table 2.2 to create multiple page spanning longtables.

Footnotes should be avoided as possible. If there is an absolute necessity, footnotes should be used as this.<sup>1</sup> Please be informed that URLs are not allowed within thesis text, even in footnotes. Provide them as citations instead.

---

<sup>1</sup>Example of a footnote



Item lists may be represented as follows:

- This is an item. Do not use boldface for the items.
  - (i) This is a sub-item. Subsub-items are not allowed.
- Another item.

Item lists may also be represented as follows:

- (i) This is another enumerated item.
  - This is another sub-item.

**Theorem 2.1.** *The solutions of the equation  $ax^2 + bx + c = 0$  with  $a \neq 0$  are*

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

*Proof.* We use the method of completing the square to rewrite  $ax^2 + bx + c$ .

$$\begin{aligned} ax^2 + bx + c &= a \left( x^2 + \frac{b}{a}x \right) + c \\ &= a \left( x^2 + \frac{b}{a}x + \left( \frac{b}{2a} \right)^2 - \left( \frac{b}{2a} \right)^2 + \right) + c \\ &= a \left( x + \frac{b}{2a} \right)^2 - a \left( \frac{b}{2a} \right)^2 + c \\ &= a \left( x + \frac{b}{2a} \right)^2 - \frac{b^2 - 4ac}{4a} \end{aligned}$$

Therefore  $ax^2 + bx + c = 0$  can be rewritten as

$$a \left( x + \frac{b}{2a} \right)^2 - \frac{b^2 - 4ac}{4a} = 0$$

which can in turn be rearranged as

$$\left( x + \frac{b}{2a} \right)^2 = \frac{b^2 - 4ac}{4a^2}$$

Taking square roots gives

$$x + \frac{b}{2a} = \frac{\pm\sqrt{b^2 - 4ac}}{2a}$$

which implies

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

as required. □

Finally, we will put a sample algorithm (PCA algorithm) using the relevant package in a figure as shown in Figure 2.1 and sample equations.

```

Require  $\mathbf{s}_i$ ,  $i = 1, 2, \dots, N$  are normalized
Compute the mean  $\bar{\mathbf{s}}$  using Eq. 2.1;
Form the  $N \times 2L$  matrix  $\mathbf{Q}$  as defined in Eq. 2.2;
if  $N < 2 \times L$  then
     $\mathbf{Q} \Leftarrow \mathbf{Q}^T$  ;
end if
Compute the covariance matrix  $\mathbf{C}_s$  using Eq. 2.3;
Decompose  $\mathbf{C}_s$  to its eigenvectors  $\mathbf{e}_k$  and eigenvalues  $\lambda_k$  satisfying Eq. 2.4;
if  $N < 2 \times L$  then
    for  $k = 1$  to  $K$  do
         $\mathbf{e}_k \Leftarrow \mathbf{Q}\mathbf{e}_k$  ;
         $\mathbf{e}_k \Leftarrow \mathbf{e}_k / \|\mathbf{e}_k\|$  (normalization);
    end for
end if

```

Figure 2.3. Principal Component Analysis Algorithm.

$$\bar{\mathbf{s}} = \frac{1}{N} \sum_{i=1}^N \mathbf{s}_i \quad (2.1)$$

$$\mathbf{Q} = \begin{bmatrix} \mathbf{s}_1 - \bar{\mathbf{s}} & \mathbf{s}_2 - \bar{\mathbf{s}} & \cdots & \mathbf{s}_N - \bar{\mathbf{s}} \end{bmatrix}_{2L \times N} \quad (2.2)$$

$$\mathbf{C}_s = \frac{1}{N} \mathbf{Q}^T \mathbf{Q} \quad (2.3)$$

$$\mathbf{C}_s \mathbf{e}_k = \lambda_k \mathbf{e}_k \quad (2.4)$$

### 2.1.1. Example of First Subheadings

Some text here

2.1.1.1. Example of Second Subheadings. Some text here too.

### 3. CONCLUSION

The conclusions of the thesis should come here.

## REFERENCES

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LATEX CODE TO FIT PROPERLY IN TABLE OF  
CONTENTS**

The appendices start here. After references section.