



iHUB DivyaSampark



Department of Science & Technology
Government of India



ADVANCED CERTIFICATION IN DATA SCIENCE AND AI

Master Data Science and Artificial Intelligence skills and take your career to the next level!



10 Million
Learners



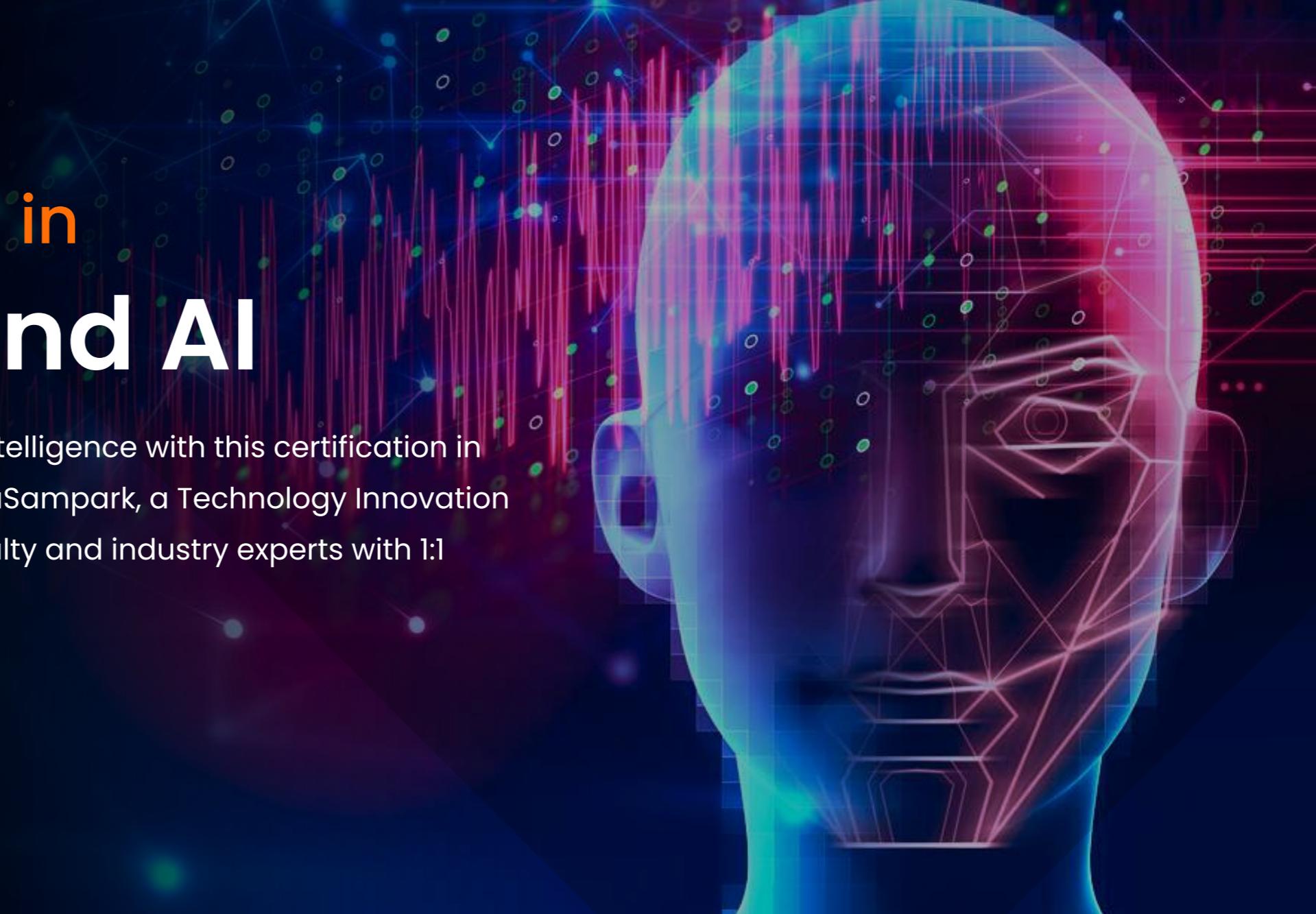
1:1 Personalized
Mentorship



55% Average
Salary Hike

Advanced Certification in Data Science and AI

Master the skills of Machine Learning and Artificial Intelligence with this certification in Data Science and Artificial Intelligence by iHUB DivyaSampark, a Technology Innovation Hub of IIT Roorkee and Intellipaat. Learn from IIT Faculty and industry experts with 1:1 mentorship.



Hottest Job of 21st Century



Mammoth Job Market

There are currently an estimated 659,000 data science job postings worldwide. This number is expected to grow by 22% in the next five years.



Skill Development

Data Scientists are equipped with various relevant skill, fetching lucrative job offers



Growing Industry

The global data science industry is expected to grow at a compound annual growth rate (CAGR) of 22.9% till 2026.



