Analytics Educator

Bansdroni, Kolkata
Mb: 9163223228
www.analyticseducator.com
analyticseducator@gmail.com

Data Scientist Program

(80 hours class room + 70 hours of practice sessions)

About the Course

We have chosen all the important tools and techniques, which are being used in the Analytics Industry, and created a course to prepare a data scientist aspirant at the most economical prices. This course is highly recommended for a person who is just a beginner and wants to shift into the analytics industry. You will be learning 2 of the most important tools of Analytics along with 6 different machine learning algorithms. You will also be learning SQL and MS Excel which are the most supportive tools used along with SAS and R. We also provide a complementary course on CV building and Analytics Mock Interview sessions, conducted by associates employed at least CMMI Level 5 companies. These sessions help a candidate to become ready for a real life interview.

Machine Learning with SAS

(33 hours class room + 30 hours of practice sessions)

About the Course

SAS is one of the most powerful statistical software used in the world of Data Science. It not only helps in Machine Learning algorithms, but also it has very robust 450 plus inbuilt functions that makes it very efficient in data management and data cleaning. SAS is a language which is easiest to learn among all the software being used for analytics. This course will be helpful for novice to professionals, who would be learning not only the power functionalities of SAS coding, but also the Machine Learning algorithms to add value to clients of different domain.

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Overview of the course

Class 1: Import data into SAS and manipulate them

Introduction to SAS
5 main windows of SAS
Importing data into SAS
Data step Vs Proc Step
Conditional processing: If, else if, and else statement
Boolean in if else statement
Where statement
All types of merging using data step

Class 2: Different Proc statements

Proc Print
Proc means and all the options
Proc univariate
Proc Freq
Proc sort
Removal of duplicates

Class 3: SAS Functions – Date, Numeric and Character

Difference between functions and Proc
Inbuilt Numeric functions of SAS
Inbuilt Character functions of SAS
Inbuilt Date functions of SAS

Class 4: SQL in SAS and other advanced functionalities

SQL queries
Merging with SQL
Macros in SAS
Output Delivery System in SAS

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Class 5: Full Statistic refresher course

Everything you want to know about statistics….Well sort of!!
Mean, Median, Mode
Standard Deviation, Variance,
Normal Distribution
Hypothesis testing
T-test, Anova, Normality test

Class 6: Linear Regression with SAS

Predictive Analytics – Linear Regression
Concepts of Linear Regression
Simple and Multiple Linear Regression
Automatic Dummy Variables creation technique
Model Validation parameters
Model Assumption testing
Splitting of data for Validation and testing
Business Case Study with real data to model in SAS software

Class 7: Additional Case study on Linear Regression

Participants will be asked to develop a Linear Regression model on a real life data, in presence of the instructor. Time given is 2.5 hours. Participants will be treated like an industry employee, but in terms of help certainly the instructor will not be as ruthless as the boss. After completion of the model (with the help of the instructor wherever it is required), the instructor will show how to present a model to a real life client.

Class 8: Logistic Regression with SAS

Predictive Analytics – Logistic Regression
Concepts of Logistic Regression
Difference between Linear Regression and Logistic Regression
Automatic Dummy Variables creation technique
Model Validation parameters
Model Assumption testing
Splitting of data for Validation and testing
Business Case Study with real data to model in SAS software

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Class 9: Additional Case study on Logistic Regression

Participants will be asked to develop a Logistic Regression model on a real life data, in presence of the instructor. Time given is 2.5 hours. Participants will be treated like an industry employee, but in terms of help certainly the instructor will not be as ruthless as the boss. After completion of the model (with the help of the instructor wherever it is required), the instructor will show how to present a model to a real life client.

