13. Basics of Data Analytics (2+0)

Objective

To introduce Data Analytics to a person new to the field and make him/her ready for advanced courses.

Syllabus:

Introduction to Data Science, Review of Probability theory – Axioms of probability, mutually exclusive events, Conditional Probability and Bayes' theorem, Independence, Concept of Random Variables, discrete and continuous random variables, distribution and density functions, some standard discrete and continuous distributions, moments, statistics, mean and variance, unbiased estimates.

Bivariate data, Scatter plot, Trend, converting non-linear trend into a linear one, Co-variance and correlation coefficient, least square minimization of errors, residues and their properties, ANOVA, Hypothesis testing for the model and for parameters, confidence intervals.

Multivariate data, partial correlation coefficient, concept of dimensionality reduction, parameter estimation by minimizing the squared errors.

Smoothing techniques - moving averages and exponential smoothing.

Overview of time Series Analysis, Machine Learning, Internet of Things, Neural Networks, Data Visualization and associated topics..

Software development project using Python consisting of all the topics learnt.

Target Group:

Any Industry that deals with data analysis and management and academicians interested in data science.

Faculty

Dr. Gopal Krishna Sharma
Fiserv India Ltd.,
Bengaluru.
Email :
gopalaks@yahoo.com

Faculty

Dr. Badarinath Ambati
Altair Engineering,
Bengaluru.
Email :
abadarinath@yahoo.com

Faculty

Prof. Muddu Sekhar
Dept. of Civil Engineering,
IISc., Bengaluru.
Email :
madhu@iisc.ac.in

Reference Books:

1. Spyros Makridakis et. al.
   Forecasting Methods and Applications
   Wiley, 2005.
2. Bovas Abraham and Johannas Lodolter
   Statistical Methods for forecasting
   Wiley, 1983.
3. Kishor S. Trivedi
   Probability and Statistics with Reliability,
   Queuing and Computer Science Applications.
   Wiley, 2002

Who Can apply?

Any Engineering Degree with Mathematics Background

Course Fee: Rs. 10,000/- + 18% GST

Off Line Seats are limited to 20

Schedule: Saturday's- 10.00 am. to 12.00 noon

*** Note: If situation on pandemic continues same way, class room course may be converted to online course depending on situation.**