Future-oriented Career

Data Science and Artificial Intelligence is a budding field; a head start will prove to be beneficial



Popular Degree

50% of the data scientists have masters degree



High Demand

According to a report by the McKinsey Global Institute, there will be a shortage of 190,000 to 230,000 data scientists by 2023.

Our Credentials



10 Million+

Aspiring Active Students



1,000+

Industry-expert Instructors



400+

Hiring Partners



500+

Corporates Upskilled



55%

Average Salary Hike



155+

Countries' Learners

About Program

This online Data Science and Artificial Intelligence course aims for you to master the basic and advanced skills in the various tools and technologies involved in the field of Data Science, Machine Learning, Deep Learning, and Artificial Intelligence.



Learning Format
Online Bootcamp



7 Months
Live Classes



Campus Immersion
IIT Roorkee



iHub, IIT Roorkee
Certification

Key Highlights

- ✓ 400 Hrs of Applied Learning
- ✓ 218 Hrs of Self-Paced Learning
- ✓ 50+ Industry Projects & Case Studies
- ✓ Placement Assistance
- ✓ 24*7 Support
- ✓ 1:1 Mock Interview
- ✓ 2 Days campus immersion at IIT Roorkee
- ✓ 50+ Live sessions across 7 months
- ✓ Learn from IIT Faculty & Industry Practitioners
- ✓ One-on-One with Industry Mentors
- ✓ Resume Preparation and LinkedIn Profile Review
- ✓ Designed for Working Professionals & Freshers
- ✓ No Cost EMI Option

Program Pedagogy



Instructor-led Training

Get trained by industry experts from Top Product Companies & Startups



Hackathons

Get a sense of how real projects are built



Dedicated Learning Management Team

To help you with your learning needs



Peer Networking and Group Learning

Improve your professional network and learn from peers



Self-paced videos

Learn at your own pace with world-class content



Gamified Learning

Get involved in group activities to solve real-world problems



Projects and Exercises

Get real-world experience through projects



1:1 Personalized Learning

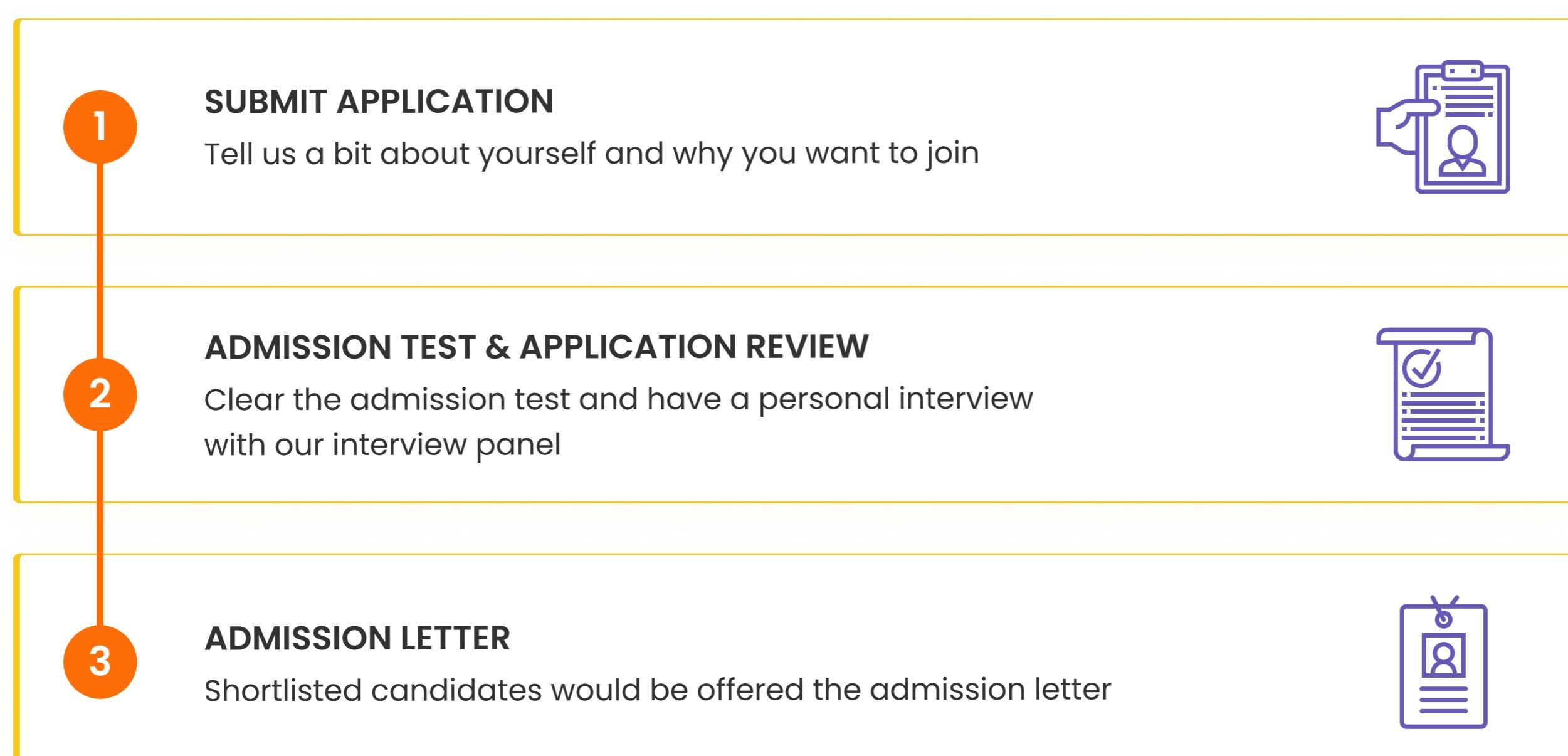
Hands-on exercises, project work, quizzes, and capstone projects

