Associate Program

ASSOCIATE IN
DATA SCIENCE

500K+
Satisfied Students

100K+
Online Students

300+
Trainers

300K+
Placements

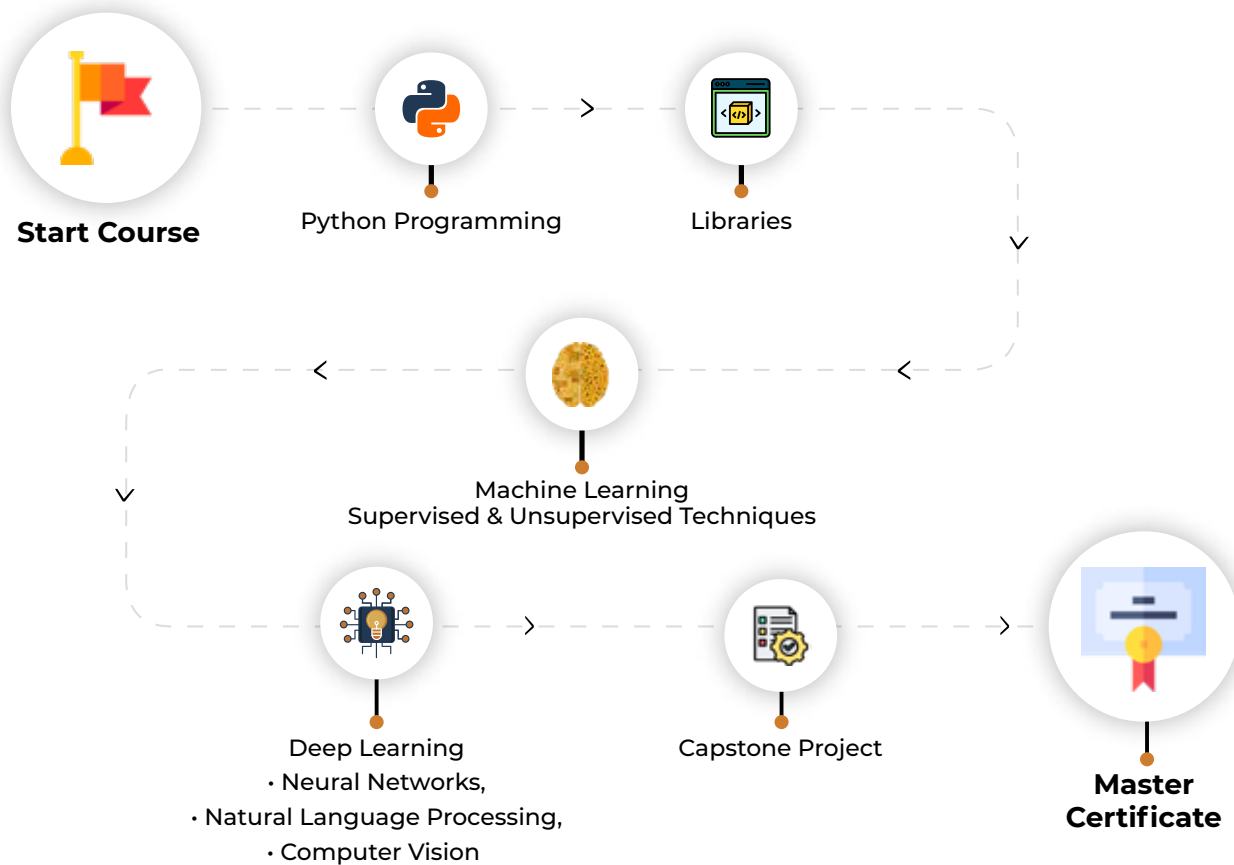**200+**
Global Certifications

150+
Companies

CC-V-1

|Program INDEX