Class 10: Time Series Forecasting with SAS

Time series forecasting: ARIMA
Difference between forecasting and prediction
Concepts of time series data
Concepts of ARIMA
Descriptive analytics for ARIMA
Development of model
Best model selection
Forecasting with the best model
Business Case Study with real data to model in SAS software

Important points:

1. After each class, assignments will be given as homework which is needed to be completed before the next class. The first 15 minutes of every class will be reserved to answer the participant's queries.
2. After every session, the discussed codes, presentations, handouts will be emailed to all the participants. Participants are advised to carry it either in soft copy or as print outs in the class.
3. Participants are advised to bring their own computers so that they can practice the codes along with the instructor.
4. Normally the class duration would be 3 hours, with a break of maximum 5-10 minutes depending of the requirement of the participants. In case all the queries of the participants are not answered with in the stipulated time of 3 hours then the instructor will extend the class by 15 minutes to 30 minutes.
5. After the completion of the module, there will be an option for all the participants to work on other case studies on real life data for further practice. (This is optional and will not be considered for calculating your final grade)
6. If a participant feels that he/she requires further help on certain topic, then they can attend the same session of some other batch.

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Machine Learning with R

(33 hours class room + 30 hours of practice sessions)

About the Course

The world is quietly being reshaped by machine learning. We no longer need to teach computers how to perform complex tasks like image recognition or text translation: instead, we build systems that let them learn how to do it themselves. R is very powerful open source software, which is the best tool for data analytics and machine learning, used by giant corporates including Google. In this course you will be learning how to use R and Machine Learning algorithms to solve business problems and extracting insights to enable to companies to stay one step ahead of their competitors.

Overview of the course

Class 1: Introduction to R Programming Language

Introduction and Installation of R software
R packages
Concepts of Vector – Numeric, Character, and Factor
Concepts of Data frame
Filtering
Usage of Boolean in Filtering
Sorting
Reshape of data using Tidyr package

Class 2: Data handling in R

Handling of Missing values
If else statement
Extra trick of using if else statement
Removal of Duplicates
Merging – Inner, Outer, Left and Right
Binding and Appending
Text functions
Data cleaning with efficient text functions
Inbuilt Numeric functions of R
Inbuilt String functions of R
Inbuilt other functions of R

Class 3: More data handling using R

Pivot Table of Excel in R
Table function
Count function of plyr package
Learning of SQL queries using R
Grouping numeric data
User defined functions (Macros) in R
Visualizing of Data

Class 4: Additional functions of R

Date functions with Lubridate package
Apply functions
User defined functions (Macros) in R
Visualizing of Data

Class 5: Statistics

Everything you want to know about statistics….Well sort of!!
Mean, Median, Mode
Standard Deviation, Variance,
Normal Distribution
Hypothesis testing
T-test, Anova, Normality test

Class 6: Linear Regression

Predictive Analytics – Linear Regression
Concepts of Linear Regression
Simple and Multiple Linear Regression
Automatic Dummy Variables creation technique
Model Validation parameters
Model Assumption testing
Splitting of data for Validation and testing
Business Case Study with real data to model in R software

Class 7: Linear Regression Practice Case Study

Participants will be asked to develop a Linear Regression model on a real life data, in presence of the instructor. Time given is 2.5 hours. Participants will be treated like an industry employee, but in terms of help certainly the instructor will not be as ruthless as the boss. After completion of the model (with the help of the instructor wherever it is required), the instructor will show how to present a model to a real life client.

Class 8: Logistic Regression

Predictive Analytics – Logistic Regression
Concepts of Logistic Regression
Difference between Linear Regression and Logistic Regression
Automatic Dummy Variables creation technique
Model Validation parameters
Model Assumption testing
Splitting of data for Validation and testing
Business Case Study with real data to model in R software

Class 9: Logistic Regression Practice Case Study

Participants will be asked to develop a Logistic Regression model on a real life data, in presence of the instructor. Time given is 2.5 hours. Participants will be treated like an industry employee, but in terms of help certainly the instructor will not be as ruthless as the boss. After completion of the model (with the help of the instructor wherever it is required), the instructor will show how to present a model to a real life client.