Who Can **Apply for the Course?**

- ✓ Individuals with a bachelor's degree and a keen interest to learn AI and Data Science
- ✓ IT professionals looking for a career transition as Data Scientists and Artificial Intelligence Engineers
- ✓ Professionals aiming to move ahead in their IT career
- ✓ Artificial Intelligence and Business Intelligence professionals
- ✓ Developers and Project Managers
- ✓ Freshers who aspire to build their career in the field of Artificial Intelligence and Data Science

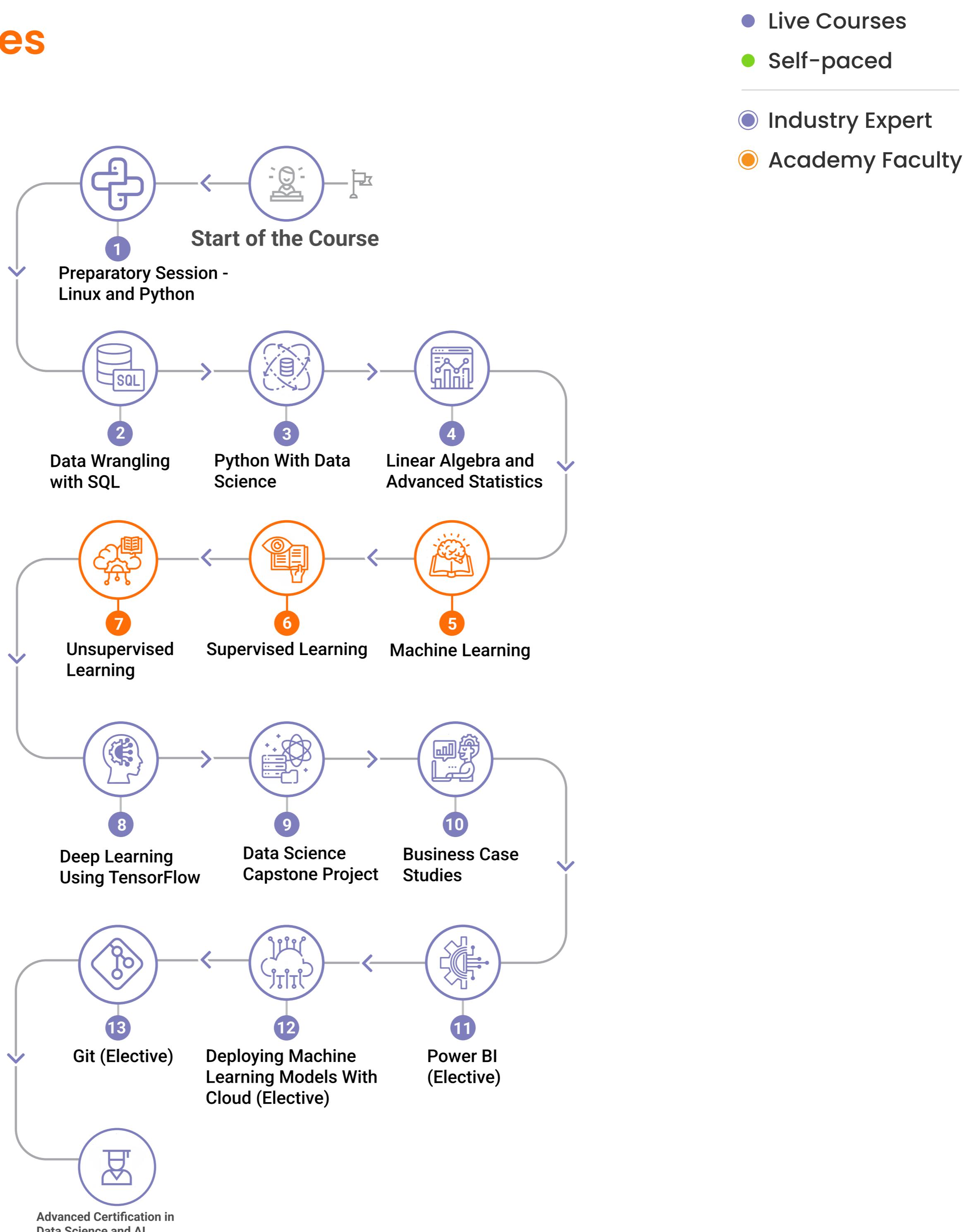
Application **Process**

The application process consists of three simple steps. Candidates have to submit their application. An offer of admission will be made to the selected candidates, and their application will be accepted upon the payment of the admission fee.



Learning Path

Live Courses



Self-paced Course

- Data Analysis With MS-Excel

Program Curriculum

Module 1

Preparatory Sessions – Python & Linux

Python

- Introduction to Python and IDEs
- Python Basics
- Object Oriented Programming
- Hands-on Sessions And Assignments for Practice

Linux

- Introduction to Linux
- Linux Basics
- Hands-on Sessions And Assignments for Practice

Module 2

Data Wrangling with SQL

- SQL Basics
- Advanced SQL
- Deep Dive into User Defined Functions
- SQL Optimization and Performance

Module 3

Python With Data Science

- Extract Transform Load
- Data Handling with NumPy
- Data Manipulation Using Pandas
- Data Preprocessing
- Data Visualization

Module 4

Linear Algebra and Advanced Statistics

- Descriptive Statistics
- Probability
- Inferential Statistics

Module 5

Machine Learning

- Introduction to Machine learning
- Regression
- Classification
- Clustering

Module 6

Supervised Learning

- Linear Regression
