ADVANCED DATA SCIENCE WITH R PROGRAMMING COURSE CURRICULUM

YOUR JOB-HUNTING ENDS HERE

Start your career with **Data Science** course that gets your dream Job!

Become Data Science Certified Professional

It is only skills and not degree that can help you grow. But if you are one of those individuals who believe in getting certified along with skills then we have got you covered. After completion of the training you will become an expert in Data Science.

One Training Program
2 Certifications

- ☀ **PCAP CERTIFICATE**

- ☀ **Industry Recognized INVENTATEQ CERTIFICATE**

18,409+ Success Stories
Here is what they say about INVENTATEQ.

The experience I had with Inventateq is very nice and the way they thought data science is outstanding, I recommend people who are very interesting in data science. After finishing your course your pretty confidence, finally its worthy for your money.

POUSHALI SANYAL

It's a best institute to learn Data Science. Value for paid course fees! Had a great experience training with them. Trainers are highly skilled and qualified at the same time the course content is quite comprehensive. Great set up for certification training. I can say that if you are looking for Data Science Training. This is the Best Institute.

RAGAVA

InventaTeq the best Institute for getting training on Data Science. The Instructor world class and job oriented training so you will get more than regular class training. they have provided me placement support. thanks to Inventateq and trainer.

BAVANA N

After taking Data Science course at InventaTeq I got job in HP.com with 6.25 lacs package, thank you to my trainer and Inventateq team for showing placement opportunities.

HARI BABU

Personally, I found the Data Science classes very helpful and interesting. Trainer is very nice and punctual. I got great help with certain tricky Queries along with Test Cases which will be used in Live Project Environment and I would definitely recommend InventaTeq to all students. Thank You.

Trainer is one of the most valuable person I have ever met. Both smart and professional. Experienced, deadline oriented and intelligent person. Highly recommended to take Data Science course from him.

KAVITHA

When we were starting our data science journey, we needed a trainer who can start from the first principle and coach us on all the aspect of data science project. trainer met our expectation. instructor has a very good grasp of the subject and has special ability to find the right way to get his point across to the audience. He was very flexible, I can say he went extra mile to accommodate our requests.
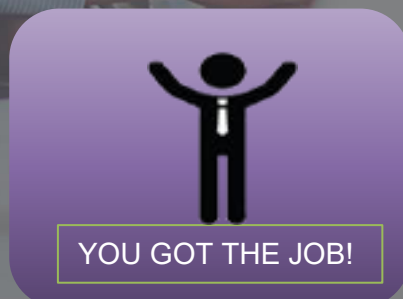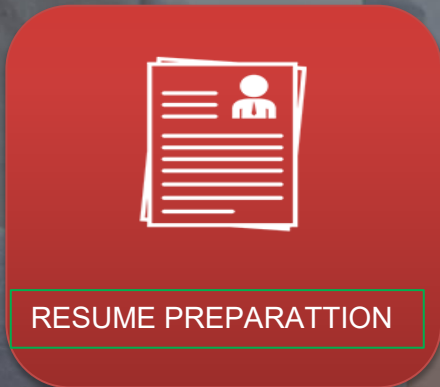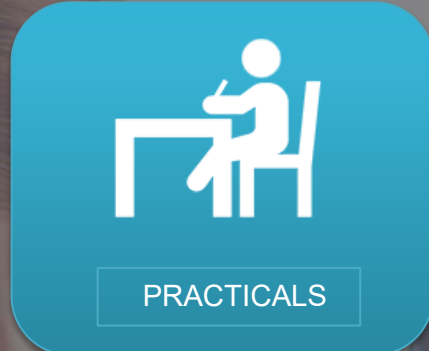
MANIKANDA SALADI

I ATTENDED DATA SCIENCE COURSE HERE, TRAINER IS EXCELLENT. If you are looking for a very interactive and practical session. Then it's for you. U will love the classes. Teachers here are very supportive. The sessions such as presentation is very useful, this will help you to grow. Also, they will give real time scenarios while working on projects. I loved the sessions and also, they help in my all-round growth. Special thanks to INVENTATEQ..

ANIL KUMAR

TRAINING PROCESS

THEORY

+

PRACTICALS

ASSIGNMENTS

+

CERTIFICATION

RESUME PREPARATTION

+

ATTEND INTERVIEW

=

YOU GOT THE JOB!
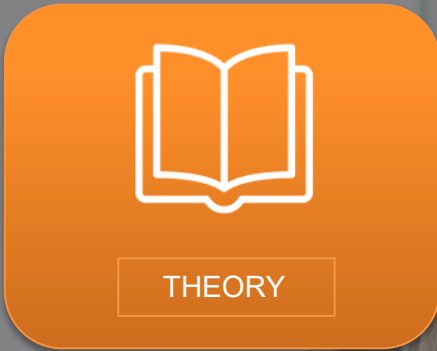
Detailed Course Syllabus

1. Introduction to Data Science.

a. What is data science? How Data Science differ from BI and Reporting
b. Who are data scientist? What skill sets are required?
c. What are roles in a data science in project?
d. What is Analytics and Predictive Analytics?
e. Challenges in Using Predictive Analytics.

