

REAL DATA SCIENCE SKILLS THAT DELIVER REAL OUTCOMES!

India's #1 Outcome-focused, Immersive
Data Science & Machine Learning Program
Developed Based On Insights From
Top 50 Tech Companies



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Insights

We designed the **Scaler Data Science curriculum** based on insights from **100 Data Scientists** and **ML Engineers** from **50 top tech companies** and **startups**. Our objective was to identify challenges they face and address them in our course. Here's what we learnt:

95%

struggled initially to understand business problems:

Data Science is a technical role, but **Data Scientists** are tasked with **improving the business**. Data Science programs often focus on the technical aspect, **forgetting** the importance of **understanding the business**.

80%

struggled initially to work with real-world datasets:

Data scientists work with **massive, fragmented, messy, and incomplete data**, while students practice on dummy datasets which are small, clean, and organized, **depriving learners the opportunity to practice with real messy datasets.**

★ The Scaler Difference:

- ✓ Scaler Data Science addresses this with a **Business & Strategy curriculum** designed by experts from **McKinsey** and **BCG**.
- ✓ It is **integrated seamlessly** into all **projects**, providing **hands-on practice** tackling DS & ML problems in a business scenario.

★ The Scaler Difference:

- ✓ At Scaler Data Science, you will work on **projects built in partnership with top companies**.
- ✓ You will work on real problem statements and will get your hands dirty by working with **messy and unclean realistic data**.

50%

struggled to understand research papers

Data Science, Machine Learning, and Deep Learning are **rapidly evolving fields**, with **new research** being **published constantly**. Data Scientists who can absorb the latest research insights are of **great value** for **organisations**.

★ The Scaler Difference:

- ✓ At Scaler Data Science, you will learn how to **read** the latest **Research Papers**
- ✓ Expert mentoring to help you **publish new research** in global **peer-reviewed conferences**.

Work on **projects built in partnership with top companies**.

Work on real industry projects, get real-time feedback from mentors, and engage with your peers to discuss different solutions during live classes. Here are a few of the sample projects:



Use data to design the best strategy for offering coupons and discounts.



Experiment with different driving routes to minimise wait times



Predict when food arrives at customers' addresses.



Sniff out fraud by analyzing millions of chat messages.

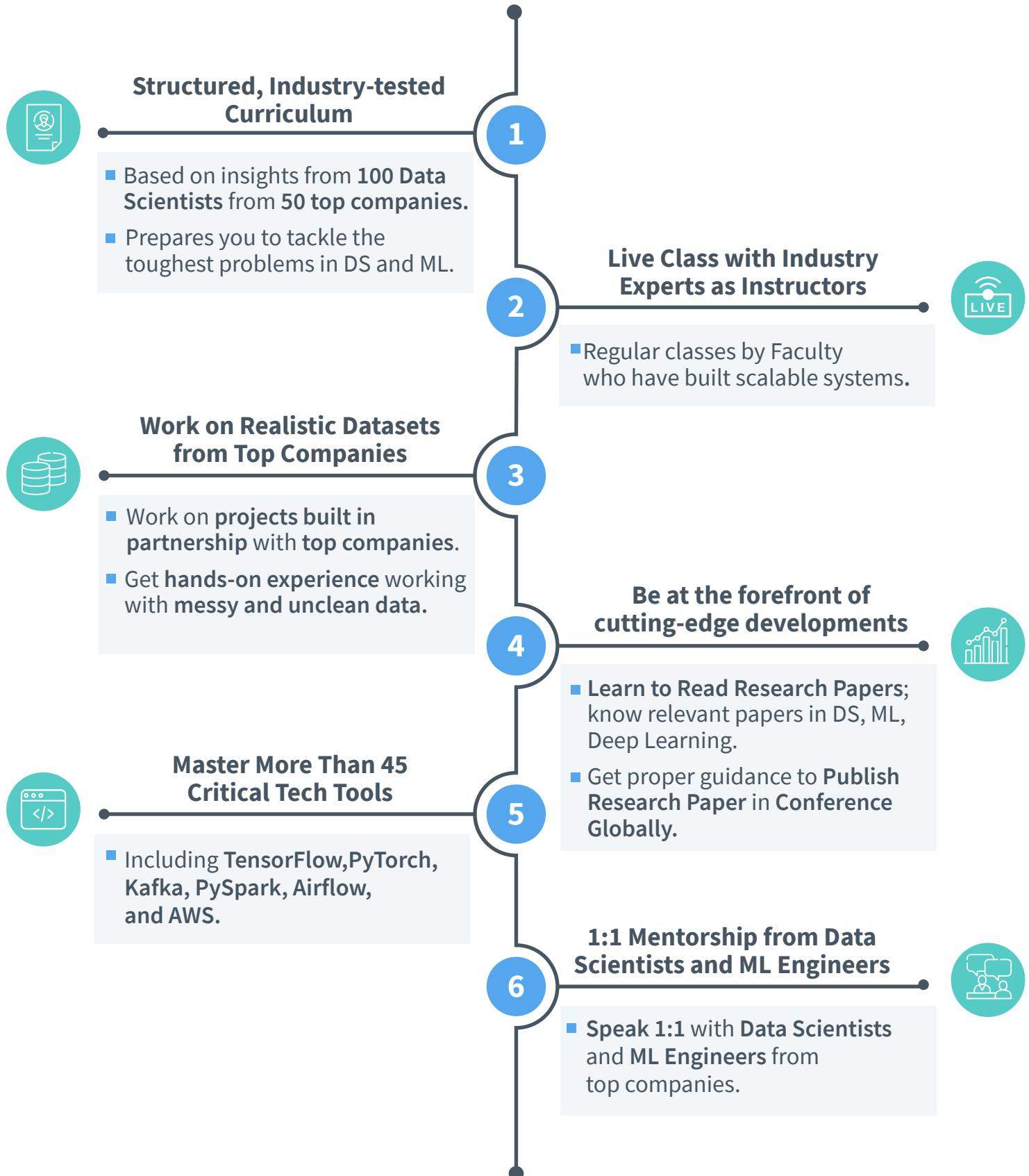
*Projects may be updated based on student and partner feedback.