- Logistic Regression
- Decision Tree
- Random Forest
- Support Vector Machine
- Gradient Descent
- K-Nearest Neighbors
- Time Series Forecasting

Module 7

Unsupervised Learning

- K-means
- Dimensionality reduction
- Linear Discriminant Analysis
- Principal Component Analysis
- Performance Metrics
- Classification reports
- Confusion matrix

Module 8

Deep Learning Using TensorFlow

- Artificial Intelligence Basics
- Neural Networks
- Deep Learning

Module 9

Data Science Capstone Project

- Extracting, loading and transforming data into usable format to gather insights.
- Data manipulation and handling to pre-process the data.
- Feature engineering and scaling the data for various problem statements.
- Model selection and model building on various classification, regression problems using supervised/unsupervised machine learning algorithms.
- Assessment and monitoring of the model created using the machine learning models.

Program Curriculum

Module 10

Business Case Studies

- Recommendation Engine
- Rating Predictions
- Census
- Housing
- Object Detection
- Stock Market Analysis
- Banking Problem
- AI Chatbot

```
modifier_obj.select=1  
 bpy.context.scene.objects.active = modifier_obj  
 print("Selected" + str(modifier_obj)) # modifier obj is  
 modifier_obj.select = 0  
 bpy.ops.object.select_all(action='DESELECT')
```

- Information Measure in Excel
- Regression Problems Using Excel
- Hands-on Exercise:

Skills to Master

- | | |
|---------------------------|-------------------------|
| • Python | • Story Telling |
| • Data Science | • Machine Learning |
| • Data Analysis | • Prediction Algorithms |
| • Artificial Intelligence | • NLP |
| • GIT | • PySpark |
| • MLOps | • Model |
| • Data Wrangling | • Data Visualization |
| • SQL | |

