NPTEL Video Course - Electronics and Communication Engineering - Probability and Random Processes

Subject Co-ordinator - Prof. Mrityunjoy Chakraborty

Co-ordinating Institute - IIT - Kharagpur

Sub-Titles - Available / Unavailable  |  MP3 Audio Lectures - Available / Unavailable


Lecture 1 - Introduction to the Theory of Probability
Lecture 2 - Axioms of Probability
Lecture 3 - Axioms of Probability (Continued.)
Lecture 4 - Introduction to Random Variables
Lecture 5 - Probability Distributions and Density Functions
Lecture 6 - Conditional Distribution and Density Functions
Lecture 7 - Function of a Random Variable
Lecture 8 - Function of a Random Variable (Continued.)
Lecture 9 - Mean and Variance of a Random Variable
Lecture 10 - Moments
Lecture 11 - Characteristic Function
Lecture 12 - Two Random Variables
Lecture 13 - Function of Two Random Variables
Lecture 14 - Function of Two Random Variables (Continued.)
Lecture 15 - Correlation Covariance and Related Innver
Lecture 16 - Vector Space of Random Variables
Lecture 17 - Joint Moments
Lecture 18 - Joint Characteristic Functions
Lecture 19 - Joint Conditional Densities
Lecture 20 - Joint Conditional Densities (Continued.)
Lecture 21 - Sequences of Random Variables
Lecture 22 - Sequences of Random Variables (Continued.)
Lecture 23 - Correlation Matrices and their Properties
Lecture 24 - Correlation Matrices and their Properties
Lecture 25 - Conditional Densities of Random Vectors
Lecture 26 - Characteristic Functions and Normality
Lecture 27 - Tchebycheff Inequality and Estimation of an Unknown Parameter
Lecture 28 - Central Limit Theorem
Lecture 29 - Introduction to Stochastic Process

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Lecture 30 - Stationary Processes
Lecture 31 - Cyclostationary Processes
Lecture 32 - System with Random Process at Input
Lecture 33 - Ergodic Processes
Lecture 34 - Introduction to Spectral Analysis
Lecture 35 - Spectral Analysis (Continued.)
Lecture 36 - Spectrum Estimation - Non Parametric Methods
Lecture 37 - Spectrum Estimation - Parametric Methods
Lecture 38 - Autoregressive Modeling and Linear Prediction
Lecture 39 - Linear Mean Square Estimation - Wiener (FIR)
Lecture 40 - Adaptive Filtering - LMS Algorithm
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