|Learning Curve

Start Course → Python Programming → Libraries

Machine Learning
Supervised & Unsupervised Techniques

Deep Learning
• Neural Networks,
• Natural Language Processing,
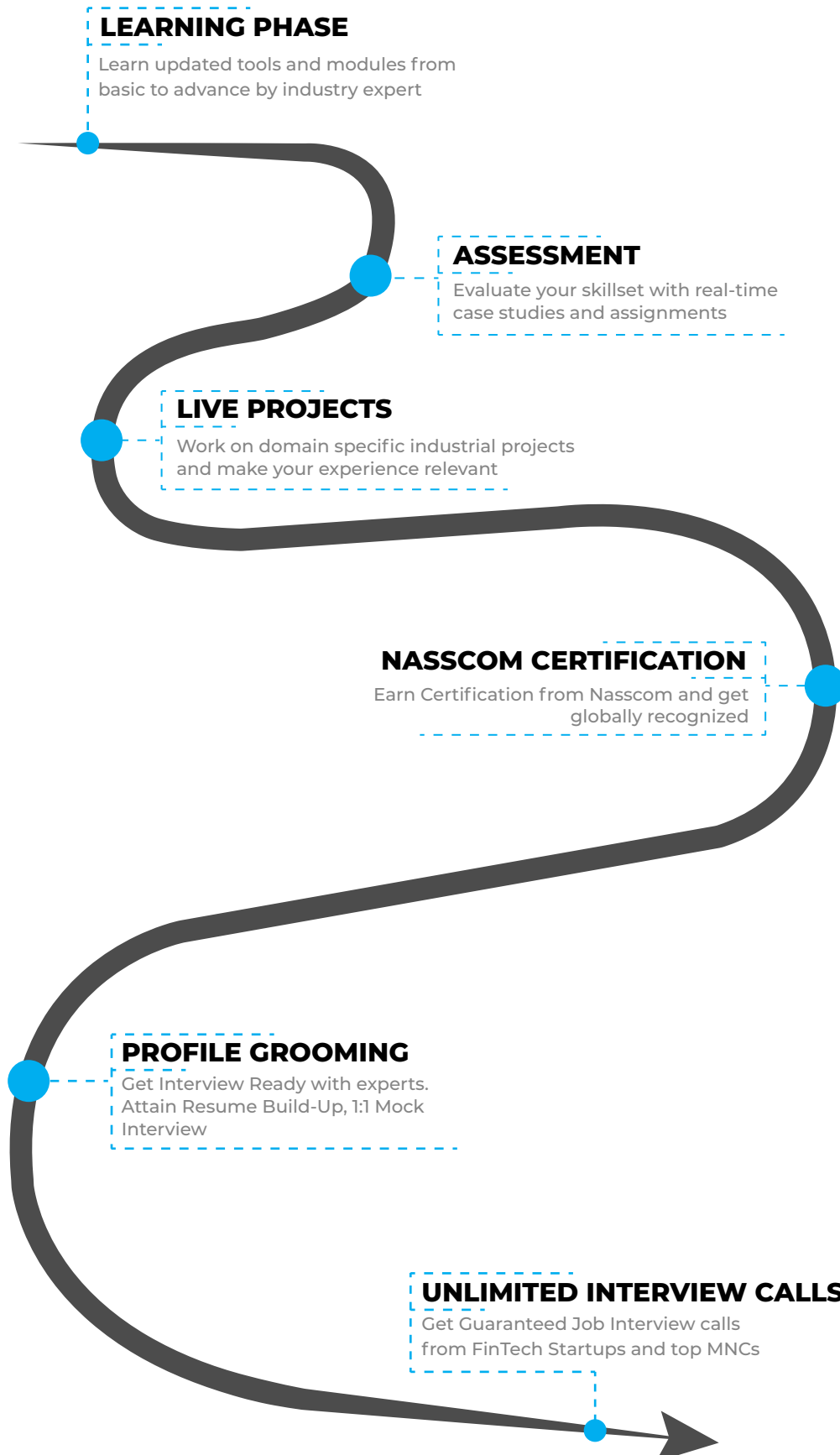• Computer Vision