Elective

Module 11

Power BI

- PowerBI Basics
- DAX
- Data Visualization with Analytics

Module 12

Deploying Machine Learning Models With Cloud

- Introduction to MLOps
- Deploying Machine Learning Models

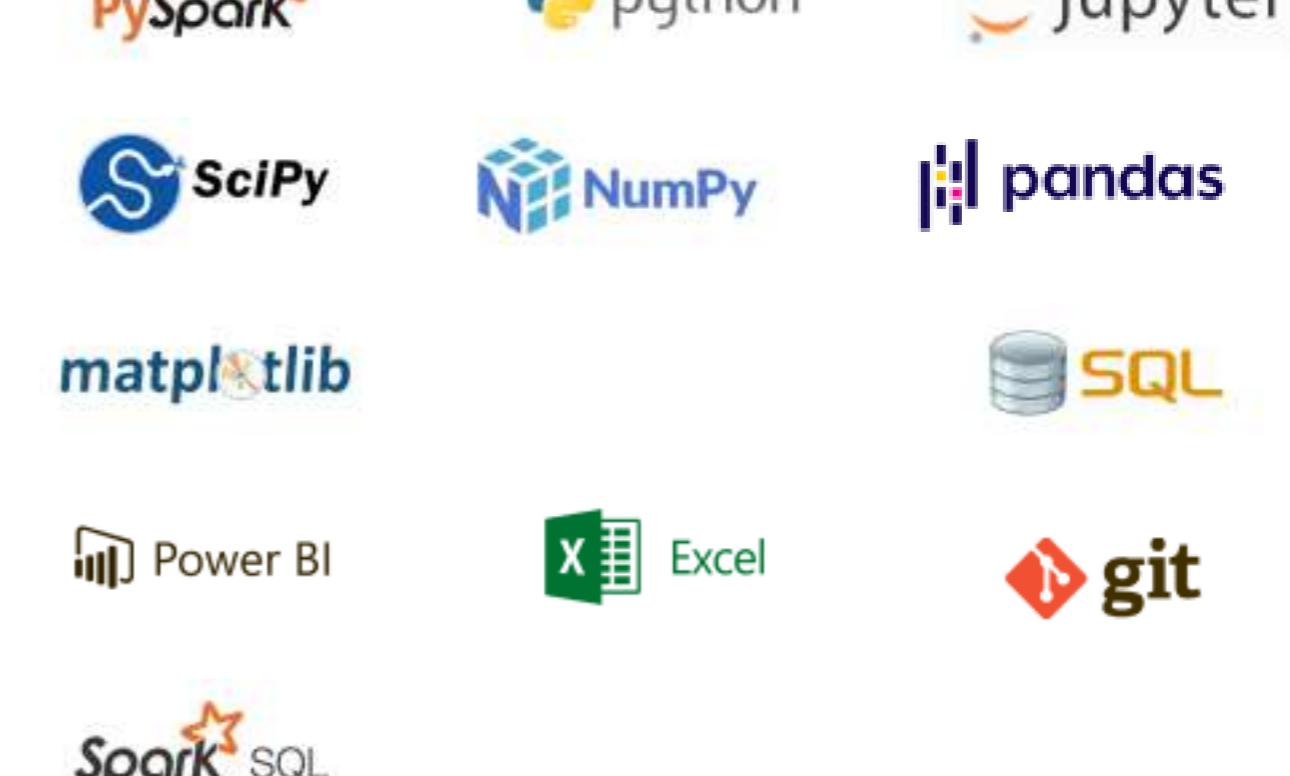
Module 13

GIT

- Version Control
- GIT

Job Readiness

- Job Search Strategy
- Resume Building
- Linkedin Profile Creation
- Interview Preparation Sessions by Industry Experts
- Mock Interviews
- Placement opportunities with 400+ hiring partners upon clearing the Placement Readiness Test.



Data Analysis With MS-Excel

- Excel Fundamentals
- Excel For Data Analytics
- Data Visualization with Excel
- Excel Power Tools
- Classification Problems using Excel

Course Projects

Projects cover the following industries:



Retail



Social Media



Supply Chain



Entrepreneurship



E-commerce



Banking



Healthcare



Insurance

Face Detection

Beginner

Use Python 3.5(64-bit) with OpenCV for face detection. As an important requirement, learners need to ensure that the system detect multiple faces in a single image while working with essential libraries like cv2 and glob.

AI Chatbot

Beginner

In this interesting project, work with IBM Watson AI Chatbot. Create your own AI Chatbot and see how IBM Cloud platform helps you to create the chatbot on the backs of possibly the most advanced Machine Learning systems available.

Restaurant Revenue Prediction

Beginner

Work with Ensemble Model for predicting annual restaurant sales using various features like opening data, type of city, type of restaurant. Work with packages like caret, Boruta, dplyr to analyze the dataset and predict the sales.

Work with Pyspark & RDD

Intermediate

Work with PySpark which is a Python API for Spark and use the RDD using Py4J package. As an important part of the project, you will also work with SparkConf that provides the configurations for running a Spark Application.

Build the Book Recommender Application

Intermediate

Work with packages like a recommended lab, dplyr, tidyr, stringr, corrplot and many others to create your book recommender engine using the 'user-based collaborative filtering' model that recommends the books based on past ratings

Census Project

Intermediate

Work with census income dataset from UCI Machine Learning repository that contains income information of more than 48k individuals. Use data handling techniques to handle missing values and also predict the annual income of people.

Housing Price Prediction

Advance

In this project on housing price prediction, get practical exposure on how to work with house price dataset and predict the sale price for each house with 79 explanatory variables describing every aspect of the residential houses.

HR Analytics

Advance

Learn to work with the HR Analytics dataset and understand how hacks can help you to re-imagine HR problem statements. Understand the features of the dataset and in the end, evaluate the model by metric identification process.

Joke Rating Prediction

Advance

Work with the dataset taken from the famous jester online Joke Recommender system and successfully create a model to predict the ratings for jokes that will be given by the users (the same users who earlier rated another joke)

Build Recommendation Engine

Advance

Create your own recommender engine using the SVD algorithm to predict movies on Netflix based on the past ratings of the movies. Work with various packages like NumPy, Pandas, matplotlib.pyplot to handle missing values from the dataset.

