Date wise- Session Plan & Evaluative Scheme for “Data Analytics using R and Basic Python”

Prof. Sumeet Gupta, IIM Raipur

| Session | Date | Time | Topic | Sub-topics | Cases and Datasets | Guest Sessions |
|---|---|---|---|---|---|---|
| 1 | 18/08/19 | 9.00 - 11.30 | Introduction | Data Types and Basic Statistics; Concept of Data Modeling | | |
| 2 | 25/08/19 | 9.00 - 11.30 | Refresher on 'R' and 'Python' | | From 'R' Library | Mr. Ashish Tripathy, Data Scientist, Delloite (Analytics using Python) |
| 3 | 01/09/19 | 9.00 - 11.30 | Predictive Analytics using Regression Modeling | Multiple Linear Regression | Are Online Reviews Manipulated? | |
| 4 | 08/09/19 | 9.00 - 11.30 | Predictive Analytics using Regression Modeling | Multiple Linear Regression | Predicting the Popularity of Online News | |
| 5 | 14/09/19 | 9.00 - 11.30 | Predictive Analytics using Time Series | Time Series Forecasting | Predicting Amtrak Ridership | |
| 6 | 15/09/19 | 9.00 - 11.30 | Predictive Analytics using Time Series | Time Series Forecasting | Predicting Retail Store Sales | Mr. Rajesh Anantharaman, Data Scientist, Amazon.com (Analytics in Industry) |
| ***Online Quiz I and Assignment I on Regression and Time Series Analysis; Assignment Due in 1 Week*** | | | | | | |
| 7 | 22/09/19 | 9.00 - 11.30 | Predictive Analytics using Classification | Concept of Classification Modeling | Success of a Bank Marketing Campaign | |
| 8 | 28/09/19 | 9.00 - 11.30 | Predictive Analytics using Classification | Logistic Regression | Success of a Bank Marketing Campaign | |
| 9 | 29/09/19 | 9.00 - 11.30 | Predictive Analytics using Classification | Classification Trees and Random Forests | Predicting Credit Card Default | |
| 10 | 06/10/19 | 9.00 - 11.30 | Predictive Analytics using Classification | Neural Networks | Predicting Loan Repayment | Mr. Shiv Shankar, DGM (Data Science), Mahindra and Mahindra Group (Analytics in Industry) |
| 11 | 12/10/19 | 9.00 - 11.30 | Predictive Analytics using Classification | Ensembling and Oversampling | Predicting Credit Card Default | |

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| ***Online Quiz II and Assignment II on Classification; Assignment Due in 1 Week*** | | | | | | |
| 12 | 13/10/19 | 9.00 - 11.30 | Predictive Analytics (Unsupervised Techniques) | Clustering | Market Segmentation for an Airline | |
| 13 | 20/10/19 | 9.00 - 11.30 | Predictive Analytics (Unsupervised Techniques) | Association Mining | Recommending Movies | |
| 14 | 26/10/19 | 9.00 - 11.30 | Predictive Analytics (Unsupervised Techniques) | Topic Modelling | Profiling Mall Shoppers / Diabetes Patients | Mr. Santosh Kumar Mishra, Commissioner, e-Governance at Tamil Nadu Govt (Analytics in Government) |
| ***Online Quiz III and Assignment III on Clustering and Association Mining; Assignment Due in 1 Week*** | | | | | | |
| 15 | 03/11/19 | 9.00 - 11.30 | Descriptive Analytics | Principles of Data Visualization | Visualizing Health across the world | |
| 16 | 09/11/19 | 9.00 - 11.30 | Descriptive Analytics | Geographic and Spatial Mapping | Visualizing Murders and Thefts | |
| 17 | 10/11/19 | 9.00 - 11.30 | Descriptive Analytics | Creating Interesting and Interactive Visualizations | Visualizing Hotels in India | |
| ***Online Quiz IV and Assignment IV on Data Visualization; Assignment Due in 1 Week*** | | | | | | |
| 18 | 17/11/19 | 9.00 - 11.30 | Text Mining | Sentiment Analysis | Twitter Data | Mr. Santosh Rajput, IT Consultant, Capgemini (Analytics using Python) |
| 19 | 23/11/19 | 9.00 - 11.30 | Text Mining | Web Scraping | Online Reviews | |
| 20 | 24/11/19 | 9.00 - 11.30 | Text Mining | Predictive Analysis of Texts | SMS Spam Data | |
| 21 | 30/11/19 | 9.00 - 11.30 | Text Mining | Predictive Analysis of Texts | Feedback of a Hospital | |
| 22 | 01/12/19 | 9.00 - 11.30 | Social Network Analysis | Analyzing Twitter Networks | Drug Kingpin / How ISIS use Twitter | Mr. Jyotirmay Dewangan, Software Development Engineer, Flipkart (Analytics in Industry) |
| ***Online Quiz V and Assignment V on Text Mining and Social Network Analysis; Assignment Due in 1 Week*** | | | | | | |

Evaluation Scheme

- Quizzes: 20%
- Group Assignment: 20%
- Class Participation: 10%
- Project: 20% (To be presented during Campus Visit)
- End-Term Exam: 30%

The project consists of finding a dataset from the public domain and conducting a detailed analysis of the data based on the discussion in the class. The project can be done in groups, if it is possible on the platform. The presentation will be of 10 minutes. No. of slides in the presentation is restricted to 10. Innovative analysis of the data is encouraged. You can use any or combination of the techniques discussed in the course for your project.