

UNIVERSITY OF ENGINEERING AND TECHNOLOGY



Trần Thế Phong

**THIS IS TITLE OF THE THESIS**

**BACHELOR THESIS**

**Major : Công Nghệ Thông Tin**

Hanoi, 2022

**UNIVERSITY OF ENGINEERING AND TECHNOLOGY**

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**Major : Công Nghệ Thông Tin**

**Supervisor:**

**Co-supervisor:**

**Hanoi, 2022**

# Authorship

“I hereby declare that the work contained in this thesis is of my own and has not been previously submitted for a degree or diploma at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no materials previously published or written by another person except where due reference or acknowledgement is made.”

Signature:.....

# Supervisor's approval

“I hereby approve that the thesis in its current form is ready for committee examination as a requirement for the Bachelor of Computer Science degree at the University of Engineering and Technology.”

Signature:.....

# Acknowledgments

And above all, this thesis is for Huong, the one that completes me.

*This is title of the thesis***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 đề án**

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# List of Acronyms

**DL** deep learning. vii

**IA** intelligent agent. vii

**MDP** Markov decision process. vii

**QoS** Quality of Service. vii

**RL** reinforcement learning. vii

**WRSN** wireless rechargeable sensor network. vii

**WSN** wireless sensor network. vii

# 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

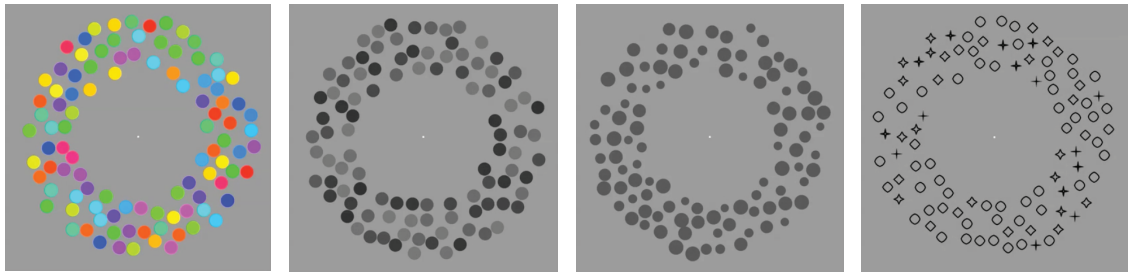
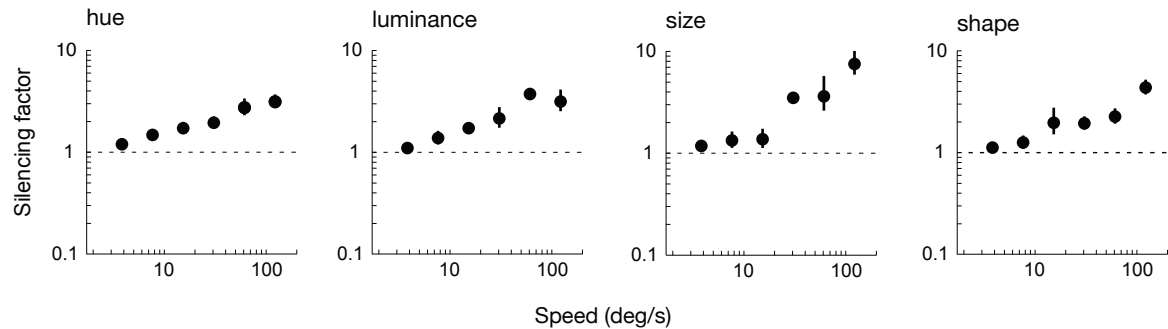
THERE'S SOMETHING TO BE SAID for having a good opening line. Morbi commodo, ipsum sed pharetra gravida, orci  $x = 1/\alpha$  magna rhoncus neque, id pulvinar odio lorem non turpis [1, 2]. Nullam sit amet enim. Suspendisse id velit vitae ligula volutpat condimentum. Aliquam erat volutpat. Sed quis velit. Nulla facilisi. Nulla libero. Vivamus pharetra posuere sapien. Nam consectetur. 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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**A****B**

