NPTEL Video Course - Mathematics - NOC:Predictive Analytics - Regression and Classification

Subject Co-ordinator - Prof. Sourish Das

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction
Lecture 2 - Least Squares method
Lecture 3 - Hands-on with Python - Part 1
Lecture 4 - Hands-on with R - Part 1
Lecture 5 - Categorical Variable as Predictor - Part 1
Lecture 6 - Categorical Variable as Predictor - Part 2
Lecture 7 - Hands-on with R - Part 2
Lecture 8 - Understanding the joint probability from data perspective
Lecture 9 - Hands-on with R - Part 3
Lecture 10 - Regression Line as Conditional Expectation
Lecture 11 - Normal Equations
Lecture 12 - Gauss Markov Theorem
Lecture 13 - Hands-on with Python - Part 2
Lecture 14 - Geometry of Regression Model and Feature Engineering
Lecture 15 - Sampling Distribution and Statistical Inference of Regression Coefficient
Lecture 16 - Hands-on with R - Part 4
Lecture 17 - Checking Model Assumptions
Lecture 18 - Comparing Models with Predictive Accuracy
Lecture 19 - Hands-on with Julia
Lecture 20 - Model Complexity, Bias and Variance Tradeoff
Lecture 21 - Feature Selection, Variable Selection
Lecture 22 - Hands on with R - Part 5
Lecture 23 - Understanding Multicollinearity
Lecture 24 - Ill-Posed Problem and Regularisation, LASSO and Risdge
Lecture 25 - Hands-on with Python - Part 3
Lecture 26 - Time Series Forecasting with Regression Model
Lecture 27 - Hands on with R - Part 6
Lecture 28 - Granger Causal model
Lecture 29 - Hands on with R - Part 7

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Lecture 30 - Capital Asset Pricing Model
Lecture 31 - Hands on with R for CAPM
Lecture 32 - Bootstrap Regression
Lecture 33 - Hands on with R for Bootstrap Regression
Lecture 34 - Hands on with Python: Handle multicollinearity with Ridge correction
Lecture 35 - Hands on with Julia: Implemente Chennai Temperature Analysis with Julia and CRRao
Lecture 36 - Introduction to logistic Regression
Lecture 37 - Maximum Likelihood Estimate for Logistic Regression
Lecture 38 - Hands on with R for Logistic Regression
Lecture 39 - Hands on with R: Measure Time performance of R code
Lecture 40 - Statistical Inference of Logistic Regression
Lecture 41 - Hands on with R with Iris Dataset
Lecture 42 - Multi-Class Classification with Discriminant Analysis
Lecture 43 - Hands on with R: Implement LDA
Lecture 44 - Effect of Feature Engineer in Logistic Regression
Lecture 45 - Logistic Regression to Deep Learning Neural Network
Lecture 46 - Hands on with R: Feature Engineer in Logistic Regression
Lecture 47 - Generalised Linear Model
Lecture 48 - Hands on with R: Poisson Regression with Football Data
Lecture 49 - Gaussian Process Regression
Lecture 50 - Hands on with R: Implement GP Regression from scratch
Lecture 51 - Tree Structured Regression
Lecture 52 - Hands on with R: Implement Tree Regression and Random Forest with Simulated Data
Lecture 53 - Hands on with R: Implement Tree Regression and Random Forest with EPL football Data
Lecture 54 - Hands on with Python : Analysis of Bangalore House Price Data
Lecture 55 - Hands on with R: Prediction of Bangalore House Price
Lecture 56 - Hands on with R: More Prediction of Bangalore House Price
Lecture 57 - Hands on with R: Some Correction with Bangalore House Price Data Prediction
Lecture 58 - Hands on with R: Classify fake bank note with GLM
Lecture 59 - Hands on with R: Dynamic Pricing with Cheese Data
Lecture 60 - Hands on with Julia - Bayesian Logistic Regression with Horse Shoe Prior - Genetic Data Analysis
Lecture 61 - Hands on with Julia - Bayesian Poisson Regression with Horse Shoe Prior English Premier League D
Lecture 62 - Why Julia is Future for Data Science Projects ?
Lecture 63 - Concluding Remarks
Lecture 64 - Course Review
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