Capstone Project

Master Certificate

Modules of **Associate in Data Science**

- ✓ **Python of AI**
- ✓ **Data Analysis and Visualization**
- ✓ **Core Machine Learning Basics**
- ✓ **Neural Networks & Deep Learning**
- ✓ **Computer Vision**
- ✓ **Natural Language Processing (NLP)**
- ✓ **Model Deployment**
- ✓ **Mini Capstone Project**

|Transition Process

LEARNING PHASE
Learn updated tools and modules from basic to advance by industry expert

ASSESSMENT
Evaluate your skillset with real-time case studies and assignments

LIVE PROJECTS
Work on domain specific industrial projects and make your experience relevant

NASSCOM CERTIFICATION
Earn Certification from Nasscom and get globally recognized

PROFILE GROOMING
Get Interview Ready with experts. Attain Resume Build-Up, 1:1 Mock Interview

UNLIMITED INTERVIEW CALLS
Get Guaranteed Job Interview calls from FinTech Startups and top MNCs

Module 1: Python of AI

✓ Introduction To Python

- Installation and Working with Python
- Understanding Python variables
- Python basic Operators
- Understanding the Python blocks.
- Version Control with Git & GitHub

✓ Python Keyword And Identifiers

- Python Comments, Multiline Comments.
- Python Indentation
- Understating the concepts of Operators
    - Arithmetic
    - Relational
    - Logical
    - Assignment
    - Membership
    - Identity

✓ Introduction To Variables

- Variables, expression condition and function
- Global and Local Variables in Python
- Packing and Unpacking Arguments
- Type Casting in Python
- Byte objects vs. string in Python
- Variable Scope

✓ Python Data Type

- Declaring and using Numeric data types
- Using string data type and string operations
- Understanding Non-numeric data types
- Understanding the concept of Casting and Boolean.
- Strings
- List
- Tuples
- Dictionary
- Sets

✓ Control Structure & Flow

- Statements – if, else, elif
- How to use nested IF and Else in Python
- Loops
- Loops and Control Statements.
- Jumping Statements – Break, Continue, pass
- Looping techniques in Python

- How to use Range function in Loop?
- Programs for printing Patterns in Python
- How to use if and else with Loop
- Use of Switch Function in Loop
- Elegant way of Python Iteration
- Generator in Python
- How to use nested Loop in Python
- Use If and Else in for and While Loop
- Examples of Looping with Break and Continue Statement
- How to use IN or NOT IN keyword in Python Loop.

✅ Python Function, Modules And Packages

- Python Syntax
- Function Call
- Return Statement
- Arguments in a function – Required, Default, Positional, Variable-length
- Write an Empty Function in Python –pass statement.
- Lamda/ Anonymous Function
- *args and **kwargs
- Help function in Python
- Scope and Life Time of Variable in Python Function
- Nested Loop in Python Function
- Recursive Function and Its Advantage and Disadvantage
- Organizing python codes using functions
- Organizing python projects into modules
- Importing own module as well as external modules
- Understanding Packages
- Random functions in python
- Programming using functions, modules & external packages
- Map, Filter and Reduce function with Lambda Function
- More example of Python Function

✅ List

- What is List.
- List Creation
- List Length
- List Append
- List Insert
- List Remove
- List Append & Extend using "+" and Keyword
- List Delete
- List related Keyword in Python
- List Revers
- List Sorting
- List having Multiple Reference
- String Split to create a List
- List Indexing

- List Slicing
- List count and Looping
- List Comprehension and Nested Comprehension

✅ Tuple

- What is Tuple
- Tuple Creation
- Accessing Elements in Tuple
- Changing a Tuple
- Tuple Deletion
- Tuple Count
- Tuple Index
- Tuple Membership
- TupleBuilt in Function (Length, Sort)

✅ Dictionary

- Dict Creation
- Dict Access (Accessing Dict Values)
- Dict Get Method
- Dict Add or Modify Elements
- Dict Copy
- Dict From Keys.
- Dict Items
- Dict Keys (Updating, Removing and Iterating)
- Dict Values
- Dict Comprehension
- Default Dictionaries
- Ordered Dictionaries
- Looping Dictionaries
- Dict useful methods (Pop, Pop Item, Str , Update etc.)

