

ANALYTICS CIRCLE

India's Best Data Science Institute

Industry-Relevant Job Oriented AI & Data
Analytics Courses to Get You Hired!



About Analytics Circle

Analytics Circle a premier capability building and training solutions firm. It is led by Top MNCs alumni with deep industry experience and a flair for coaching. We endeavor in helping our students acquire and master skills in basic and advanced analytics. Our focus is to enable each student to emerge as an 'Industry-ready' professional and have a successful career through our dedicated placement support.

APPROACH

- Outcome-focused pedagogy
- Practical and application based
- Real Life-like assignments and projects
- Extensive industry network for placements

CONTENT

- Industry-vetted curriculum
- Hands-on projects for every module
- Industry renowned certification
- Business case studies with real-world challenges

FACULTY

- Deep industry experience with a flair for coaching
- 10+ years of cumulative experience with prestigious firms like Wipro, KPMG, Deloitte, EXL and Genpact
- Strong community networks with peers

BOTTOM LINE

- Job oriented learning
- Continuous career support
- Experiential learning with high ROI

Roles within the Data Analytics Team

➤ DATA SCIENTIST

Collecting, analyzing, and interpreting large data sets

➤ DATA ANALYST

Review data, analyze, and find meaningful insights for business

➤ DATA ARCHITECT

Review and analyze data infrastructure for an organization

➤ INFRASTRUCTURE ENGINEER

Design, build, and deploy entire data infrastructure for an organization

➤ BUSINESS INTELLIGENCE ANALYST

Work with data to make finance and market intelligence reports

About the Course: Data Science

- Our Data Science course is designed for absolute beginners with no prior programming background.
- With our comprehensive Data Science course, you learn to analyze data and enable organizations in making data-driven business decisions

Training Methodology

INSTRUCTION

INTERACTIVE & BLENDED E-LEARNING WITH 1 YEAR ACCESS TO LMS

Students can choose & blend various learning formats, encompassing classroom and interactive live online sessions. All students then get access to learning management system for 12 months, keeping in mind the constant upgradation of the courses according to industry standards.

Benefits

- Interactive Live classroom Learning at Delhi.
- Live Online streaming facilitates the dynamics that occur in a classroom.

REINFORCEMENT

PRACTICAL HANDS-ON LEARNING

- Our training includes variety of job oriented hands-on projects with real business and data challenges.
- Crafted by experts to keep you ahead of the curve in industry best practices.
- Our case study-based modules ensure that participants learn practical applications along with the theoretical concepts.

Program Benefits

Distinctive Faculty

Our faculty members have proven track record with global analytics experience. They are drawn from leading consulting and technology with 10+ years of experience.

Industry Relevant Curriculum

Our courses are crafted by experts to keep you ahead of the curve in industry best practices. Case study based modules ensure that participants learn practical applications along with the theoretical concepts. Further to this, new courses are continuously launched and old ones keep evolving as per the latest and upcoming industry trends.

Placement Guidance

Strong focus on job relevant skills thereby helping in placements is our key belief. We have an extensive industry network to help students. Students get continuous guidance from our experienced faculty on job applications, interview preparation, conduct mock interviews if required and referring CVs to various companies as and when suitable.

Experiential Learning

Industry interface and domain expertise to balance theoretical and practical learning. Our training includes variety of job oriented hands-on projects with real business and data challenges.

Effective Pedagogy

High degree of commitment & personal attention is given through small batch size and individual counselling. Hands-on sessions and practice assignments on real life business datasets are included to ensure assimilated learning.

Placements Assistance

- Our Data Science program with dedicated Placement Assistance. A team of seasoned professionals will help you based on your overall educational background and work experience.
- Job referrals are based on the requirements we get from various organizations and HR consultants. There will be continuous support from our side for as long as you need it.
- Most of our students do get multiple interview calls and good career options based on the skills they learn during the course.
- Our faculty offers dedicated mentoring and support for as long as needed by our students.

SALARY INSIGHTS

Type of Opportunity	Salary Range (in INR)
Paid Internships	15,000–30,000
Full Time Jobs	4,00,000–15,00,000

Experience Levels	Salary Range (in INR)
1-3 Years	4,00,000 –7,00,000
3-5 Years	6,00,000–12,00,000
5+Years	9,00,000–20,00,000

Projects

EXPERIENTIAL LEARNING

The assignments and case studies are curated using real-life data and problems to ensure that you are equipped with the skills needed for hiring and also deal with the on-job challenges. They cover popular industries and domains to have maximum coverage based on job openings available in the industry.

KEY INDUSTRIES COVERED:

- Retail / E-commerce
- BSFI (Banking & Insurance)
- Healthcare
- Telecom
- Hospitality
- Manufacturing

KEY SKILLS EMPHASIZED:

- Data Handling, Manipulation, Preparation
- Data Analytics & Visualization
- Exploratory Data Analysis
- Descriptive Analytics
- Diagnostics Analytics
- Predictive Modeling
- Statistical Analysis
- Machine Learning (Supervised, Unsupervised)
- Text Mining & Natural Language Processing
- Model Deployment

Machine Learning

1) Introduction

- a) What is Machine Learning?
- b) Types of Learning
 - i. Supervised Learning
 - ii. Unsupervised Learning
- c) Difference between Supervised and Unsupervised Learning

