ADVANCED DATA SCIENCE 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

Inventateq

- ☀ PCAP CERTIFICATE

- ☀ Industry Recognized INVENTATEQ CERTIFICATE

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
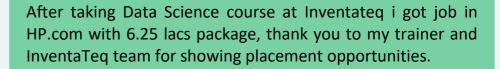
POUSHALI SANYAL

Its 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 couse 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 M

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.
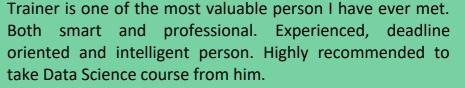
HARIKRISHNA

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

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

01

Data Science with Python

1. Python for Data Science
2. Introduction to Statistics
   - Types of Statistics
   - Analytics Methodology and Problem-Solving Framework
   - Populations and samples
   - Parameter and Statistics
   - Uses of variable: Dependent and Independent variable
   - Types of Variable: Continuous and categorical variable
3. Descriptive Statistics
4. Probability Theory and Distributions
5. Picturing your Data
   - Histogram
   - Normal Distribution
   - Skewness, Kurtosis
   - Outlier detection
6. Inferential Statistics
7. Hypothesis Testing

8. Analysis of variance (ANOVA)
   - Two sample t-Test
   - F-test
   - One-way ANOVA
   - ANOVA hypothesis
   - ANOVA Model
   - Two-way ANOVA
9. Regression
   - Exploratory data analysis
   - Hypothesis testing for correlation
   - Outliers, Types of Relationship, Scatter plot
   - Missing Value Imputation
   - Simple Linear Regression Model
   - Multiple Regression
   - Model Building and Evaluation
10. Model post fitting for Inference
    - Examining Residuals
    - Regression Assumptions
    - Identifying Influential Observations
    - Detecting Collinearity

11. Categorical Data Analysis

- Describing categorical Data
- One-way frequency tables
- Association
- Cross Tabulation Tables
- Test of Association
- Logistic Regression
- Model Building
- Multiple Logistic Regression and Interpretation

12. Model Building and scoring for Prediction

- Introduction to predictive modelling
- Building predictive model
- Scoring Predictive Model
- Introduction to Machine Learning and Analytics

13. Introduction to Machine Learning

- What is Machine Learning?
- Fundamental of Machine Learning
- Key Concepts and an example of ML
- Supervised Learning
- Unsupervised Learning

14. Linear Regression with one variable

- Model Representation
- Cost Function
- Parameter Learning
- Gradient Descent

15. Linear Regression with Multiple Variable

- Computing parameter analytically
- Ridge, Lasso, Polynomial Regression

16. Logistic Regression

- Classification
- Hypothesis Testing
- Decision Boundary
- Cost Function and Optimization

17. Multiclass Classification

18. Regularization

- Overfitting, Under fitting

19. Model Evaluation and Selection

- Confusion Matrix
- Precision-recall and ROC curve
- Regression Evaluation

20. Support Vector Machine

21. Decision Tree, Random Forest

22. Unsupervised Learning

- Clustering
- K-mean Algorithm

23. Dimensionality Reduction

- Principal Component Analysis and applications

24. Introduction to text analytics

25. Introduction to Neural Network

Machine Learning with Python

1. Introduction to Machine Learning

- What is Machine Learning?
- Fundamental of Machine Learning
- Key Concepts and an example of ML
- Supervised Learning
- Unsupervised Learning

2. Python

- Basics of Python
- Machine Learning Libraries
- Data Pre-processing/Exploration in Python
- Handling Missing Values
- Handling Outliers
- One Hot Encoder & Feature Scaling

3. Regression

- Assumptions of Linear Regression
- Simple Linear Regression Model
- Cost Function & Gradient Descent
- Multiple Regression
- Model Building and Evaluation
- Ridge, Lasso and Polynomial Regression
- Identifying Influential Features
- Regularization: Overfitting and underfitting
- Cross-Validation

4. Categorical Data Analysis

- Describing categorical Data
- Association
- Cross Tabulation Tables
- Test of Association
- Logistic Regression
- Decision Boundary
- Cost Function and Optimization
- Model Building
- Multiple Logistic Regression and Interpretation

5. Model Building and scoring for Prediction

- Introduction to predictive modelling
- Building predictive model
- Scoring Predictive Model

6. Multiclass/Multi-Label Classification

7. Imbalanced Dataset

8. Model Evaluation and Selection

- Accuracy
- Confusion Matrix
- Precision-recall and ROC curve
- Regression Evaluation

9. Support Vector Machine

10. K-Nearest Neighbours(K-NN)

11. Decision Tree, Random Forest

12. Unsupervised Learning

- Clustering

- K-means Algorithm

13. Dimensionality Reduction

- Principal Component Analysis and applications

14. Introduction to text analytics/Natural Language Processing

- Bag of Words

- TF-IDF

- LDA (Latent Discriminant Analysis)

15. Model Selection, Ensemble models

16. XG-Boost

17. Introduction to Neural Network

18. Recommender Systems

- Collaborative Filtering

- Content-Based Filtering

- SVD (Singular value Decomposition)