Class 10: Time Series Forecasting

Time series forecasting: ARIMA
Difference between forecasting and prediction
Concepts of time series data
Concepts of ARIMA
Descriptive analytics for ARIMA
Development of model
Best model selection
Forecasting with the best model
Residual analysis
Business Case Study with real data to model in R software
Participants will be asked to develop a model in presence of the instructor.

Class 11: Cluster Analysis

Unsupervised Machine Learning with R
Cluster Analysis: Concepts
Cluster analysis with R – K Means, Hierarchical etc.

Class 12: Decision Tree and Random Forest

Concepts of Decision Tree
Decision Tree with R
C5.0 algorithms and R part
Concepts of Random Forest
Random Forest with R

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5. After the completion of the module, there will be an option for all the participants to work on other case studies on real life data for further practice. (This is optional and will not be considered for calculating your final grade)
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Microsoft Excel and Advanced Functionalities

(12 hours class room + 10 hours of practice sessions)

About the Course

Excel has become one of the prerequisites for almost all jobs in the analytics and consulting sector. Through this course, you'll learn the advanced functions that are used by analysts on a day to day basis. You'll also get accustomed to even more advanced stages of excel use like Macros which further come handy. Throughout the course, you'll be given hands-on assignments and case-studies to put the theoretical knowledge to practical. In this course you will learn the basic to advanced features of MS Excel and how to analyze data to crease insights out of it, using MS Excel.

Overview of the course

Class 1: Introduction to Excel

Introduction to Excel Workbook and worksheets
Entering data into the spread sheet Undo & Redo
Adding Comments
Formatting and conditional formatting All types of borders
Moving & Coping and inserting data Finding and replacing
Filtering and Sorting of data
Logical operators
Practice sessions

Class 2: Different Functionalities of MS Excel

Text to column V-look up
Duplicate removal
Concatenate
Functions of excel – Logical, Mathematical, Statistical, Others
Practice sessions

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Class 3: Analytics with Excel

Pivot Table
Data manipulation with pivot tables Pivot table charts
Data visualization with Excel
Practice sessions

Class 4: Advanced Analytics with Excel

Pivot Table
Functions of excel – Financial functions What if analysis – Goal Seek, Solver etc.
Macros
Analytics using Excel
Practice sessions

Important points:

1. After each class, assignments will be given as homework which is needed to be completed before the next class. The first 15 minutes of every class will be reserved to answer the participant's queries.
2. After every session, the discussed codes, presentations, handouts will be emailed to all the participants. Participants are advised to carry it either in soft copy or as print outs in the class.
3. Participants are advised to bring their own computers so that they can practice the codes along with the instructor.
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Interview preparation and CV Building

(6 hours class room)

Analytics interview could be little different than other interviews, regarding the expectation of the interviewer and the type of questions a candidate might face. Sometimes it might so happen that an otherwise good analyst just get nervous at the interview round and performs poorly at the interview. It's been observed, that more often than not, people prepare themselves with the technical skills but don't prepare at all for the interview round, which might prevent them from getting their coveted job.

Usually in an analytics interview, the candidate is not only judged on his/her technical skills but also their analytical mindset. There could be a question which doesn't have a typical right or wrong answer, but the candidate is judged on their approach towards the problem. We, help the participants to prepare for the interview round, introspecting their weaknesses by conducting mock interview rounds. We also train them to face case interviews, which has been the traditional way of conducting interviews for all the consulting firms, but nowadays becoming a common practice in the IT and Analytics companies as well.

The importance of creating a good Curriculum Vitae (CV) for a job seeker can be compared with a rifle (weapon) of a soldier in a war field. The very first impression of any job seeker starts with their CV. The CV should be formatted and written in the correct manner in order to create the correct impression on the prospective employer. We help all the participants to build an effective CV, with correct language that suits for the analytics job the most. It goes without saying, that even with the CV prepared by us doesn't guarantee a job, but certainly a professionally written CV significantly enhances the likelihood of getting shortlisted among all the competitors.