



UNIVERSITÀ  
DEGLI STUDI  
DI TRIESTE

# Digital Signal and Image Processing

Course Overview

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# Digital Signal and Image Processing

The course aims to introduce **fundamental concepts of signals and images**, present **principles and methodologies of signal analysis and signal processing** through discrete-time systems, and illustrate the main techniques for **audio, image, and video signal compression**.

# A tentative program

Signals and signal processing

Discrete-time signals in the time domain

Discrete-time signals in the frequency domain

Discrete-time systems

The Z-Transform

The Discrete Fourier Transform

Discrete-time LTI systems in the frequency domain

Digital filter structures

Finite precision arithmetic effects

Digital filter design

Multirate signal processing

Adaptive filters

Digital Image Processing Fundamentals

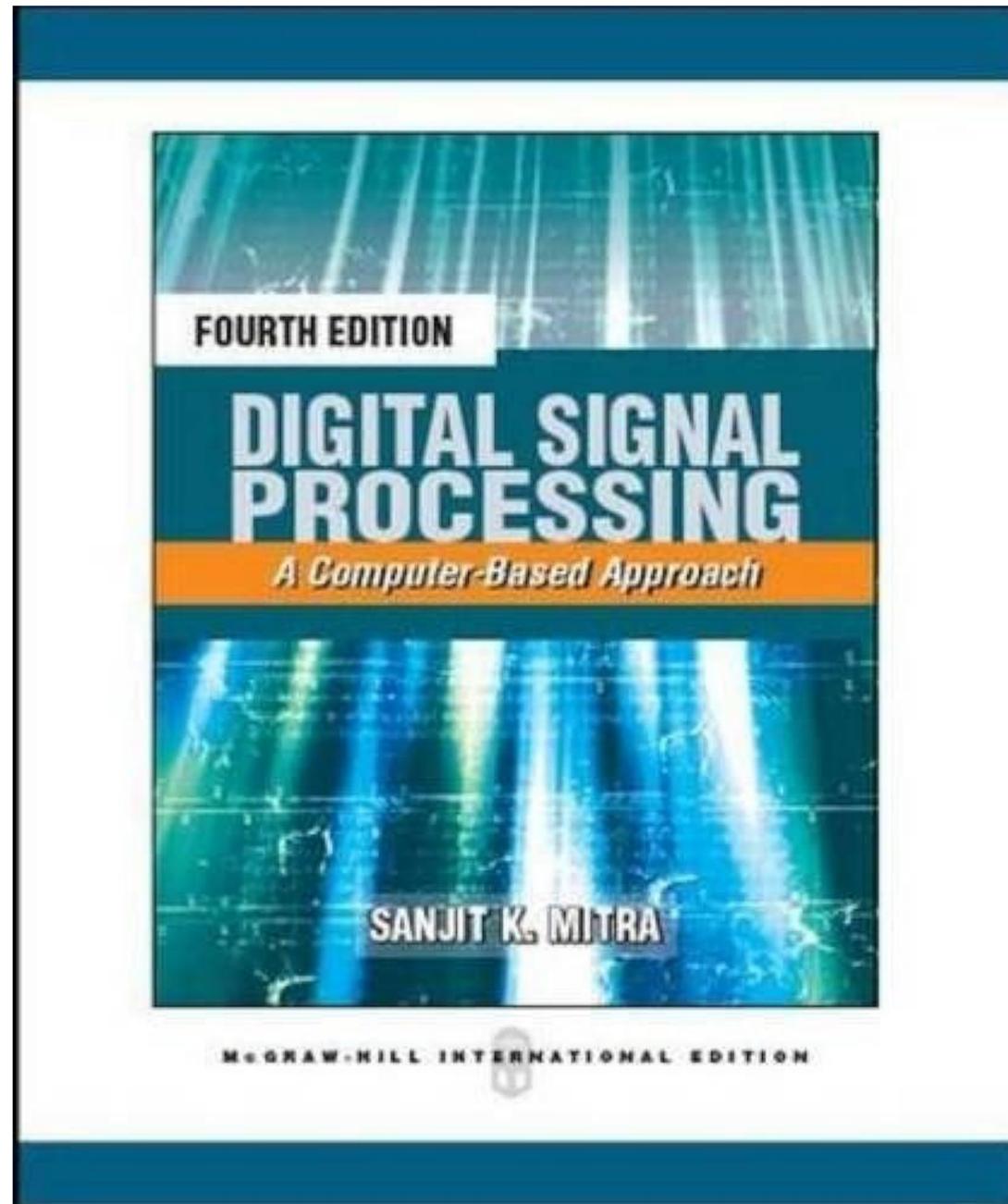
Intensity transformation and spatial filtering