✅ Sets

- What is Set
- Set Creation
- Add element to a Set
- Remove elements from a Set
- PythonSet Operations
- Frozen Sets

✅ Strings

- What is Set
- Set Creation
- Add element to a Set
- Remove elements from a Set
- PythonSet Operations

✅ Python Exception Handling

- Python Errors and Built-in-Exceptions

- Exception handing Try, Except and Finally
- Catching Exceptions in Python
- Catching Specific Exception in Python
- Raising Exception
- Try and Finally

✔ Python File Handling

- Opening a File
- Python File Modes
- Closing File
- Writing to a File
- Reading from a File
- Renaming and Deleting Files in Python
- Python Directory and File Management
- List Directories and Files
- Making New Directory
- Changing Directory

✔ Python Database Interaction

- Basic SQL, DDL and DML commands
- SQL Database connection using
- Creating and searching tables
- Reading and Storing config information on database
- Programming using database connections

✔ Reading An Excel

- Working With Excel
- Reading an excel file using Python
- Writing to an excel sheet using Python
- Python| Reading an excel file
- Python | Writing an excel file
- Adjusting Rows and Column using Python
- ArithmeticOperation in Excel file.
- Play with Workbook, Sheets and Cells in Excel using Python
- Creating and Removing Sheets
- Formatting the Excel File Data
- More example of Python Function

✔ Complete Understanding Of OS Module Of Python

- Check Dirs. (exist or not)
- How to split path and extension?
- How to get user profile detail?
- Get the path of Desktop, Documents, Downloads etc.
- Handle the File System Organization using OS
- How to get any files and folder's details using OS?

Module 2: Data Analysis and Visualization

✅ Data Analysis And Visualization Using Pandas.

- Read data from Excel File using Pandas More Plotting, Date Time Indexing and writing to files
- How to get record specific records Using Pandas Adding & Resetting Columns, Mapping with function
- Using the Excel File class to read multiple sheets More Mapping, Filling Nonvalue's
- Exploring the Data Plotting, Correlations, and Histograms
- Getting statistical information about the data Analysis Concepts, Handle the None Values
- Reading files with no header and skipping records Cumulative Sums and Value Counts, Ranking etc
- Reading a subset of columns Data Maintenance, Adding/Removing Cols and Rows
- Applying formulas on the columns Basic Grouping, Concepts of Aggre gate Function
- Complete Understanding of Pivot Table Data Slicing using iLoc and Loc property (Setting Indices)
- Under sting the Properties of Pivot Table in Pandas Advanced Reading CSVs/HTML, Binning, Categorical Data
- Exporting the results to Excel Joins
- Python | Pandas Data Frame Inner Join
- Under sting the properties of Data Frame Left Join (Left Outer Join)
- Indexing and Selecting Data with Pandas Right Join (Right Outer Join)
- Pandas | Merging, Joining and Concatenating Full Join (Full Outer Join)
- Pandas | Find Missing Data and Fill and Drop NA Appending Data Frame and Data
- Pandas | How to Group Data How to apply Lambda / Function on Data Frame
- Other Very Useful concepts of Pandas in Python Data Time Property in Pandas (More and More)

✅ Data Analysis And Visualization Using NumPy

- Introduction to NumPy Numerical Python
- Importing NumPy and Its Properties
- NumPy Arrays
- Creating an Array from a CSV
- Operations an Array from a CSV
- Operations with NumPy Arrays
- Two-Dimensional Array
- Selecting Elements from 1-D Array
- Selecting Elements from 2-D Array
- Logical Operation with Arrays
- Indexing NumPy elements using conditionals
- NumPy's Mean and Axis
- NumPy's Mode, Median and Sum Function
- NumPy's Sort Function and More

✅ Data Analysis And Visualization Using MatPlotLib

- Bar Chart using Python MatPlotLib
- Column Chart using Python MatPlotLib
- Pie Chart using Python MatPlotLib

- Area Chart using Python MatPlotLib
- Scatter Plot Chart using Python MatPlotLib
- Play with Charts Properties Using MatPlotLib
- Export the Chart as Image
- Understanding plt. subplots () notation
- Legend Alignment of Chart using MatPlotLib
- Create Charts as Image
- Other Useful Properties of Charts.
- Complete Understanding of Histograms
- Plotting Different Charts, Labels, and Labels Alignment etc.