2) Data Preprocessing/Feature Engineering

- a) Feature Selection method
 - i. Correlation
 - ii. Heatmap
- b) Removing/Replacing Nan values
 - i. dropna()
 - ii. fillna ()
 - iii. replace ()
- c) Encoding categorical values
 - i . Label Encoding
 - ii. get_dummies()
 - iii. Find and replace
- d) Data Scaling
 - i. What is scaling?
 - ii. Implementing data scaling
- e) Splitting dataset into Training and Test sets

3) Supervised Learning - Regression

- a) What is Supervised Learning?
- b) Algorithms in Supervised Learning
- c) What is Regression?
- d) Regression Metrics
 - i. MSE
 - ii. MAE
 - iii. R MSE
- e) Linear Regression
 - i. Simple Linear Regression and its implementation
 - ii. Multiple Linear Regression and its implementation
 - iii. Creating regression models in sk-learn
 - iv. Making prediction with regression
 - v. SSE, SSR and SST
 - vi. R-square Coefficient
- f) Polynomial Regression and its implementation

4) Supervised Learning - Classification

- a) What is Classification?
- b) Bias and Variance
 - i. What is Bias?
 - ii. What is Variance?
 - iii. Overfitting
 - iv. Underfitting

c) Confusion Matrix and its related concepts

- i. What is Confusion Matrix?
- ii. Precision
- iii. Recall
- iv. Accuracy
- v. F - score
- vi. Sensitivity

d) Different Classification algorithms of Supervised Learning

e) Logistic Regression

- i. What is Logistic Regression?
- ii. Working of Logistic Regression
- iii. Sigmoid Function
- iv. Implementation of Logistic Regression
- v. Pros and Cons of Logistic Regression

f) Decision Tree

- i. What is Decision Tree?
- ii. Criteria in Decision Tree
- iii. Implementation of decision tree
- iv. pros and cons of decision tree

g) Random Forest

- i. What is Random Forest?
- ii. Attributes/Parameters of Random Forest
- iii. Difference between Decision Tree and Random Forest
- iv. Concept of Bootstrapping a dataset
- v. Implementation of random forest
- vi. pros and cons of random forest

h) K-NN

- i. What is K-NN?
- ii. K-NN algorithm working
- iii. Method of determining nearest neighbors
- iv . Implementation of KNN
- v. Pros and Cons of K -NN

i) Naïve Bayes

- i. What is Naïve Bayes?
- ii. Na ï ve B a ye s a lg or it h m w o r ki ng
- iii. Implementation of Naïve Bayes
- iv. Pros and cons of Naive Bayes

5) Unsupervised Learning - Clustering

a) What is Unsupervised learning?

b) What is Clustering?

c) Clustering Algorithms

d) K-Means Clustering

- i. What is K -means Clustering?
- ii. Method to determine optimal number of Clusters - Elbow method
- iii. Implementation of K -means Clustering

e) Agglomerative Clustering

- i . What is Agglomerative Clustering ?
- ii. Dendograms
- iii. Implementation of Agglomerative

6) Unsupervised Learning - Dimensionality Reduction

- a) What is dimensionality Reduction
- b) Dimensionality Reduction - PCA
 - i. Working of PCA
 - ii. Covariance matrix
 - iii. Eigen value and Eigen vectors
 - iv. Implementation of PCA

7) Projects on ML

- a) Projects on Regression, Classification and Clustering

Text Mining using NLP

1) Introduction to Text Mining

- Text Mining - characteristics, trends
- Text Processing using Base Python & Pandas, Regular Expressions
- Text processing using string functions & methods
- Understanding regular expressions
- Identifying patterns in the text using regular expressions

2) Text Processing with modules like NLTK, sklearn

- Getting Started with NLTK
- Introduction to NLP & NLTK
- Introduction to NLTK Modules (corpus, tokenize, Stem, collocations, tag, classify, cluster, chunk, etc.)

3) Initial data processing and simple statistical tools

- Reading data from file folder/from text file, from the Internet & Web scrapping, Data Parsing
- Cleaning and normalization of data
- Sentence Tokenize and Word Tokenize, Removing insignificant words("stop words"). Removing special symbols, removing bullet points and digits, changing letters to lowercase, stemming /lemmatization /chunking

Introduction to AI & DL

1) Introduction to Artificial Intelligence (AI)

- Modern era of AI
- Role of Machine learning & Deep Learning in AI
- Hardware for AI (CPU vs. GPU vs. FPGA)
- Software Frameworks for AI & Deep Learning
- Key Industry applications of AI

2) Artificial Neural Network (ANN)

- Overview of Neural Networks
- Activation Functions, hidden layers, hidden units
- Illustrate & Training a Perceptron
- Important Parameters of Perceptron
- Understand limitations of A Single Layer Perceptron
- Illustrate MultiLayer Perceptron
- Understand Backpropagation - Using Example
- Implementation of ANN in Python- Keras

3) Introduction to Google Colab

- Setting up google colab
- Uploading files to Google Cola b
- Using Google colab as an alternative to Jupyter Notebook

4) Understanding different Activation Functions

- Linear
- Sigmoid
- Tanh
- ELU
- ReLU
- Leaky Relu

5) Understanding different Optimizers

- Gradient Descent
- Stochastic Gradient Descent
- Momentum
- Adagard
- Adam

6) Understanding different Loss Functions

- MSE
- MAE
- Binary CrossEntropy

7) CNN (Convolutional Neural Network)

- Working of CNN
- Convolution layer
- Kernel/filter and strides
- Pooling Layer
- Flatten layer
- Fully Connected Layer
- Image Classification using CNN
 - MNIST Image dataset classification
 - Fashion MNIST Image dataset classification

8) Projects on Deep Learning