HCMC University of Technology and Education
Faculty of Electrical & Electronic Engineering

IMAGE PROCESSING

Chapter 1:

Introduction

Assoc. Prof. Nguyen Thanh Hai

Introduction

1. Course description
2. Course objective
3. Student assessments
4. Course contents
5. Student materials
6. Image sources
7. Applications

Introduction

1. Course Description

This course aims to provide students the basic knowledge of image processing. Specifically, the content includes digital image processing operators and basic theories and applications. Moreover, these theories are mentioned including image filtering, image enhancement, image transformation and segmentation and edge detection. In this course, students also learn the methods and skills of the group to be able to handle an image system through the use of software and documentation in English..

Introduction

2. Course Objective

- Students have the basic concepts of image processing and description of image
- Students well understand the method of image filtering, image enhancement, image transforms, image segmentation and edge detection.
- Students have the ability to use the documents and reading English.
- Students know the methods and skills to process image in the future.
- Students have the ability to work in teams

Introduction

4. Course contents

Chapter 1: Introduction

Chapter 2: Fundamentals

Chapter 3: Image transformations

Chapter 4: Image filtering

Chapter 5: Enhancement of image

Chapter 6: Segmentation and edge detection

Chapter 7: Feature Extraction

Small Topics with teamwors

Introduction

5. Student materials

*** Textbook:**

[1] Breckon, *Fundamentals of digital image processing _ a practical approach with examples in Matlab* (2011)

[2] Rafael C. Gonzalez, Richard E. Woods, *Digital Image Processing Using Matlab,* Prentice Hall, 2009.

*** Reference**

[3] Nguyen Thanh Hai, *Xử Lý Ảnh,* Nhà XB ĐHQG TP.HCM, 2014.
[4] Wi. K. Pratt, *Digital Image Processing,* J. Wiley & Sons, Inc., 2001.
[5] N. T. Hai, N. Q Cuong, *Xử Lý Ảnh Y Sinh,* Nhà XB ĐHQG TP.HCM, 2015.
[6] Kayvan N., Robert S., *Biomedical Signal and Image Processing*, Taylor and Francis Group, 2006.

Introduction

The End