HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

THESIS

This is title of the thesis

BUI HONG NGOC
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Major : Computer Science

Thesis advisor	:	Prof. Do Phan Thuan
		Signature of advisor
Department	:	Department of Computer Science
Institute	:	School of Information and Communication Technology

Hanoi, 5-2021

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   Affiliation : Hanoi University of Science and Technology.
   Duration : 11/02/2021 - 31/05/2021.

2. Thesis statement :
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   Hanoi, date month year 2021
   Author

   Bui Hong Ngoc

4. Attestation of thesis advisor:
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   Hanoi, date month year 2021
   Thesis Advisor

   Prof. Do Phan Thuan

Acknowledgments

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Abstract

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

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This is title of the thesis in Vietnamese

Tóm tắt đồ án

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Contents

List of Figures

List of Tables

List of Acronyms

DL deep learning. vi

IA intelligent agent. vi

MDP Markov decision process. vi

QoS Quality of Service. vi

RL reinforcement learning. vi

WRSN wireless rechargeable sensor network. vi

WSN wireless sensor network. vi

List of Notations

$\mathcal{P}$ a set of deployed sensors.

$\tilde{E}_{td}$ energy requesting threshold.

n number of deployed sensors.

p_0 base station.

p a sensor.

Nulla facilisi. In vel sem. Morbi id urna in diam dignissim feugiat. Proin molestie tortor eu velit. Aliquam erat volutpat. Nullam ultrices, diam tempus vulputate egestas, eros pede varius leo.

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Chapter 1

The title of chapter one

There's something to be said for having a good opening line. Morbi commodo, ipsum sed pharetra gravida, orci $x = 1/\alpha$ magna rhoncus neque, id pulvinar odio lorem non turpis [1, 2]. Nullam sit amet enim. Suspendisse id velit vitae ligula volutpat condimentum. Aliquam erat volutpat. Sed quis velit. Nulla facilisi. Nulla libero. Vivamus pharetra posuere sapien. Nam consectetuer. Sed aliquam, nunc eget euismod ullamcorper, lectus nunc ullamcorper orci, fermentum bibendum enim nibh eget ipsum. Donec porttitor ligula eu dolor. Maecenas vitae nulla consequat libero cursus venenatis. Nam magna enim, accumsan eu, blandit sed, blandit a, eros.

$$\zeta = \frac{1039}{\pi}$$

For an example of a full page figure, see Fig. 1.1.2.

1.1 This is section one

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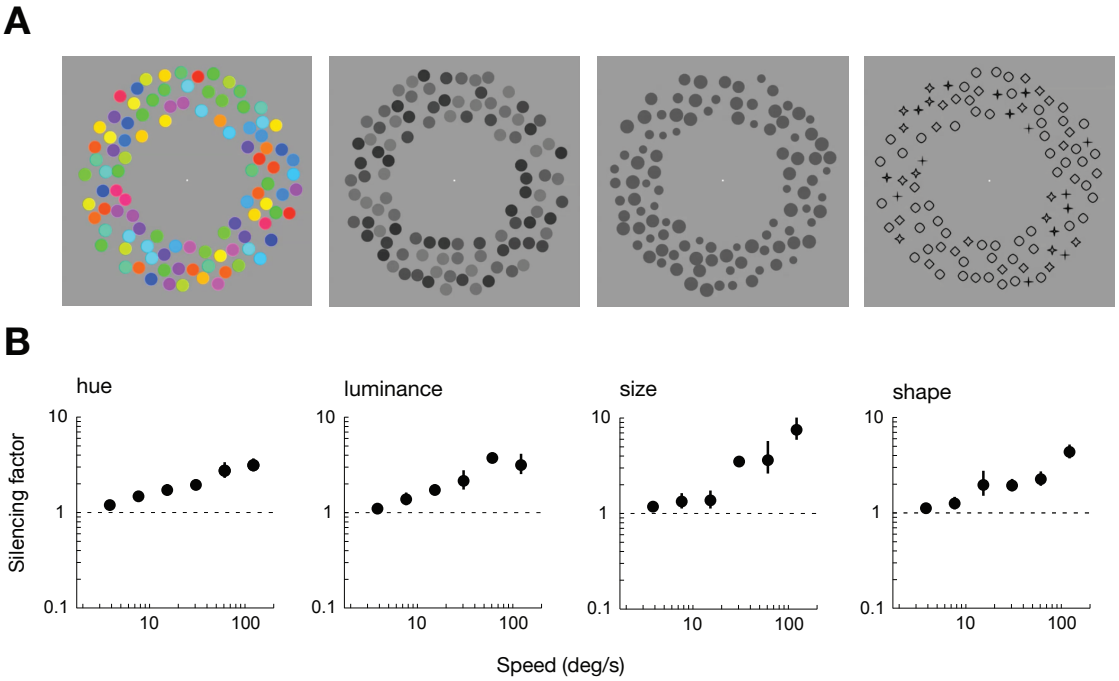

Figure 1.1.1: This is a figure that floats inline and here is its caption.

need for special content, but the length of words should match the language.