03

Artificial Intelligence

1. Introduction to AI

2. Agents and Search

3. A* Search and Heuristics

4. Constraint Satisfaction Problems

5. CSPs II

6. Game Trees: Minimax

7. Game Trees: Expectimax; Utilities

8. Markov Decision Processes

9. Markov Decision Processes II

10. Reinforcement Learning

11. Reinforcement Learning II

12. Probability

13. Bayes' Nets: Representation

14. Bayes' Nets: Independence

15. Bayes' Nets: Inference

16. Bayes' Nets: Sampling

17. Decision Diagrams / VPI

18. HMMs: Filtering

19. HMMs: Wrap-up / Speech

20. ML: Naive Bayes

21. ML: Perceptron

22. ML: Kernels and Clustering

23. ML: Neural Networks and Decision Trees

24. Robotics / Language / Vision

25. Miscellaneous Topics

Deep Learning and Image Recognition

11. Detection and Segmentation

Semantic segmentation

Object detection

Instance segmentation

12. Visualizing and Understanding

Feature visualization and inversion

Adversarial examples

DeepDream and style transfer

13. Generative Models

PixelRNN/CNN

Variational Autoencoders

Generative Adversarial Networks

14. Deep Reinforcement Learning

Policy gradients, hard attention

Q-Learning, Actor-Critic

05

Tableau 10 Visualization

1. Introduction to Tableau Desktop

- Overview of Business Intelligence
- Introduction to Tableau Desktop
- Use and benefits of Tableau Desktop
- Tableau's Offerings
- Guide to Install Tableau Desktop 10.5

2. Tableau Desktop Interface

- Start Page
- Data Source Page
- Worksheet Interface
- Creating a Basic View
- Show Me
- Shelves, cards , Marks and pills

3. Connecting Data Sources

- Data Types
- Data Roles
- Visual Cues for Fields
- Data Preparation
- Data Source optimization
- Joins
- Cross Database Joins
- Data Blending
- Joining vs. Blending
- Union
- Creating Data Extracts
- Writing Custom SQL

4. Organizing Data

- Filtering Data
- Sorting Data
- Creating Combined Fields
- Creating Groups and Defining Aliases
- Working with Sets and Combined Sets
- Drilling and Hierarchy
- Adding Grand Totals and Subtotals
- Changing Aggregation Functions
- Creating Bin
- Cross Data Source Filter

5. Formatting Data

- Effectively use Titles, Captions, and Tooltips
- Format Results with the Edit Axes
- Formatting your View
- Formatting results with Labels and Annotations
- Enabling Legends per Measure

6. Calculations

- Use Strings, Date, Logical, and Arithmetic Calculations
- Create Table Calculations
- Discover Ad-hoc Analytics
- Perform LOD Calculations

7. Visualizations

- Creating Basic Charts such as Heat Map, Tree Map, Bullet Chart, and so on
- Creating Advanced Chart as Waterfall, Pareto, Gantt, Market Basket analysis, and Mekko Chart Embed Views

8. Analysis using Desktop

- Reference lines
- Reference bands
- Reference distributions
- Trend lines
- Statistical summary card
- Instant Analytics
- Forecasting
- Clustering

9. Mapping

- Modify locations within Tableau
- Import and manage custom geocoding
- Explore Geographic Search
- Perform Pan/Zoom, Lasso, and Radial Selection
- Measure Distance
- WMS server
- Use a background image
- Custom Territories

10. Fields in Tableau

- Tableau generated fields
- Measure values and names
- When to use measure values and names
- Number of records
- Generated latitude and longitude
- Special fields
- Date hierarchies
- Discrete and continuous date parts
- Custom dates

11. Parameters

- Create a parameter
- Explore Parameter Controls
- Using Parameters in Calculations
- Using Parameters and Reference Lines
- Using Parameters with Filters

12. Create Dashboards and Stories

- Dashboard Interface
- Build Interactive Dashboards
- Explore Dashboard Actions
- Best Practices for Creating Effective Dashboards
- Story Interface
- Creating Stories
- Share Your Work

13. Tableau Online

- Creating Tableau online account
- Administering Tableau Online
- Publish data source
- Publish Reports

14. Tableau Project

- Industry based Project

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Enter as Trainees....
Exit as Professionals

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POPULAR COURSES FROM INVENTATEQ

100% JOB ORIENTED TRAINING COURSES WE PROVIDE

❖ Digital Marketing (SEO/Social Media/PPC Google Adwords)	❖ BigData Hadoop Course	❖ Machine Learning Certification Training
❖ Best SEO Training	❖ Spark and Scala Course	❖ Block Chain Training Courses
❖ AWS Training	❖ DevOps Training	❖ Artificial Intelligence Courses
❖ Cloud Computing Training	❖ Angularjs and Node JS Training	❖ Tally ERP & GST Accounting classes
❖ Data Science Courses	❖ Weblogic Training	❖ Java course
❖ RPA Training	❖ .NET Technologies	❖ Software Testing Course, Manual Testing, QTP, UFT, Loadrunner
❖ Internet of Things IoT Training	❖ SOA Suite 11g	❖ C C++ Course
❖ Microsoft Azure Training	❖ Oracle DBA Training	❖ Tableau
❖ Data Warehousing - Informatica	❖ Oracle SQL, PLSQL, DBA, D2k, Apps	❖ PHP MYSQL, Python
❖ 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
❖ Abinitio Classes	❖ Content Writing Training	❖ SAP Courses
❖ Web Designing Course	❖ Siebel CRM Courses	❖ OBIEE
❖ Data Stage Classes	❖ Clear Case Training	

6 CENTERS AND COUNTING

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