✅ Introduction To Data Visualization With Seaborn

- Introduction to Seaborn
- Making a scatter plot with lists
- Making a count plot with a list
- Using Pandas with seaborn
- Tidy vs Untidy data
- Making a count plot with a Dataframe
- Adding a third variable with hue
- Hue and scattera plots
- Hue and count plots
- Visualizing Two Quantitative Variables
  - Introduction to relational plots and subplots
  - Creating subplots with col and row
  - Customizing scatters plots
  - Changing the size of scatter plot points
  - Changing the style of scatter plot points
  - Introduction to line plots
  - Interpreting line plots
  - Visualizing standard deviation with line plots
  - Plotting subgroups in line plots
- Visualizing a Categorical and a Quantitative Variable
  - Current plots and bar plots
  - Count plots
  - Bar plot with percentages
  - Customizing bar plots
  - Box plots
  - Create and interpret a box plot
  - Omitting outliers
  - Adjusting the whisk
  - Point plots
  - Customizing points plots
  - Point plot with subgroups
- Customizing Seaborn Plots
  - Changing plot style and colour
  - Changing style and palette
  - Changing the scale

- Using a custom palette
- Adding titles and labels Part 1
- Face Grids vs. Axes Subplots
- Adding a title to a face Grid object
- Adding title and labels Part 2
- Adding a title and axis labels
- Rotating x-tics labels
- Putting it all together
- Box plot with subgroups
- Bar plot with subgroups and subplots
- Well done! What's next?

Module 3: Core Machine Learning Basics

✅ **Foundation For AI: Learn Traditional ML Models, Evaluation, And Workflows.**

- Introduction to ML, AI, and Deep Learning
- Types of ML (Supervised, Unsupervised, Reinforcement)
- ML Pipeline: Data Cleaning, Feature Engineering
- Common ML Algorithms: Linear, Logistic, DT, RF, SVM, KNN
- Model Evaluation: Accuracy, Precision, Recall, F1, ROC-AUC
- Overfitting, Underfitting, Cross-Validation
- Hands-on Project: Titanic Dataset (or similar)

Module 4: Neural Networks & Deep Learning

✅ **Understand The Inner Workings Of Neural Networks And Train Them With Keras.**

- Introduction to Neural Networks & Deep Learning
- Activation Functions (ReLU, Sigmoid, Tanh)
- Feedforward Neural Network
- Backpropagation & Gradient Descent
- Learning Rate, Schedulers & Optimizers (SGD, Adam, RMSProp)
- Softmax, Cross-Entropy Loss
- Keras Basics: Sequential API & Functional API
- Fully Connected Layer – Forward/Backward Pass
- Regularization – Dropout, Batch Normalization
- Data Preprocessing & Data Augmentation
- Weight Initialization Strategies
- Babysitting Learning: Overfit detection, TensorBoard Monitoring
- Hands-on: MLP on MNIST / Tabular data (e.g. HR Analytics)

Module 5: Computer Vision

✅ **Master CNNs, Object Detection, Segmentation, And Deployment.**

- Basics of Images, Image Preprocessing
- Convolution: 2D Conv, Forward & Backward
- Pooling, Padding, Stride, Transposed Conv
- CNN Architectures: LeNet, AlexNet, VGG, ResNet
- GPU vs CPU for DL
- Transfer Learning: Inception, MobileNet, fine-tuning
- Semantic Segmentation using UNet
- Object Detection – YOLO, SSD, Region Proposal
- Bounding Box Regressor
- Siamese Networks for Similarity Search
- Hands-on:
  - Image Classification with CNN
  - Object Detection with YOLOv8
  - Visual Search with Embeddings

