

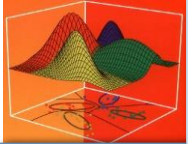
2025 / 2026

IN433

Multimedia Processing

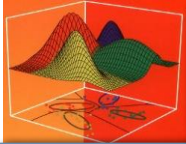
Dr. Zein Al Abidin IBRAHIM





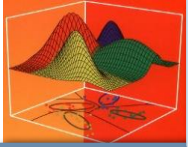
Course Outline

- Course is composed of two parts:
- **Content Representation**
 - Multimedia Content and Multimedia Systems
 - Multimedia Content Representation
 - Image
 - Audio
 - Video
 - Color Spaces
 - Compression Techniques
 - Data Compression
 - Image Compression → JPEG
 - Video Compression → MPEG
 - Audio Compression



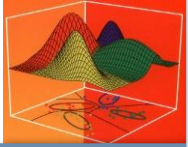
Course Outline

- Course is composed of two parts:
- **Image Processing (some basic operations)**
 - Point Processing
 - Neighborhood Processing
 - Spatial-Domain Filtering
 - Frequency-Domain Filtering
- If time → Applications (i.e. CBIR, Face Detection & Recognition, Fingerprint Recognition, Video Segmentation...)



Course Evaluation

- Course:
 - Lectures + Practical exercises (on some chapters)
 - Lab sessions (on some chapters)
- Evaluations:
 - Midterm
 - Final
 - Second Session



Development Environment

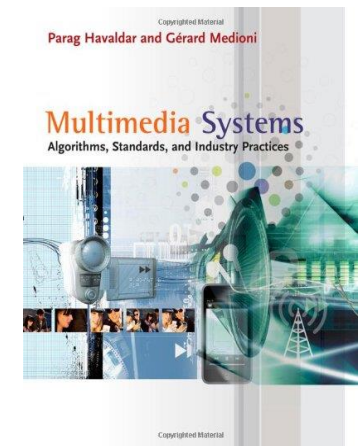
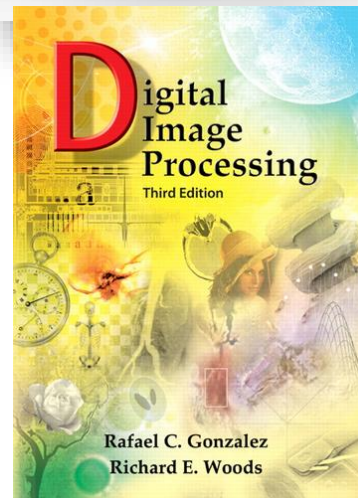
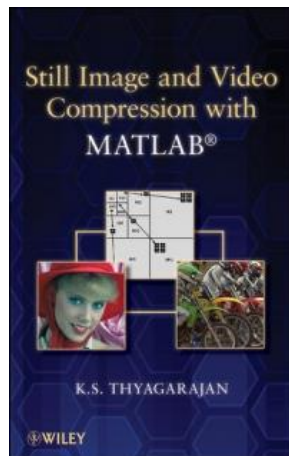
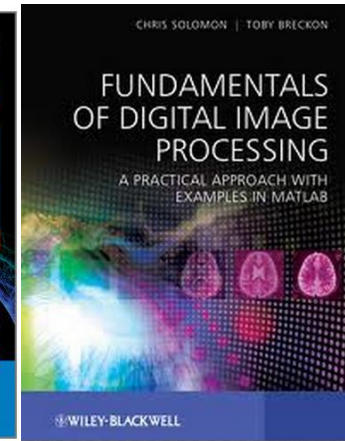
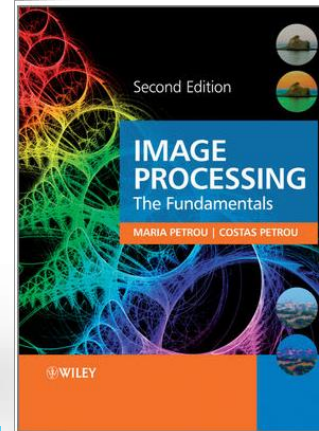
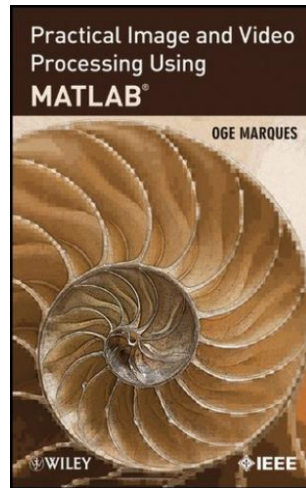
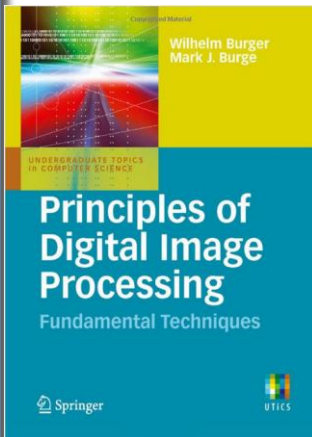
- Several environment can be used but need an image and video processing library
- Several choices
 - C++ with OPENCV
 - Python with OpenCV, PIL, ...
 - Java with ImageJ
 - Matlab with Image Processing & Computer Vision Toolbox
 -

End of Lecture !

This is the end of the lecture!

Do you have any question ?

The end !



Zein al abidine

Ibrahim