



# ADVANCED CERTIFICATION IN DATA SCIENCE AND ARTIFICIAL INTELLIGENCE

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 IITM Pravartak (A Technology Innovation Hub of IIT Madras) and Intellipaat. Learn from the IIT faculty & industry experts with 1:1 mentorship.



Technology Innovation Hub  
of IIT Madras



## Hottest Job of 21st Century



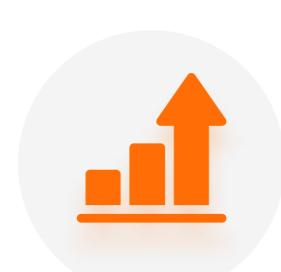
### 2.7 Million Job Postings

There is a global estimate of 2.7 million job postings for analytics and data science roles by 2022



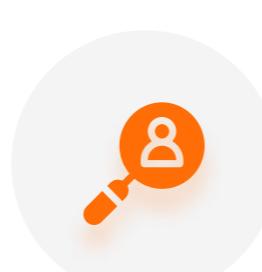
### Skill Development

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



### Growing Analytics Industry

28.8% CAGR in Indian Analytics Industry



### 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 a Master's Degree



### High Demand

By 2022, India & US will face a demand supply gap of 200,000 Data Science professionals

## 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 Boot Camp



## 7 Months

Live Classes



## Campus Immersion

at IITM Pravartak



## IITM Pravartak

Certification

## Key Highlights

- ✓ 400 Hrs of Applied Learning
- ✓ 218 Hrs of Self-paced Learning
- ✓ 50+ Industry Projects & Case Studies
- ✓ 24\*7 Support
- ✓ No Cost EMI Option
- ✓ One-on-One with Industry Mentors
- ✓ 50+ Live Sessions in 7 months
- ✓ Learn from IIT Madras Faculty & Industry Practitioners
- ✓ Resume Preparation and LinkedIn Profile Review
- ✓ Designed for Working Professionals & Freshers
- ✓ Campus Immersion at IITM Research Park

## Program Pedagogy



### Instructor-led Training

Get trained by top industry experts



### 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

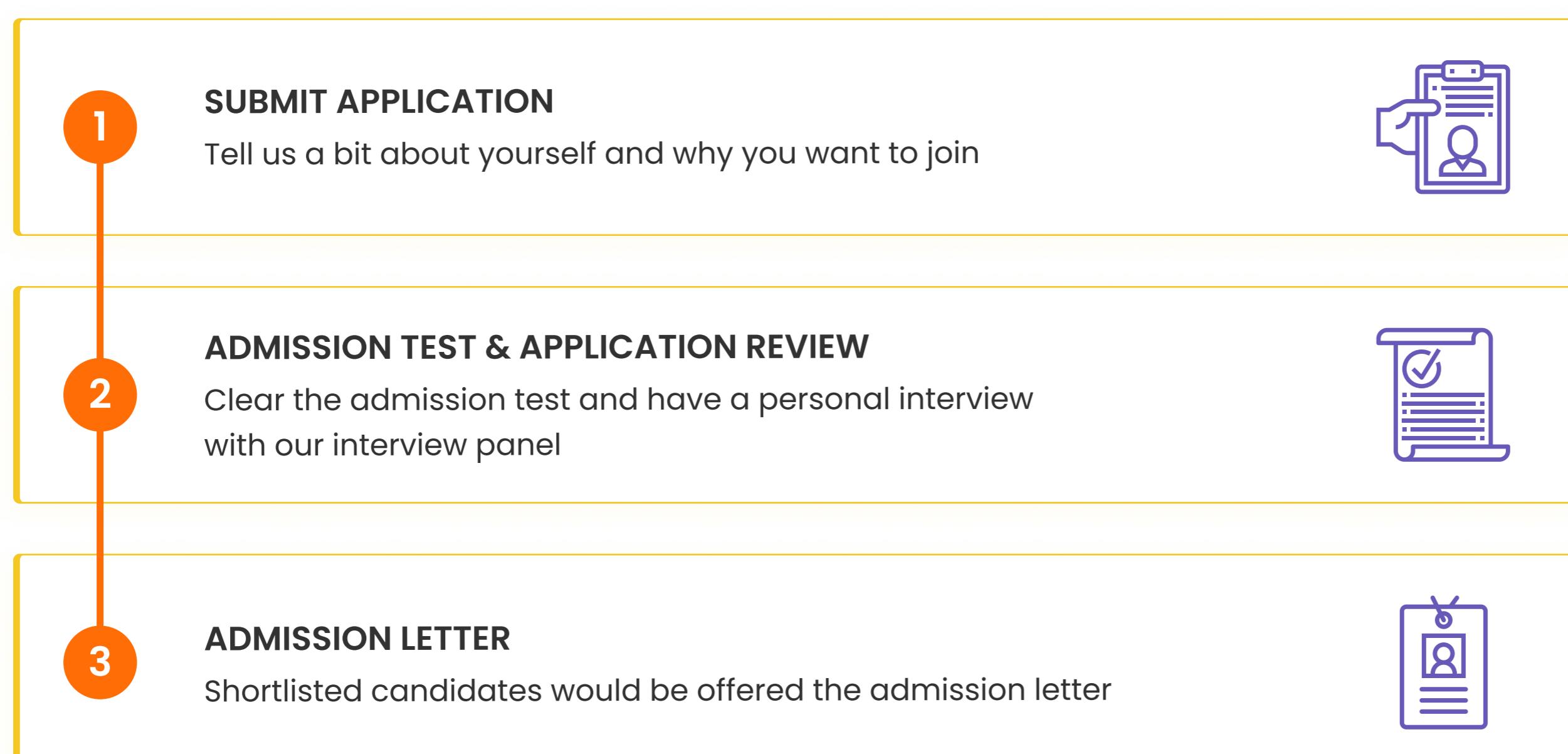
Hands-on exercises, project work, quizzes, and capstone projects