Module 6: Natural Language Processing (NLP)

✅ **Train Text Models From Scratch And With BERT.**

- Introduction to NLP and Use Cases
- Preprocessing: Tokenization, Lemmatization, Stopwords, Normalization
- Feature Extraction: BOW, TF-IDF, N-Grams
- Word Embeddings: Word2Vec, GloVe, Dense Vectors
- POS Tagging, Named Entity Recognition
- RNN, LSTM – Forward Pass and BPTT
- Advanced LSTM Applications + Architectures
- Attention Mechanism + Encoder-Decoder
- Transformers, BERT, Hugging Face Pipelines
- NLP Evaluation Metrics: BLEU, ROUGE
- Hands-on:
  - Sentiment Classifier (LSTM or BERT)
  - Deploy NLP Model with Streamlit

Module 7: Model Deployment

✅ **Take Models From Notebooks To Real-World Applications.**

- Saving & Loading Models (Pickle, Joblib, Keras)
- Flask vs FastAPI – Serving ML models
- Streamlit/Gradio for Web Apps
- Hosting Models on Hugging Face Spaces, Streamlit Cloud
- MLflow Intro – Model Tracking & Versioning
- Hands-on:
  - Deploy CV or NLP model with Streamlit
  - Create API using FastAPI

Module 8: Mini Capstone Project

✓ **Build, Evaluate, And Deploy A Mini AI Project End-To-End.**

- Project Selection: Tabular, CV, or NLP
- Data Collection/Exploration
- Preprocessing + Feature Engineering
- Model Training & Tuning
- Evaluation & Interpretation
- App Creation (Streamlit/Gradio)
- Deployment + Final Presentation/Submission

|Course Projects

Domain: Automobile

Project Name:
Car Price Prediction

To be able to predict used cars market value can help both buyers and sellers. There are lots of individuals who are interested in the used car market at some points in their life because they wanted to sell their car or buy a used car. In this process, it's a big corner to pay too much or sell less then it's market value. In this Project, we are going to predict the Price of Used Cars using various features like Present_Price, Selling_Price, Kms_Driven, Fuel_Type, Year etc.

Tool & Technology Used:

PYTHON **ML** **NUMPY** **PANDAS**

Domain: Social Media

Project Name:
Instagram Reach Analysis

Instagram reach analysis is a vital topic for social media marketing. This project aims at teaching learners how to use data to analyze their Instagram reach. It involves collecting data on the reach of your past posts and using Python to understand how different factors affect the number of people who see your posts.

Tool & Technology Used:

PYTHON **NUMPY** **PANDAS** **MATPLOTLIB** **SEABORN** **PLOTLY**

Domain: Fitness and Health

Project Name:
Calories Burnt Prediction

The Calories Burnt Prediction project aims to develop an advanced machine learning model that can accurately predict the number of calories an individual burns based on various physiological and activity-related factors. This project has significant applications in the fields of health and fitness, personalized training programs, weight management, and overall wellness.

Tool & Technology Used:

PYTHON **NUMPY** **PANDAS** **MATPLOTLIB** **SEABORN** **PLOTLY**

|e-Learning through LMS

Learning **Management System**

Our LMS (LearnPitch) is for the administration, documentation, tracking, reporting, automation, and delivery of educational courses, training programs, or learning and development programs.

Our LMS has been designed to identify training and learning gaps, using analytical data and reporting to keep you up with the class activities.

Key Features **Learning Management System**

Live Sessions with Class recordings

Get study material with Assignments.

Track your curriculum covered.