Scaler Data Science program ensures you gain the knowledge & confidence to overcome the toughest challenges a Data Scientist or ML Engineer can face in their careers, from day one!

Highlights of Scaler Data Science Program

A program that focuses on real outcomes - career-wise and skill-wise!



Program Overview

Curriculum That's Crafted To Make You a Complete Data Scientist!

Course Outline

| Sr. no. | Topic | Duration |
|------------------------------|------------------------------------|------------------------|
| 1 | DSA Intermediate | 8 weeks |
| 2 | Python + Tools + Web | 3 weeks |
| 3 | Data Mining & Statistical Analysis | 7 weeks |
| 4 | Data Science & Machine Learning | 9 weeks |
| 5 | Deep Learning & Big Data | 7 weeks |
| 6 | DSA Advanced | 15 weeks |
| Total Course Duration | | 11 to 13 Months |

Entry Points for this course:

Based on a 30 Min MCQ Entrance coding Test, you will either enter as:

Intermediate

1. DSA Intermediate (2 months)
2. Data Science & ML (7 months)
3. DSA Advance (4 months)



Advance

1. Data Science & ML (7 months)
2. DSA Advance (4 months)



Curriculum Deep-dive

01 DSA Intermediate

Functions

- ✓ Recursion
- ✓ Pointers

Structures, Unions & Dynamic Arrays

- ✓ Asymptotic Notations

? **Why DSA?** Strong DSA skills help you in Problem Solving, using the most effective way. Moreover, it is an essential skill for clearing interviews, even for Data Science and ML roles.

02 Preparation

Setup & Utilities

- ✓ Linux Terminal, Jupyter
- ✓ Git Essentials

Structures, Unions & Dynamic Arrays

- ✓ Python, OOP, Exception handling
- ✓ Important Modules (time, random, os, openCV, etc.)
- ✓ File I/O, Connect to DB, Large files

★ Scaler Advantage: Prior knowledge of Python is not required. Essential tools like Git will be covered so that you don't struggle on the job.

03 Data Mining / Data Analysis

Databases and SQL

- ✓ Basics - MySQL, SQL Queries, CRUD, ACID
- ✓ Intermediate - Index, Partition, Query optimization, CTE, Concurrency, Sharding
- ✓ NoSQL, MongoDB
- ✓ DB Schema Design

Data Governance

- ✓ Data Dictionary

 **Scalor Advantage:** The Program also covers advanced topics such as Data Governance and Data Dictionary which will help you stand out in your career.