# 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

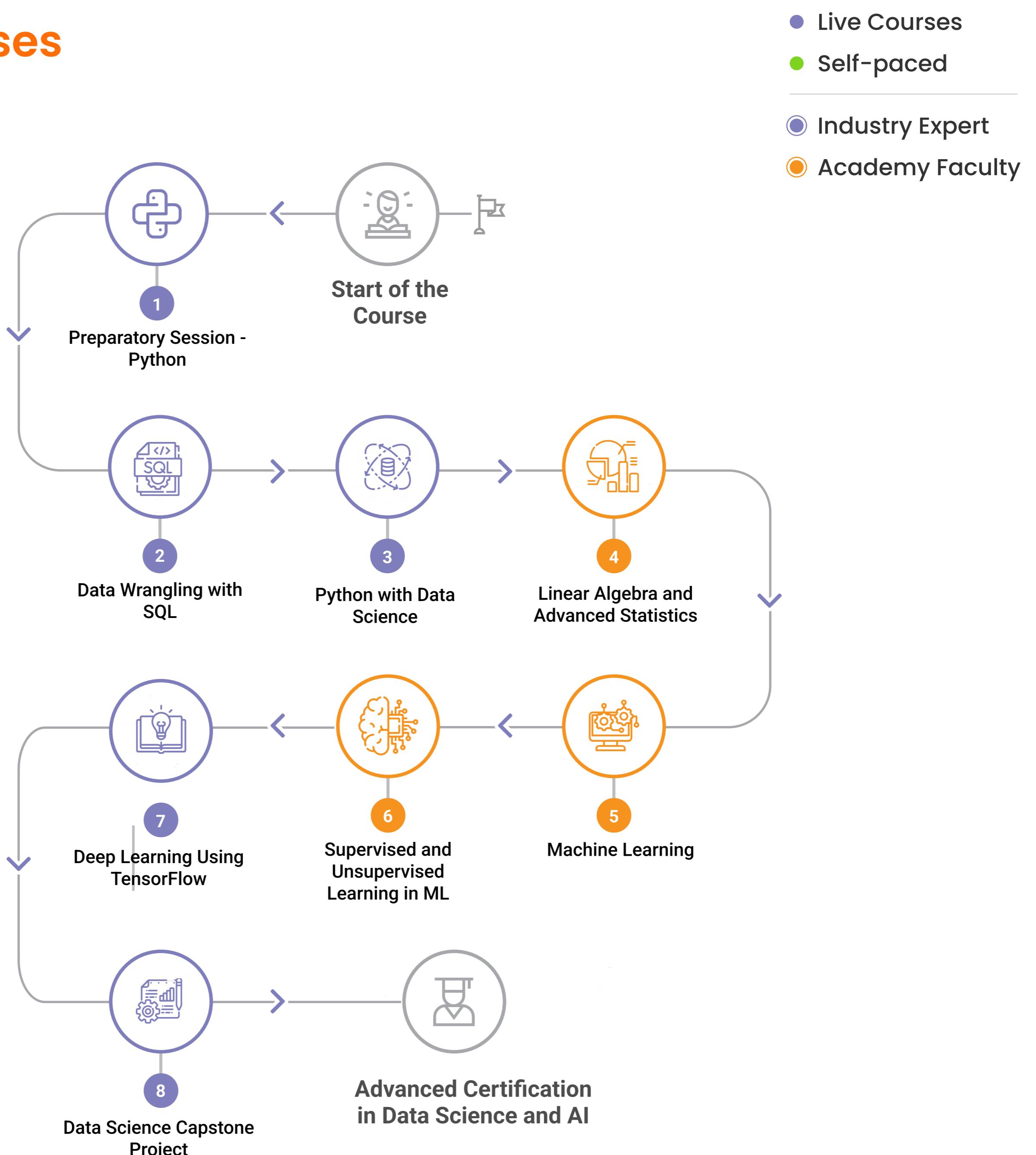
## Application **Process**

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

- Power BI

# Program Curriculum

## Module 1

### Preparatory Sessions – Python

#### Python

- Introduction to Python and IDEs
- Python Basics
- Object Oriented Programming
- 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