Track your class wise attendance

Share your feedback for Trainer & Training

Get your Training Certificate from LMS

Earn Your **Certificate**

Your certificate and skills are vital to the extent of jump-starting your career and giving you a chance to compete in a global space.

|Croma Campus is Nasscom Certified

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CERTIFICATE
OF MEMBERSHIP

CromaCampus Training & Development Private Limited

Membership ID : NSCM/2023/33/7617

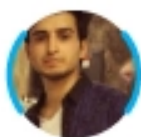Valid Till : 31-March-2020

Rajesh Nambiar
President, nasscom

|Croma Campus! Reviews

"The most rewarding part of my experience has been achieving a prestigious certification in the subject that I love. Moreover, the training offered out by the specialists are of world-class and prepares out the students for corporate world. For me Croma Campus means a lot."

" By The
Students
For The
Students "

Your Success is **Our Story**

Bharat
" I am fully satisfied with the excellent training services received by the expert staff at Croma Campus. I want to thank Croma Campus for providing me with the most innovative and affordable training services for learning all the software testing procedures and guidelines. "
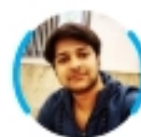
Ankit
" It was a lifetime experience for me to get trained by IT Experts of Croma Campus. What I liked most about the training was the consistent high-quality education, which was friendly and co-active. The placement department was also proactive, they keep me updated regarding new job opportunities and provide the grooming session to crack the interview. At last, I would like to thank all faculty members of Croma Campus for their immense help and support. "
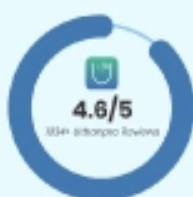
Umesh
" Without any second thought, I will give Croma Campus 10/10. Their placement department is highly proactive. I remember they started scheduling interviews for me from the very next day when I told them my course has been completed. These people are doing a phenomenal job and I highly recommend Croma Campus to everyone. "

Shams Khan
" Croma Campus is doing a phenomenal job in the IT training industry. The reason why I decided to join their training program was that they provide quality training at very a nominal price. Plus, the online training mode was also a factor due to which I decided to join the training program of Croma Campus as I didn't want to attend physical classes. "

G 4.2/5	4.8/5	4.6/5	Jd 4.3/5	f 4.5/5
1000+ Google Reviews	1004+ Sulekha Reviews	1004+ Urbanpro Reviews	1004+ JustDial Reviews	1000+ Facebook Reviews

|Meet Our Team

Sales Team

Our Sales team is highly passionate, emphatic, positive attitude, great listening skills, ability to deliver quick solutions, and they are multitasker too. Our team always remains up-to-date about all the latest technologies and market trends. With effective communication skills, they always work to deliver the right information to customers when it is needed.

Product Team

Our product team is highly functional and collaborative working together to achieve the common outcome of designing exceptional digital experiences. Each of our members is a contributor to help us achieve success in long-run. Sitting at the high-end of technology and innovation, team helps to deliver high-end customer experiences and always comes out with a big idea as a game-changing plan.
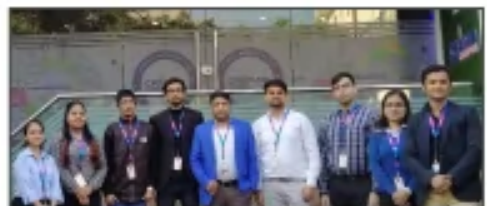
Marketing Team

Our Marketing team works as gladiators and helps us to achieve business success in all possible ways. They are included in almost everything either it is building a brand, creating brand awareness, promoting products or services, delivering trailblazing customer experiences or increasing engagement at public forums. They are the true backbone of the Company.

Content Team

Our content team is responsible for ideation, creation, optimization, and distribution of content throughout the company. The team always starts its work with a strategy, how to create high-quality contents, and how to promote or share the content. Our in-house content team help us to produce all types of contents either they are educational content pieces, marketing content, SEO content, or any other forms too.

Customer Access Team

This is the team that has actually been taken up us from reactive state to a pro-active state. The team utilizes high-valued solutions to satisfy customers in all possible ways. It is truly said that no company can succeed if your customers are not satisfied. And our customer success team is dedicatedly working to keep all the customers satisfied and we always consider our customer feedback on priority.