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

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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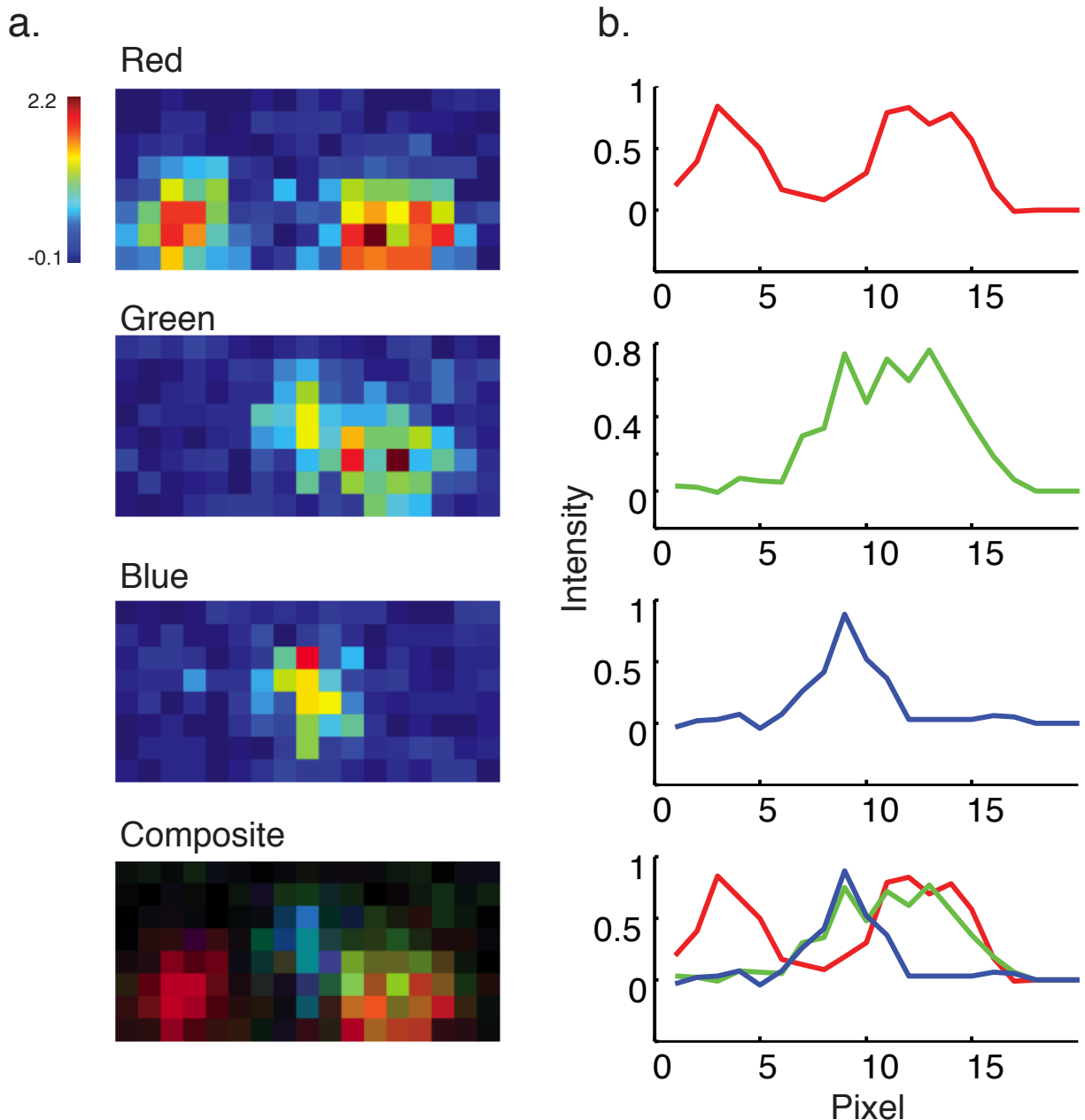
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**Figure 1.1.2:** This is a full page figure using the FPfigure command. It takes up the whole page and the caption appears on the preceding page. Its useful for large figures. Harvard's rules about full page figures are tricky, but you don't have 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 don'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.

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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### 1.3 This is section three

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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

**Table 2.1.1:** Network constants of the energy model.

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

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

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## 2.2 This is section two

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## Chapter 3

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### 3.1 This is section one

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# Bibliography

- [1] Manfred Eigen. Selforganization of matter and the evolution of biological macromolecules. *Naturwissenschaften*, 58(10):465–523, 1971.
- [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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