Course Advisors / Faculty

```
modifier ob.select=1  
 bpy.context.scene.objects.active = modifier_ob  
 print("Selected" + str(modifier_ob)) # modifier ob is  
 # selected now  
 modifier_ob.select = 0  
 ob = bpy.context.object.select_to_rigify_modifier(modifier)
```

Manish Anand



CEO at iHUB IIT Roorkee

Manish Anand is an IIT Kanpur alumnus with an MBA in Technology and innovation management from Korea Advanced Institute of Science and Technology (KAIST), Seoul. He currently heads iHUB DivyaSampark, a Technology Innovation Hub hosted at IIT Roorkee.

Dr. Sudeb Das Gupta



Professor at IIT Roorkee

Dr. Sudeb Dasgupta is currently working as Professor at IIT Roorkee. He has completed his PhD from Banaras Hindu University in Electronics Engineering and has more than 20 years of teaching experience.

Dr. Balasubramanian R



Professor at IIT Roorkee

Dr. Balasubramanian R, is currently working as Professor at IIT Roorkee. He has completed his PhD from IIT Madras in Mathematics and Computer Science and has more than 20 years of teaching experience. His areas of interest include computer vision, machine learning, pattern recognition, deep learning, etc.

Mr. Rupesh Nasre



Associate Professor at IIT Madras

Mr Rupesh Nasre is currently working as an associate professor in the CSE Department at IIT Madras. He holds a PhD from IISc Bangalore, and Post-Doctoral Fellowship from the University of Texas at Austin.

Dr. Sushanta Karmakar



Associate Professor at IIT Guwahati

Dr. Sushanta Karmakar is currently working as Associate Professor, at IIT Guwahati. He has completed his PhD from IIT Kharagpur from the Computer Science and Engineering department and has over 15 years of teaching experience.

Dr. Devki Nandan Jha



Post- Doctoral Research Associate, Oxford University

Dr.Devki carries extensive experience in Cloud computing. He has a proven record in designing and developing multiple IOT simulators. His research interests include Cloud platforms, IOT, Optimization techniques and more.

Srikanth Sharma



Engagement Manager at Amazon

With over 15+ years of experience in developing and architecting cloud solutions, Srikanth works at AWS as an engagement manager. He has also worked as a technical consultant team lead at Microsoft and other well-known companies like Tesla Motors and Wipro.

Course Advisors / Faculty

Shajee Pulukkool



Head – Data & Analytics at Rapyder Cloud Solutions

Shajee Pulukkool is currently working at Rapyder Cloud Solutions Pvt. Ltd. as the head of Data & Analytics. He is a technology enthusiast with 22+ years of experience in software solutions, including 8+ years in bigdata & analytics, and 6+ years in AWS Cloud.

Muthusamy Manigandan



Engineering Leader, Ex-Apple

Manigandan has over 16 years of experience in cloud projects for Fortune 500 companies. He has a strong background in architecture and implementation of AWS, Azure, and GCP, along with hands-on experience in DevOps tools.

Pankaj Saxena



Sr. Director- Cloud Operations at Oracle

Pankaj has 24 years of experience in managing complex and heterogeneous infrastructure and delivering cloud-based software solutions to customers. He has extensive experience with multiple tools and technologies and building complex systems.

Birendra Kumar Sahu



Head of Data Engineering and Science at Razorpay

In his 15+ years of IT experience, Birendra has achieved excellence and was appointed as the CTO and VP-Engineering for a big data patent-pending product. He has contributed to 85 intellectual disclosure reports, 4 USA patents, 4 orange books, articles, and papers.

Suman Mukhopadhyay



Senior Director & Head of Technology Infrastructure / Cloud at EdgeVerve

He has 23 yrs of experience in IT. Suman worked at top MNCs like Wipro, AT&T, Yahoo, Walmart, etc. Skilled in leadership, IT budget ownership, incident management, Hadoop Solutions, and design and managing teams across various geographies.

