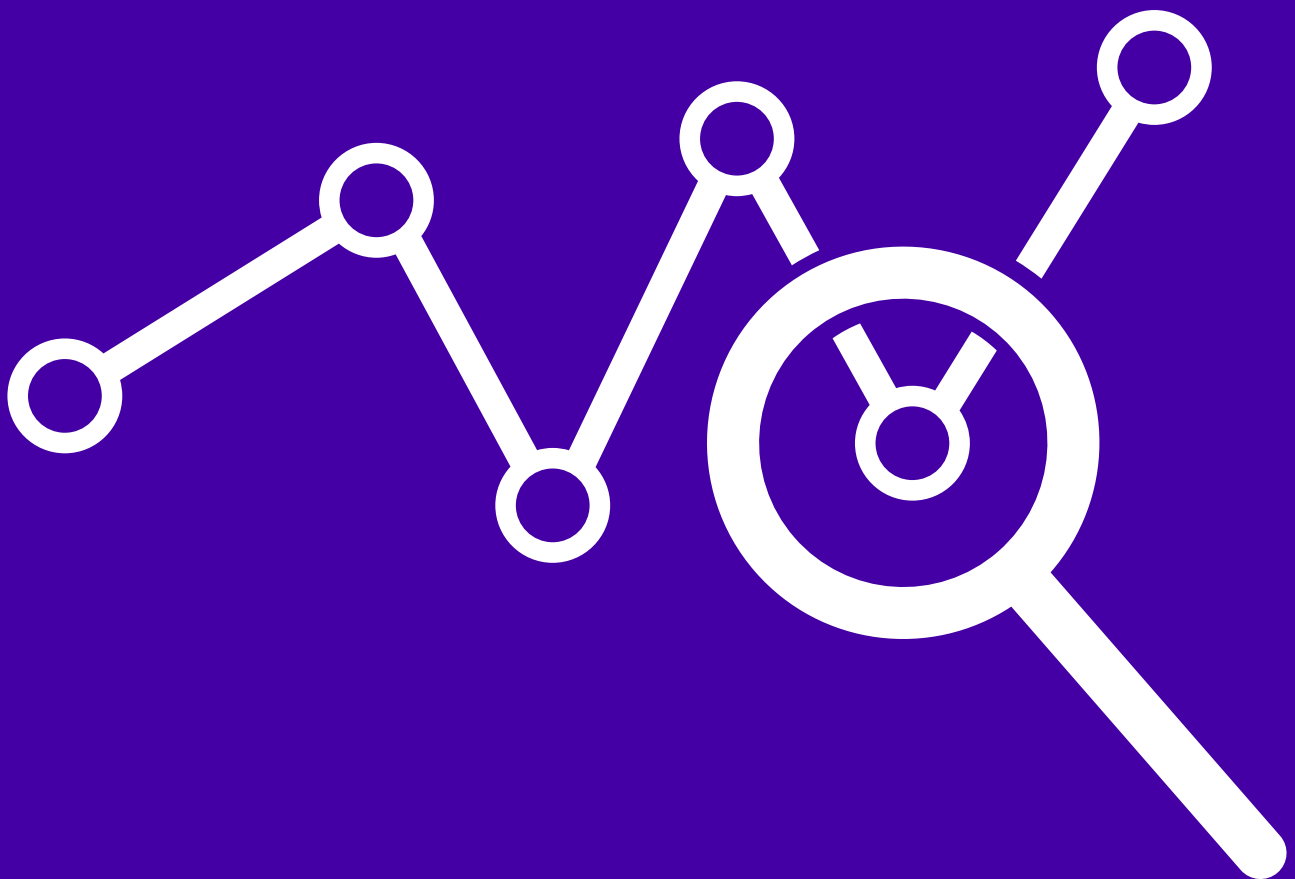


ACADGILD

Learn. Do. Earn.



DATA ANALYTICS WITH R, EXCEL & TABLEAU

COURSE DETAILS

Brief About this Course

Data is the foundation for technology-driven digital age. Data Analytics is one of the hottest fields which is growing in response to the exponential amount of data being captured and analyzed in tech today. AcadGild's Data Analytics with R, Excel and Tableau training is a comprehensive blended training (both theoretical and hands-on) which helps you gain the requisite knowledge and skills through a step-by-step approach to become a successful Data Analyst. Our course curriculum is designed and delivered in collaboration with the Analytic Experts.





Who should take this Course

The Data Analytics with R, Excel and Tableau course is designed for everyone who has the zeal to learn and enhance their technical skills with cutting edge practices in data wrangling and data visualization. The following professionals can take this training:

- Banking and Finance professionals • IT professionals
- Analytics Managers • Business Analysts
- Marketing Managers • Supply Chain Network Managers

Why Learn

77% of the top organizations consider Data Analytics has the critical core component which enhances the business performance.

According to Indeed, there is a drastic demand for the Analytic professionals with the skill set in trending technologies such as R, Excel and Tableau skills are on rise whereas the supply is low.

The average salary for a Data Analyst with R, Excel and Tableau analytic tools skills is Rs. 491,118.



