

Tutorial 2a

Transform Domains

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1 Fourier Transform

Describe the Fourier transform (FT) and the physical principles used in constructing this transform, making sure to also include:

1. key equations of the transform
2. how the Fourier domain can be used to process the input signal
3. what type of signals would the FT be useful for
4. an example of its use

2 Principal Component Analysis

Describe Principal Component Analysis (PCA) and the mathematical principles used in constructing this transform, making sure to also include:

1. key equations of the transform
2. how the learned eigen-space can be used
3. what type of data would the PCA be useful for
4. an example of its use