Rupinder Singh

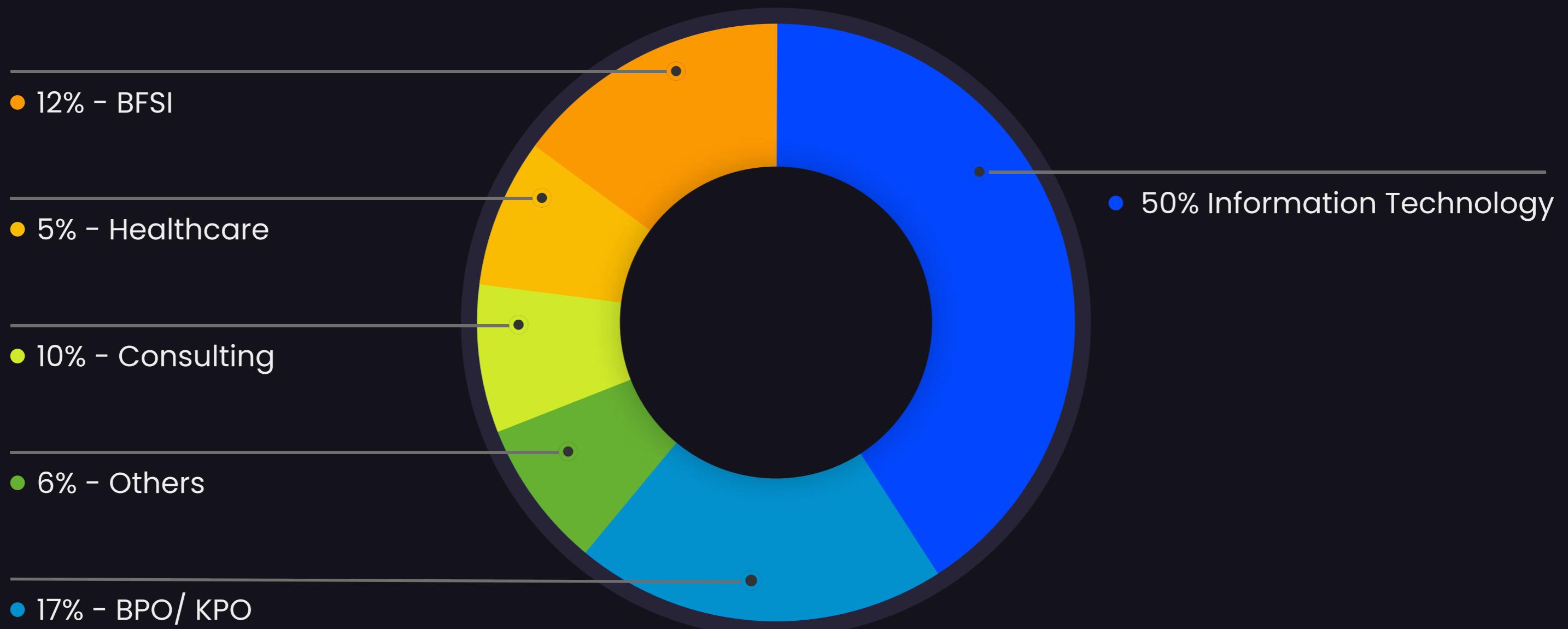


Lead Consultant at Xebia

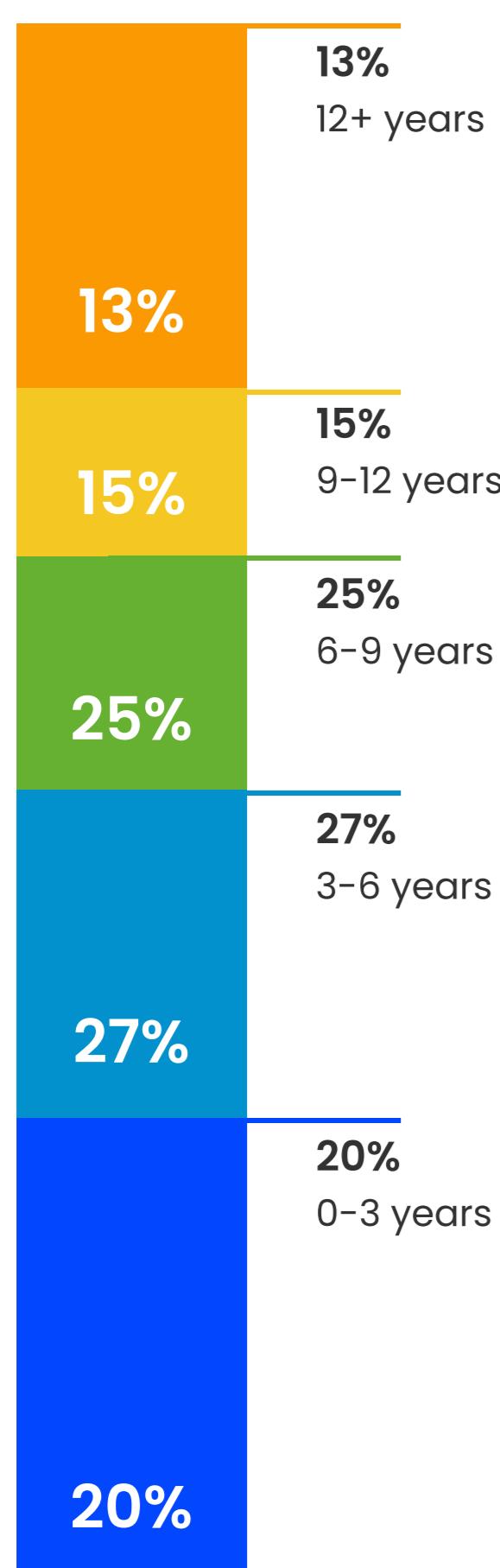
Rupinder Singh is currently working as lead consultant at Xebia. He has worked in several top-notch companies like Wipro, Infosys, Accenture, and many more. He has 11 years of work experience. He is a skilled cloud architect and DevOps architect.

