

EEE.8-3.8 Image Processing and Pattern Recognition

Course contents: * Digital Image postulates: Chromatometry, Popular image formats. Image representation into popular software packages. * Relations between pixels. Basic image processing techniques. * Image enhancement: Histogram oriented methods and filtering. * Image enhancement: Frequency Domain representation and filtering. * Edge detection techniques. Compression postulates. The JPEG standard. * Machine learning principles and pattern recognition postulates. Introduction to probabilities, Linear Algebra, SVD. * Bayesian theory. Parametric and non-parametric methods. Linear discriminant functions. · The curse of dimensionality. Clustering: Machine learning tools: PCA, LDA