Data Analytics with R,
Excel & Tableau

Introduction

- An Overview of Data Science
- Applications of Data Science
- Data scientist's toolbox
- Programming for Data Science
- Types Of Analytics

Introduction to R

- R History
- R Studio
- Installations
- GUIs
- R Packages/Libraries
- Data Mining GUI In R

Foundational R programming -I

- DataStructures
- Subsetting
- Style
- Functions
- Indexing
- Environments
- Exceptions/Debugging
- Loops and Functions

Foundational R programming-II

- Functional programming
- Function operators
- Memory management
- Read/Write of Datasets
- Sorting/Merging data
- Aggregating data
- Reshaping data
- Cleaning data

Data Management using R

- Data manipulation using dplyr
- Data management using tidyr
- Text manipulation using stringr
- Heavy data management using data.table
- Date and time management using lubridate
- Reshape for data management
- Data summarization
- Use of readr library
- Data analysis using sqldf
- Use of tidyr library
- Working with lubridate library

Visualization & Plotting

- Data viz using ggvis
- Data viz using ggplot2
- Data viz using plotly
- Data viz using basic plotting
- Time series representation
- Bar Plots
- Dynamic data visualization
- Working with gedit for visualization
- GoogleVis for data visualization

Basic Statistics

- Descriptive stats
- freqs and cross tabs
- Probability theory
- Distributions- discrete
- Distributions- continuous
- Normal distribution

Exploratory Data Analysis

- One variable
- Two variables
- Many variable
- Probability Distribution
- Types of Distributions
- Discrete Probability Distributions

Statistical Inference

- Estimation process
- Central limit theorem
- Hypothesis testing
- t-test
- ANOVA
- z-test
- Proportions test
- chi-square test

Session 10

Correlations

- pearson correlations
- Rank correlation
- Product moment correlation
- Partial correlation
- Non linear correlation
- Correlation testing
- Interpretations

Linear Models

- Simple linear regression model
- Dummy variable regression model
- Interaction regression model
- Multiple linear regression model
- Validation of assumptions
- Representation of regression results

Non-Linear Models

- Non-linear regression model
- Lasso regression model
- Elastic net regression model
- Ridge regression model
- Interpretations
- Representation of regression results
- Tree based regression model

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Generalized Linear Models

- Binary Response Regression Model
- Linear Regression As Linear Probability Model
- Linear Regression Output Of Proposed Model
- Dotplot Of Predicted Probability
- Problems With Linear Probability Model
- Scatterplot: Response Variable Vs Quantitative

Decision Treebased models

- Decision tree
- Usage of decision tree
- Rule based system
- Ctree
- rpart
- C5.0
- Boosting trees

Model Evaluation/Assessment

- Methods for model assessment
- ROC analysis method
- Cross validation method
- lift chart method
- MSE method

Association Analysis

- Market basket analysis/rules
- Math behind Market basket analysis
- apriori algorithm implementation

Ensemble models

- Random forest model
- Bagging model
- Boosting model
- Gradient boosting model
- Stochastic gradient boosting model

Segmentation Analysis

- Types of segmentation
- Objective segmentation
- Subjective segmentation
- k-means clustering
- Hierarchical clustering
- Bayesian clustering

Feature selection/ Dimension Reduction

- Principal component analysis
- Independent component analysis
- Multidimensional scaling
- Curse of Dimensionality
- Dimension Reduction
- Feature Reduction Algorithms
- Why Factor or Component Analysis?
- Factor or Component Analysis Basic Concept
- Principal Component Analysis
- What Are the New Axes?
- Covariance

Time Series Forecasting

- Basics of Time Series
- What is a Time Series
- Time Series Components
- Trend Component
- Cyclical Component
- Irregular Component
- Random or Irregular Component
- Time Series Forecasting

Model Deployment

- Deploying predictive models
- Using SQL Server
- Using PMML scripts
- Using external tools
- Using Big data tools

R Integration with Hadoop

- Introduction to Hadoop
- Connecting R-Hadoop
- Implementing Map-Reduce in Hadoop
- Run Algorithms

R Integration with Spark

- Introduction to Spark
- Connecting R-Spark
- Running feature transformation
- Running Machine learning algorithms

Web scrapping and Text Analysis

- Text Analysis Basics
- Web scrapping basics
- Feature construction
- Sentiment Analysis
- Topic modeling

Getting Started with RDBMS

- Introduction to RDBMS and MySQL
- Database
- Table and Column concepts and creation

RDBMS Cont-I

- Query Design
- Development and Execution

RDBMS Cont-II

- Data Merging and filtering
- Table alteration
- Data import and export

Excel Analytics

- Data formatting
- Filtering
- Ordering and grouping
- Expertise in Microsoft Excel to convert your data to insights

Excel Analytics Contd-I

- Using formulas and functions to perform Data analysis

Excel Analytics Contd-II

- Advanced functions for lookup and searching
- Working with Pivot Tables

Excel Analytics Contd-III

- Macros for Job Automation
- Information Protection
- Sharing and tracking

Tableau Desktop

- Tableau Introduction & Layout
- Understanding Tableau Connections to files and databases
- Tableau Data Types and simple calculations
- Data aggregation concept in Tableau and implications

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Tableau Desktop(Cont.)-I

- Calculations and Parameters
- Data Filters
- Tableau Graphs and Maps
- Creating Tableau Dashboard and Story board

Tableau Desktop(Cont.)-II

- Data Blending
- Custom SQL
- Deeper look into Complex Calculations
- Creating Superimposed Graphs

Tableau Desktop(Cont.)-III

- Tableau and R integration

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Project I and II, Doubt Clearing Session

- Final Project Discussion + Doubt Clearing Session

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