Meet the **Batch**

Industries Our Learners Come From



Work **Experience**



Some of their current employers include

amazon

citi

Capgemini

BOSCH

pwc

EY

accenture

Adobe

TATA CONSULTANCY SERVICES

vmware®

Abbott

DELL

Glimpse of our Successful Transitions



4.6 ★★★★☆



4.5 ★★★★☆



4.38 ★★★★☆

Career Transitions



Gaurav Saboo
Senior Technical Associate

From
Technical Analyst

To
Senior Technical Associate



Melwin Rodrigues
Data Scientist

From
Customer Service Agent

To
Data Scientist



D Rajesh Sahoo
Machine Learning Engineer

From
B.Tech - Civil Engineering

To
Machine Learning Engineer



Ankit Kumar
Data Scientist

From
B.com Graduate

To
Data Scientist



Mahesh Chowdary
Data Scientist

From
Aircraft Maintenance Engineer

To
Data Scientist



Jeanette Masso
Big Data Developer

From
Computer Technical Specialist

To
Big Data Developer



Prosenjeet Saha
Data Scientist

From
Manager Analytics & Data Science

To
Data Scientist



Nishchay Agrawal
Data Engineer

From
Fresher

To
Data Engineer



Intellipaat Career Services



500+
Webinars



600+
Job Shares



400+
Hiring Partners



55%
Avg. Salary Hike*

What Makes Us **Tick**



Career-oriented Sessions

Attend 10+ career-oriented sessions by industry mentors and plan your career trajectory



Profile Building

Craft a Data Science and AI resume and LinkedIn profile and make an impression on top employers



Mock Interview Preparation

Prepare with mock interviews including most asked questions by top employers



1:1 Mentoring Sessions

Get 1:1 guidance at every step in your career transition to Data Science and AI



Placement Assistance

Placement opportunities are provided once the learner is moved to the placement pool upon clearing Placement Readiness Test (PRT)**



Dedicated Job Portal Access

Get exclusive access to 200 job postings per month on Intellipaat's job portal



Job Fairs

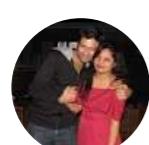
Job fairs are conducted regularly to introduce learners to major organizations



Hackathons

Work in teams and get exclusive access to hackathons

Learner **Reviews**



Manas Ranjan

Data Analyst at Amazon

I am happy to have enrolled in this data science program. The syllabus is organized and the course is well designed. Best features are the 24*7 support and trainers who are domain experts.

“



Afsana Zaman

Data Scientist

Great learning experience with this course. The support team was always available. The collaboration of practical with theoretical knowledge makes it highly suitable for those who want to upskill.

“



Vikrant Singh

Senior Big Data Consultant at Amazon

It was a wonderful learning experience to learn from the trainers at Intellipaat. They were hands-on and provided real-time scenarios. Intellipaat is the right place for learning latest technology.

“

Program Partners



About Intellipaat

Intellipaat is one of the leading online training providers with more than 10 million learners in over 155 countries. We are on a mission to democratize education as we believe that everyone has the right to quality education.

We create courses in collaboration with top universities and MNCs for employability like EICT IIT Roorkee, EICT IIT Guwahati, IITM Pravartak, IIM Ranchi, IIT Jammu, IU, LSBU, University of Essex, University of Liverpool, IBM, Microsoft, etc.

Our courses are delivered by SMEs & our pedagogy enables quick learning of difficult topics. 24/7 technical support & career services help learners to jump-start their careers.



About iHUB DivyaSampark, IIT Roorkee

iHUB DivyaSampark, IIT Roorkee aims to enable an innovative ecosystem in new-age technologies like AI, ML, Drones, Robots, and data analytics (often called CPS technologies). It aims to do this by promoting and enhancing core competencies, capacity building, and manpower training to provide solutions for national strategic sectors and become a significant contributor to Digital India.

Achievements – IIT Roorkee:

- Ranked 7th 'Overall' and 6th in 'Engineering' in India as declared by NIRF 2022
- Ranked 175th in the world for 'Engineering and Technology' by QS World University Rankings 2023
- Ranked as the 369th best institute in the world by QS World University Rankings 2023
- Ranked as the 114th best institute in Asia by QS World University Rankings 2023

Upon the completion of this program, you will get:

- Certification from iHUB DivyaSampark, IIT Roorkee



10 Million Learners & 500+ Corporates across 155+ countries
upskilling on Intellipaat Platform



Contact Us

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