04 Maths & Statistical Analysis

Statistics & Probability

- ✓ Statistical measures, Standard deviation, Probability, Bayes
- ✓ Normal Distribution, Density, Binomial Experiment, CLT
- ✓ Poisson, Markov
- ✓ Sampling, Confidence, Hypothesis Testing
- ✓ Anova, Chi-square

Linear Algebra

- ✓ Linear algebra, Eigenvectors
- ✓ Coordinate Geometry

Calculus

- ✓ Derivatives, Optimization techniques

 **Scaler Advantage:** A strong foundation in Mathematics is a gift that keeps on giving. We will cover these topics in a fun and engaging way.

05 Data Analysis in Python

Python

- ✓ Numpy - Vector, Matrix, Array, Slicing, Coercion, Random, Distribution, Time
- ✓ Pandas - Dataframe, Pivot, Merge, Missing values, Apply, Download
- ✓ Matplotlib, Seaborn

 **Scaler Advantage:** **Numpy** and **Pandas** are going to be your air and water as a Data Scientist and ML Engineer. We will teach you how to use these tools to solve difficult **business** problems.

06 Data Science & Machine Learning

EDA (Exploratory Data Analysis)

- ✓ Random Sampling, Replacement, Simulation
- ✓ Summarization, Central Tendency, Dispersion, Skewness, Kurtosis, Law of large numbers
- ✓ R-square, Multicollinearity, Parsimonious, Autocorrelation, Heteroscedasticity
- ✓ Significance, Confusion Matrix, Sensitivity, Specificity, Odds Ratio
- ✓ Outlier Detection, Normality Test (QQ, KS, SW), Correlation Analysis
- ✓ Feature Engineering, Normalization, Standardization
- ✓ Parametric and Non-Parametric Tests

Supervised Models

- ✓ KNN
- ✓ Linear Regression

- ✓ Logistic Regression
- ✓ Ensemble: Bagging, Boosting, Decision Trees, Random Forest
- ✓ Regularization, Overfit
- ✓ SVM

Unsupervised Models

- ✓ Clustering (KMeans, Hierarchy), Anomaly Detection

Predictive Modeling

- ✓ Time Series - MLE, LSM, ARIMA (optional... MAM, JASA, ADF, Correlogram, AIC, LSE)
- ✓ Forecasting - Naive, Moving Avg, Growth, Random Walk, Drift forecast

Intermediate

- ✓ PCA, Dimensionality Reduction, Factor analysis, t-SNE
- ✓ Validation Analysis, Residual Analysis
- ✓ Recommender system (Collaborative/Content filtering, Propensity analysis).
Cold start problem

Natural Language Processing

- ✓ Text Analytics, Text Mining, Tf-Idf, POS Tagging, a bag of words, import prereq
- ✓ Naive Bayes, Spam Detection, Sentiment Analysis

 **Scaler Advantage:** We will cover the latest models in Data Science and Machine Learning. You will work on **projects built in partnership** with top companies. You will get your hands dirty by working with **messy and unclean real-world data.**

07 Deep Learning

- ✓ Neural Networks, MLP, Backprop

Overhead

- ✓ Keras
- ✓ TensorFlow
- ✓ PyTorch
- ✓ Project discussions
- ✓ Reading Research Papers

Computer Vision

- ✓ CNN, Object Detection
- ✓ Object Segmentation, Localization, YOLO, SSD
- ✓ Autoencoders
- ✓ GAN
- ✓ Data Augmentation
- ✓ Siamese Net
- ✓ Architectures - VGG, GoogleNet, ResNet, DenseNet
- ✓ Transfer Learning

Natural Language Processing

- ✓ Similiarity, Sequential Models, Embeddings, Transformers, word2vec/GloVe
- ✓ Time Series - LSTM, GRU
- ✓ Attention Networks / BERT

Other

- ✓ Reinforcement Learning, Q-Learning, Autonomous Players
- ✓ ML System Design

 **Scalor Advantage:** We will teach you how to read the latest **Research Papers** and we will discuss the relevant papers in class. This is an important skill to stay updated in the fast-changing field of ML and Deep Learning.

08 Data Engineering / Data Infrastructure / MLOps

Big Data / Distributed System

- ✓ Warehouse - S3, Hadoop HDFS, ElasticSearch/Solr, HBase, MongoDB, Redshift
- ✓ Ingestion - Kafka, Nifi
- ✓ Analysis - PySpark, Airflow, Hive
- ✓ DevOps - Databricks, Snowflake, KubeFlow, MLFlow, KNIME
- ✓ DevOps - Docker, Kubernetes, Ansible/Puppet, Kerberos, AWS, GCP, Azure
- ✓ System Design - Data Pipeline

 **Scaler Advantage:** Our program also covers advanced topics such as Data Governance and Data Dictionary which will help you stand out in your career.