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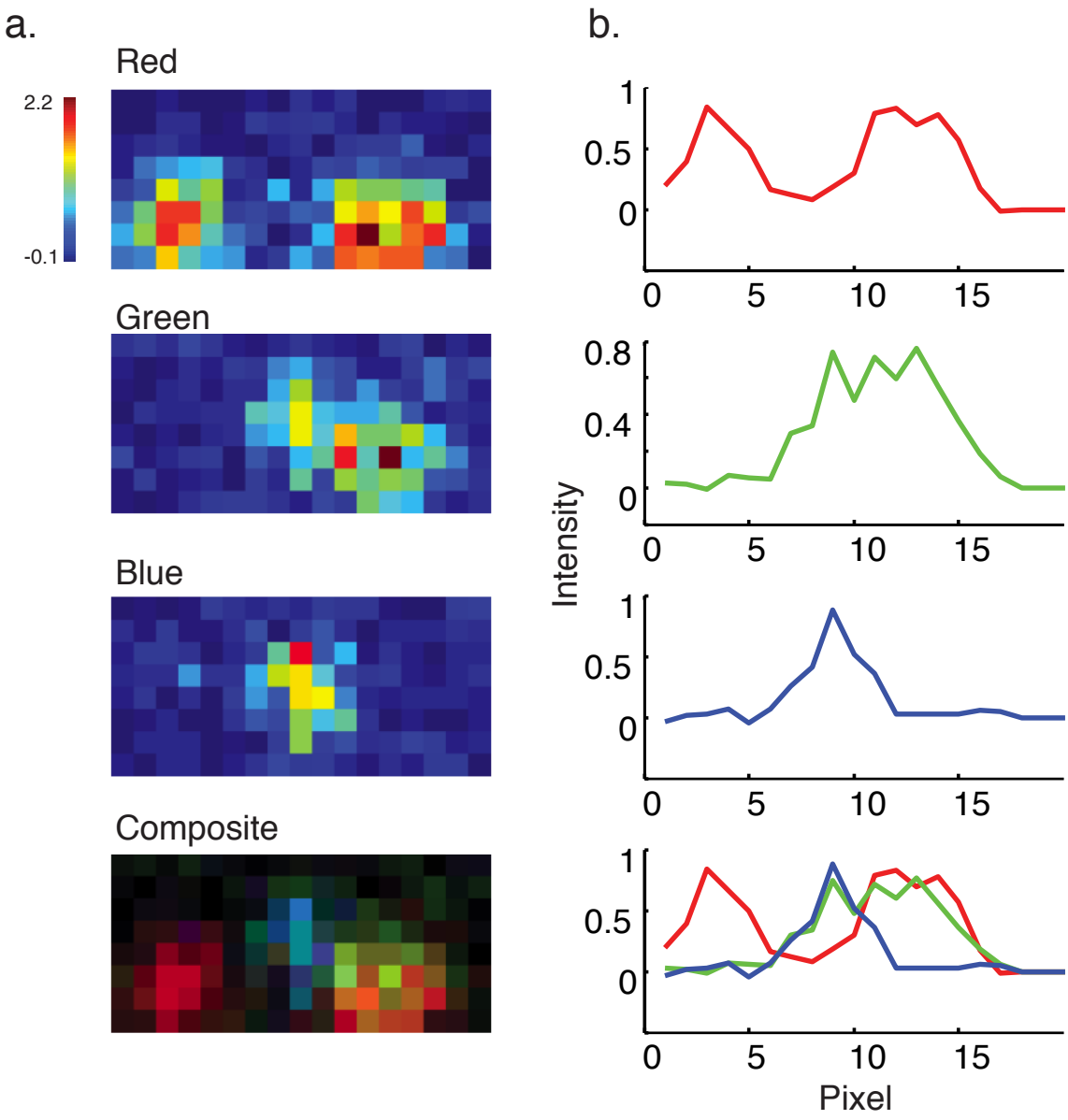

Figure 1.1.2: This is a full page figure using the FPfigure command. It takes up the whole page and the caption appears on the preceding page. Its useful for large figures. Harvard's rules about full page figures are tricky, but you don't have to worry about it because we took care of it for you. For example, the full figure is supposed to have a title in the same style as the caption but without the actual caption. The caption is supposed to appear alone on the preceding page with no other text. You do't have to worry about any of that. We have modified the fltpage package to make it work. This is a lengthy caption and it clearly would not fit on the same page as the figure. Note that you should only use the FPfigure command in instances where the figure really is too large. If the figure is small enough to fit by the caption than it does not produce the desired effect. Good luck with your thesis. I have to keep writing this to make the caption really long. LaTex is a lot of fun. You will enjoy working with it. Good luck on your post doctoral life! I am looking forward to mine.

Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

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$$\bar{x} = \frac{1}{n}\sum_{i=1}^{i=n} x_i = \frac{x_1 + x_2 + \ldots + x_n}{n}$$

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$$\frac{\partial^2 \Phi}{\partial x^2} + \frac{\partial^2 \Phi}{\partial y^2} + \frac{\partial^2 \Phi}{\partial z^2} = \frac{1}{c^2} \frac{\partial^2 \Phi}{\partial t^2}$$

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This is some random quote to start off the chapter.
Firstname lastname

Chapter 2

The title of chapter two

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2.1 This is section one

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- First item in a list
- Second item in a list

Table 2.1.1: Network constants of the energy model.

Parameter	Value	Unit
ε_{elec}	50	nJ/bit
ε_{fs}	10	$pJ/bit/m^2$
ε_{mp}	0.0013	$pJ/bit/m^4$

- Third item in a list
- Fourth item in a list
- Fifth item in a list

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Chapter 3

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[2] Donald E Knuth. Semantics of context-free languages. *Mathematical Systems Theory*, 2(2):127–145, 1968.

Appendix A

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Appendix B

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