Image filtering in the frequency domain

Color image processing

Image and Video Compression

# Books



Sanjit K. Mitra

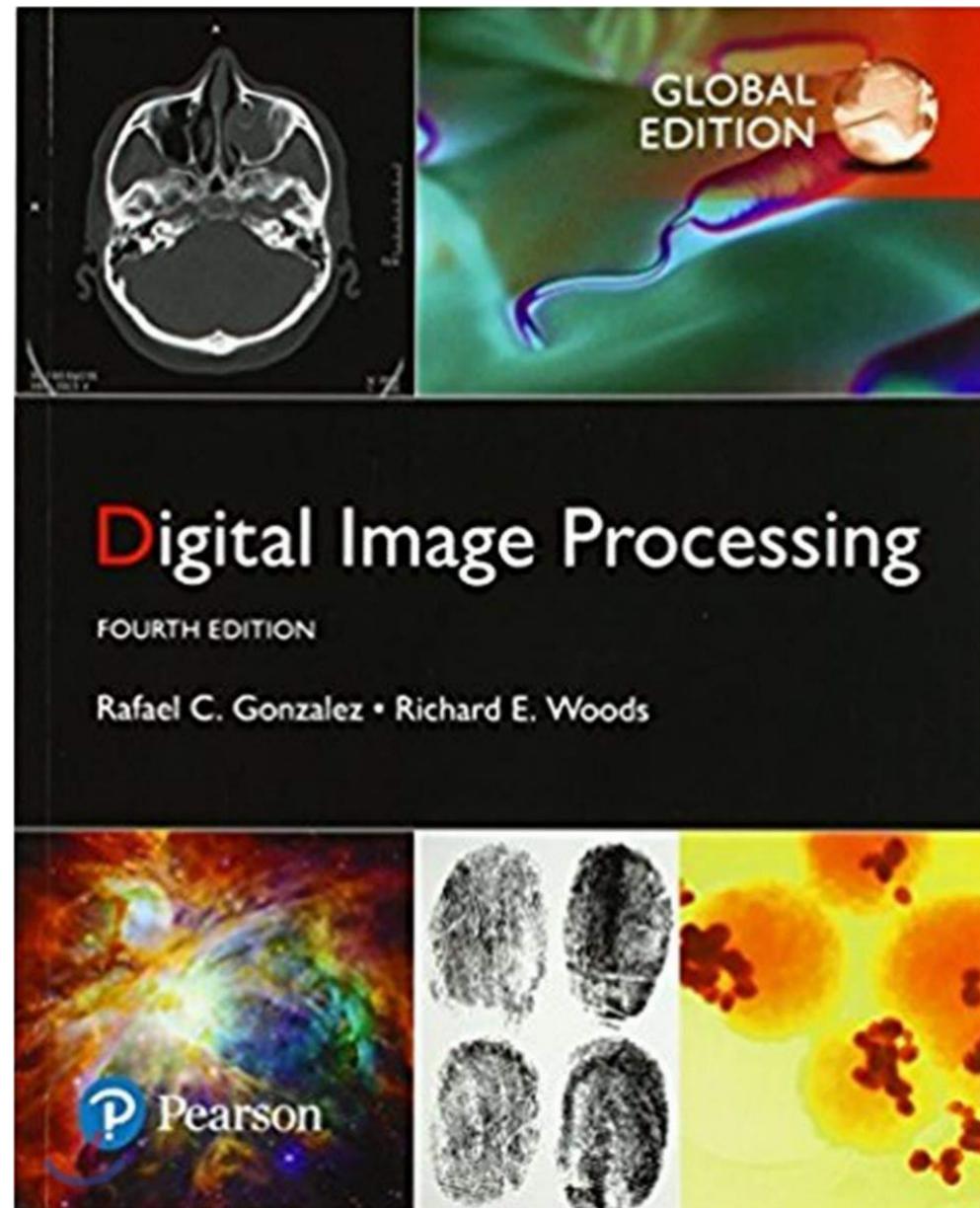
*Digital Signal Processing – A computer base approach*

McGraw-Hill 2011

Biblioteca scientifica:

Inventario	H0A 16266
Collocazione	22h / 0115

# Books



Gonzalez Rafael, Woods Richard  
*Digital Image Processing*  
Pearson 2017

Biblioteca scientifica:

Inventario H0A 19937

Collocazione 22h / 0189 A

Inventario H0A 19950

Collocazione 22h / 0189 A bis

Ebook <https://www.biblioest.it/SebinaOpac/resource/digital-image-processing/TSA3641384?tabDoc=tabloceb>