09 Web and API

Basics

- ✓ Web APIs, Downloading large files programmatically

Intermediate

- ✓ Web Scraping & Crawler
- ✓ Web Automation

Advanced

- ✓ Flask
- ✓ Cloud Server Deployment

 **Scaler Advantage:** Being able to build a crawler to scrape websites and deploying your **web apps** will help you ace your career as a Data Scientist and ML Engineer.

10 Business Experience

Business Skills

- ✓ Case studies, MoM, Growth, LTV, NPS, DAU, MAU, Profit, Revenue

★ Scaler Advantage: Data Scientists help with **business** decisions and need to solve **open-ended** business problems. They need to know what data to even ask for. As such, understanding the business is a critical skill. It will help you in difficult business situations when you have to **creatively** build a new **strategy** or diagnose issues in the existing **operations** of the company.

11 DSA Advanced

- ✓ Time Complexity, Arrays, Strings, Binary Search, 2 Pointers, Recursion, Hashing, Sorting, Bit manipulation
- ✓ Stacks, Queues, Linked Lists, Trees, Tries, Heap
- ✓ Greedy, DP, Graphs



The Scaler Data Science curriculum covers all the essential topics and tools you need to make real-world impact as a Data Scientist!



Meet Your Instructors

A comprehensive curriculum by itself doesn't make you a complete data scientist - real skills require real-world experience. **Learn from Experts and Thought-leaders who have been there, done that!**

Mudit Goel

Ex - LinkedIn, Intuit

At LinkedIn and Intuit, Mudit was granted patents by the US Government. He led the Data Science team at D2L (ranked among most innovative companies in Data Science). Mudit founded Coding Elements, which was selected by the Govt. of India to teach coding to 2 Million students. He currently leads the Data Science and ML program at Scaler.



Anant Mittal

UNIVERSITY OF MARYLAND, INTERNATIONAL INSTITUTE OF INFORMATION TECHNOLOGY HYDERABAD

As a researcher at the University of Maryland, he worked on cutting-edge systems to find biomarkers of task activities in the brain. He designed and developed COVID19 & hygiene-related analytics solutions such as temperature screening and violations related to preventive measures.



Anshuman Singh

Co-Founder SCALER, Ex - facebook
ACADEMY

He is the co-founder of Scaler Academy and two-time ACM ICPC world finalist. He was one of the founding team members of Facebook Messenger and worked directly with Mark Zuckerberg on product development.





Pragy Agarwal

Ex - media.net IIT BOMBAY

Pragy received a Masters degree, specialising in Machine Learning, from IIT Bombay. As a Platform Engineer at Media.Net, he scaled Low Latency Systems with millions of queries per second. He has 16+ years of experience and a keen eye for 'industry best practices'.

Kshitij Mishra

Ex - snapdeal

As part of a two-member SDE team, he managed the entire codebase of Snapdeal 'Seller Search' services (when Snapdeal was doing 7M orders/month) and also helped Snapdeal move from the highest available AWS model to the lowest within 4 months.



Advisory Committee



Pawan Kumar

Head of Data Science, Uber
Ex - LinkedIn

Pawan is an experienced Data Scientist with a strong product sense and an innate ability to communicate complex insights clearly. He has been leading and spearheading the Data Science divisions at Uber and LinkedIn.

He has been empanelled as an advisor for the Scaler Data Science Program



Ramit Sawhney

Georgia Tech | TOWER RESEARCH CAPITAL

A seasoned software engineer, Ramit is a globally published and recognised researcher at IIIT-Delhi, Georgia Institute of Technology, the AI Institute at University of Southern Carolina, and Open Source Maintainer at AnitaB.org

He has been empanelled as the research advisor for the Scaler Data Science Program

Mentors

Our mentors ensure you have the right guidance, every step of the way!

We offer 1:1 Mentorship sessions twice a month, wherein mentors will answer your queries, doubts, help you with interview tips, and even mock interview sessions.



Sahil Chelaramani
Data Scientist  Microsoft

He has worked on Bing Search and Azure Global Development teams. He has experience in building large Deep Learning projects, and robust Data Science systems.



Girijesh Prasad
Senior Manager, Data Science,
Morgan Stanley

He has extensive experience in delivering end-to-end Data Science solutions - from infrastructure to models. He can also share his experience about management and business.



