COURSE DETAIL

MATHEMATICS FOR VISUAL DATA PROCESSING

Country Singapore

Host Institution National University of Singapore

Program(s) National University of Singapore

UCEAP Course Level Upper Division

UCEAP Subject Area(s) Mathematics

UCEAP Course Number 168

UCEAP Course Suffix

UCEAP Official Title MATHEMATICS FOR VISUAL DATA PROCESSING

UCEAP Transcript Title VISUAL DATA PROCESS

UCEAP Quarter Units 6.00

UCEAP Semester Units 4.00

Course Description

This course studies various mathematical concepts and tools which have wide applications in image processing and computer vision. Topics: Hilbert space, least squares and orthonormal basis; continuous and discrete Fourier transform; spectral analysis for image processing; uncertainty principle and Gabor transform; multi-resolution analysis and wavelets; denoising. Emphasis is on the connections between theoretical analysis, computational algorithm, and practical implementation. Topics: transform in continuum space; discrete systems for computational algorithm; digital systems for practical implementation.

Language(s) of Instruction English

LIIGIISII

Host Institution Course Number MA4268

Host Institution Course Title MATHEMATICS FOR VISUAL DATA PROCESSING

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department Mathematics

Print