HR Team

Our HR team is committed to provide high-end solutions to employees as they require. Our HR team has the right skills and knowledge to make sure that the HR department can always be legally and strategically successful. They know how to keep employees motivated all the time with the best HR policies and fun activities too from time to time.
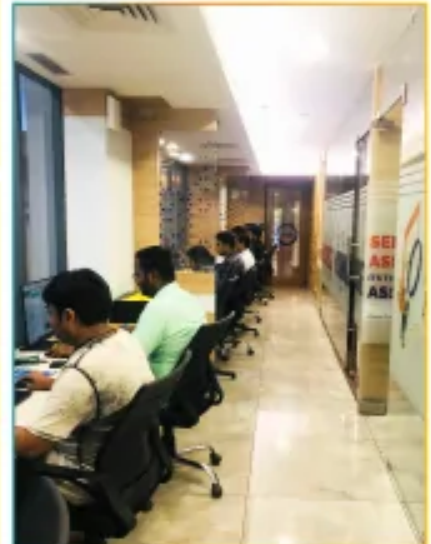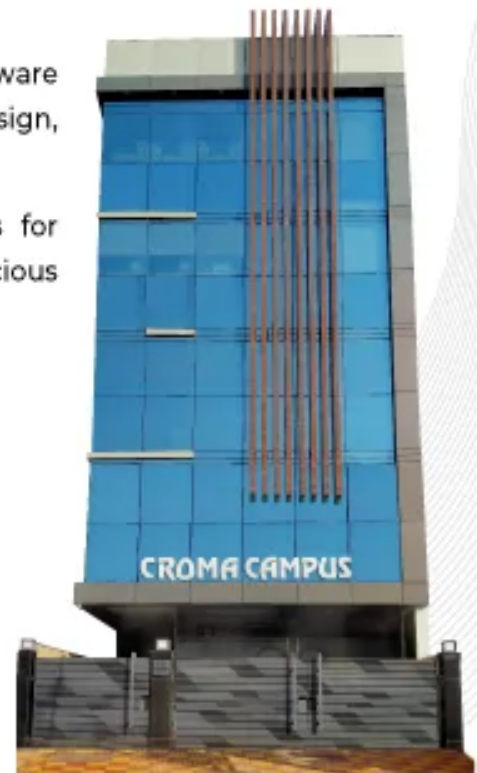
|Glimpse Of Our Office

Look **Who We are**

Our office's infrastructure comprises all the necessary software and network resources that are required to deliver IT & Design, Human Resources, Digital Marketing, and training services.

We are well-equipped with bright designed work bays for employees and managers having separate cabins with spacious cafeteria and training classrooms.

|About Croma Campus

"
Our Mission is to Build Nation through Education & Beyond Limitation.
"

CROMA CAMPUS | **#1** Asia's Leading Edtech Company

Croma Campus Training & Development Private Limited is an education platform providing rigorous industry-relevant programs designed and delivered in collaboration with world-class faculty, industry & Infrastructure. In the past 15 years we have trained 18000+ candidates and out of which we are able to place 12000+ professionals in various industries successfully.

We Are Affiliated With Different Partners

ISO CERTIFIED COMPANY 9001:2015

MSME MICRO, SMALL & MEDIUM ENTERPRISES

N·S·D·C National Skill Development Corporation — Transforming the skill landscape

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Ministry Of Corporate Affairs Government of India

PMKVY प्रधानमंत्री कौशल विकास योजना

We're Here to Help –
Reach Out to Our Global Offices

🇮🇳 India

Croma Campus Training & Development Private Limited

G-21, Block-G, Sector 3, Noida, Uttar Pradesh-201301

+91-971 152 6942   ⊙ Chat on WhatsApp

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🇨🇦 Canada

Croma Campus Training & Development Private Limited

279-B Baltzan BLVD, Saskatoon, Saskatchewan, Canada-S7W0S1

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Croma Campus Training & Development Private Limited

454 church street Cairo, GA-39828, United States of America

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