Rajeev Baditha
Data Scientist, 

He has theoretical as well as hands-on knowledge of Data Science, and has worked at Walmart and Fractal Analytics. He has a Master's degree from Indian Statistical Institute.



Hitesh Hinduja
Senior Manager, Artificial
Intelligence, 

He is passionate about cutting-edge research. He also leads a team of 20 to deliver the best electric vehicles, while leveraging end-to-end Machine Learning pipelines.

Career Support & Alumni Network

We offer career support and guidance, to ensure the skills you have learned are having a real-world impact!

Access job opportunities from
600+ partner employers



Exchange job opportunities with
20k+ Scaler student
community



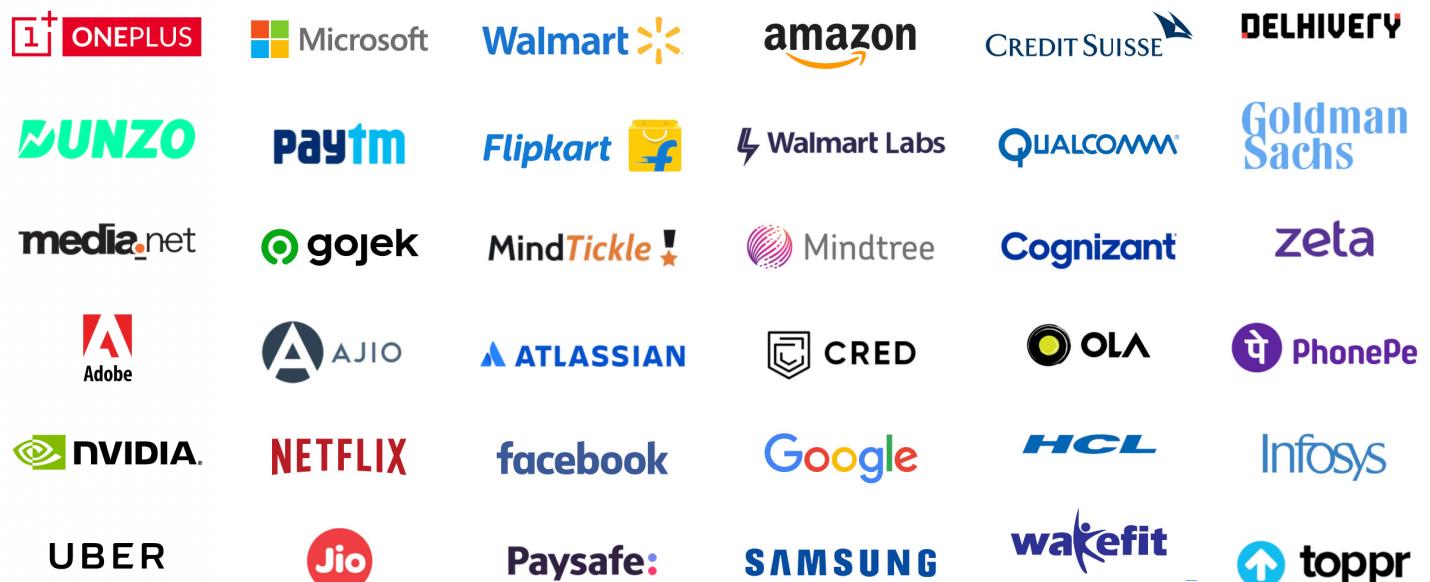
Practice mock interviews with
people from the industry



Optimize your resume & LinkedIn
profile by the experts



Our alumni work at reputed technology companies and promising startups



Tuition Fee

★ Total Fee Rs 2.5L (inclusive of GST)

- ✓ You get scholarship upto **Rs 25,000** and there are super affordable EMI and finance options for you to avail as well!
- ✓ With scholarship & EMI options, your payment can be as low as Rs 7,200 per month - that's like your monthly grocery bill!
- ✓ 2 weeks trial period - money-back guarantee if you want to exit the course!

Apply In 3 Easy Steps!

1



Easy Registration

In <2 min, make a new account or login using social media / InterviewBit account

[Click here to create your account](#)

2



Quick Evaluation

Simple 30 min MCQ test focused on aptitude and basic coding to find the right course for you!

[Take The Test Now](#)

3



Enroll in your course

Signup with easy EMI Options and avail scholarships to start your learning journey!

[Signup for the Course](#)

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