2. Setting Up the Problem

a. Stages of a data science project.
b. Setting Expectation.
c. Overview with case study

3. Business Statistics

a. Data types
   Continuous Variable
   Ordinary Variable
   Categorical Variables
b. Descriptive Statics
c. Inferential Statics
d. Types of data
e. Population and sampling
f. Measure of Central Tendency
g. Measure of Variability
h. Histogram

i. Box Plot

j. Skewness

k. Kurtosis

l. Random variable

m. Probability Distribution

n. PDF and CDF of Random Variable

o. Expected Value of Mean

p. Variance and Standard Deviation

q. Data Distribution.(Normal Distribution, Binomial Distribution and Gaussian distribution)

r. Z score, Standard Normal Distribution

s. Statistical Inference

t. Sampling : Types of Sampling

u. Simple Random Sampling, Stratified Sampling

v. Probability and non-probability Sampling

w. Central Limit Theorem

x. Point Estimation and Interval Estimation

y. Confident Interval and Interpreting CI

z. Confident Interval for the mean

aa. T-distribution and its characteristics

bb. Estimate Error with t-distribution

cc. When to use z or t distribution

dd. Hypothesis Testing

Testing Process

Type I error

Type II error

Null and Alternative hypothesis

Reject or acceptance Criteria

ee. ANOVA

ff. F-distribution

gg. Statistical test for equality of mean

hh. Interview questions

4. R Programming

a. What is R?

b. R Data Types in R

c. Types of objects in R – Lists, matrices, arrays, data. Frames etc.

d. Creating new variables or updating existing variables

e. Variable declaration.

f. String Manipulations

g. Writing Function in R

h. Conditional Statement

i. Loops and summaries

j. Importing and Exporting

k. Data Manipulation and Transformation

l. Merging datasets

m. Efficient Data handling in R

n. Interview Question

5. Exploratory Data analysis and Visualization.

a. Getting data into R – reading from files

b. Cleaning and preparing the data – converting data types (characters to numeric)

c. Importance of EDA in Data Science.

d. Exploring Numerical Data

e. Numerical Summary

f. Correlation vs causation

g. Case study and interview question

6. Predictive Analytics

a. Supervised Learning

b. Simple Linear Regression.

c. Assumptions

d. Sum of least squares

e. Model validation

f. Error Measurement – RMSE – Root Mean Square Error

g. Disadvantage of linear Models

h. Multiple Linear regression.

i. Multivariate Linear regression.

j. Interpretation using R Programming

k. Accuracy measurement

l. Visualization using ggplot2

m. Case Study with Interview questions

7. Classification
   a. What a Decision Tree Is
   b. How to create a Tree
   c. Classification and Regression Tree.
   d. Algorithms ID3, C4.5, C5.0 with R-Implementation
   e. What can go wrong? (Over fitting)
   f. Accuracy measurement.
   g. Misclassification
   h. Area under the Curve
   i. Interview questions

8. Re-Sampling and Ensembles Methods
   Random Forest algorithm with R-Implementation
   Bagging and Boosting – Gradient Boosting Method

9. Logistic Regression
   a. What is Logistic Regression?
   b. Need for logistic Regression
   c. Logistic Regression Implication using R Programming
   d. Interpreting Logistic Regression Model
   e. Accuracy measurement
   f. Other Practical Consideration for Logistic regression model
   g. Interview questions

10. KNN – K nearest neighbors
    Advantages and disadvantages

11. Un-Supervised learning
    a. Hierarchical Clustering with implementation in R
    b. K-Means Clustering with implementation in R
    c. Interview Questions

12. Probalistic Methods
    Naive Bayes

13. Forecasting Algorithm
    a. Time series analysis using ARIMA model.
    b. Case study
    c. Interview questions.

14. Building Web application with shiny.
    a. Shiny review
    b. Make the perfect plot using shiny
    c. Explore a dataset interactively with shiny
    d. Interview Questions.

15. Model Deployment and Cross validation
    a. Need Cross Validation and k –fold cross validation
    b. Model Deployment

16. Advance Methods
    - Support Vector Machine
    - Neural Networks
    - Introduction of Deep Learning

17. Working in Cloud machine Leaning Tools
    - Introduction of Azure ML
    - Introduction to AWS ML

18. Project implementation in real data

19. **Building Web application with shiny.**
    e. Shiny review
    f. Make the perfect plot using shiny
    g. Explore a dataset interactively with shiny
    h. Interview Questions.

20. **Model Deployment and Cross validation**
    c. Need Cross Validation and k –fold cross validation
    d. Model Deployment

21. **Advance Methods**
    - Support Vector Machine
    - Neural Networks
    - Introduction of Deep Learning

22. **Working in Cloud machine Leaning Tools**
    - Introduction of Azure ML
    - Introduction to AWS ML

23. **Project implementation in real data**

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❖ Internet of Things IoT Training	❖ SOA Suite 11g	❖ C C++ Course
❖ Microsoft Azure Training	❖ Oracle DBA Training	❖ Tableau
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❖ Selenium Training	❖ ETL Testing Course	❖ Human Resources Classes
❖ IBM Cognos 10 BI & Cognos TM1	❖ PPC Training Institute	❖ Microstartegy Course
❖ Qlikview (Deisgner, Developer, Publisher, Server)	❖ Autodesk Revit Training	❖ Cisco CCNA Networking
❖ IBM Websphere	❖ Autodesk CAD 2d and 3d Course	❖ SAS Training
❖ Learn ODI 11g	❖ Catia Training	❖ Softskill Courses
❖ Python Training	❖ Wiring Harness Training	❖ ITIL Certificate Training
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