- Data Handling with NumPy
- Data Manipulation Using Pandas
- Data Preprocessing
- Data Visualization

## Module 4

### Linear Algebra and Advanced Statistics

- Descriptive Statistics
- Probability
- Inferential Statistics
- Linear Algebra

## Module 5

### Machine Learning

- Introduction to Machine learning
- Regression
- Classification
- Clustering

## Module 6

### Supervised and Unsupervised Learning in ML

- Supervised Learning
- Unsupervised Learning

## Module 7

### Deep Learning Using TensorFlow

- Artificial Intelligence Basics
- Neural Networks
- Deep Learning

## Module 8

### Data Science Capstone Project

## Elective

## Module 9

### PowerBI

- PowerBI Basics
- DAX
- Data Visualization with Analytics

## Job Readiness

- Job Search Strategy
- Resume Building
- LinkedIn Profile Creation

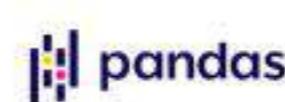
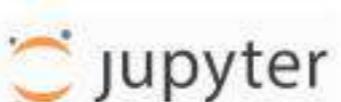
# Program Curriculum

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

## Skills to Master

- Python
- Data Science
- Data Analysis
- AI
- Data Wrangling
- SQL
- Story Telling
- Machine Learning
- Prediction algorithms
- NLP
- Model
- Data visualization

## Tools to Master



# 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.

## 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.

## 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.

## Legendary of Pokémon

Advance

Extract various Pokémon based on a particular parameter and use a classification model to predict the legendary Pokémon. Work with the regression algorithm to predict the attack and defence of a particular Pokémon.

# Course Advisors / Faculty

## Prof. Shankar Narasimhan



Professor, IITM

A fellow of the Indian National Academy of Engg, his research area includes data mining, process design & optimization, FDD etc. He has co-authored several reconciliation papers, a book and a course 'Data Science for Engineers' on the NPTEL platform.

## Dr. Arun K. Tangirala



Professor, IIT Madras

Dr. Tangirala is a professor at IIT Madras with expertise in Analytical Chemistry and a keen interest in the fields of Controller Performance Monitoring, Time-Frequency Analysis of Processes, and Fuel cells, etc.

## Prof. Babji Srinivasan



Associate Professor, IIT Madras

Prof.Babji is with IIT Madras as an assistant professor in the dept. of Applied Mechanics. He holds a Ph.D from Texas Tech University and his research interests span from Behavioural Informatics to Cognitive Systems Engineering.

## Dr. Nirav Bhatt



Assistant Professor, IIT Madras

He works as an assistant professor for the Biotech department at IIT Madras and holds a DSc from EPFL, Switzerland. His research interests span from modelling and optimization of biological networks to Machine Learning.

## Mr. Suresh Ramadurai



Data Science Consultant

Suresh Ramadurai is involved in teaching market research as a visiting faculty member at various IIMs and in training analytics professionals. He is an IIT Delhi graduate with a degree in chemical engineering and holds a PG Diploma in Management from IIM Bangalore.

## Dr. Ravi Hegde



Academic working at the intersections of nanotechnology

Dr. Ravi Hegde is an associate professor of electrical engineering at the Indian Institute of Technology, Gandhinagar. Prior to his current stint since 2015, he was a research scientist at the Institute of High Performance Computing, a division of the Singapore Agency for Science and Technology.

## Madhu Babu Cherukuri



Sr. Data Scientist at Intel Corporation

He carries over 15 years of expertise in handling various analytics projects, using several types of ML algorithms in multiple business domains. He also comes with extensive knowledge in SAS, SQL, R, Python and is proficient in Big Data Environment.

# Course Advisors / Faculty



## Anurag Singh

Principal AI Architect at Schneider Electric Hub

Mr. Singh works at Schneider Electric Hub as a Principal AI Architect. He started as a Software Engineer in 2007 and has been working as Data Scientist since 2018. He specializes in Big Data, Data Science, Machine Learning, and AI System Architecture.



## Phaneendra Akula

Senior Manager, Data Science at Sunrise Systems

Mr. Akula is presently working at Sunrise Biztech Systems Private Limited. He has 9+ years of experience in the field of Data Science and has worked in many prestigious companies like Genpact, TCS, and Tesco. He is also a research scholar and a speaker.



## Nishkam Shivam

Senior Data Scientist at Bristlecone

A Senior Data Scientist in the field of Analytics and AI, Mr. Nishkam Shivam is presently working at Bristlecone. He has 9+ years of experience in this particular field and has also worked in renowned companies like Accenture, Walmart, Emeritus, and many more.



## Muthusamy Manigandan

Data Science Consultant, Ex- Apple

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



## Vishwath Parthasarathy

Data Scientist-III at InMobi

Mr. Parthasarathy is currently working as a Data Scientist-III at InMobi. He has also worked at Amazon and PipeCandy. His expertise extends to Machine Learning, Deep Learning, MLOps, and Algorithmic Trading. He has been working since 2017 as a Data Scientist.



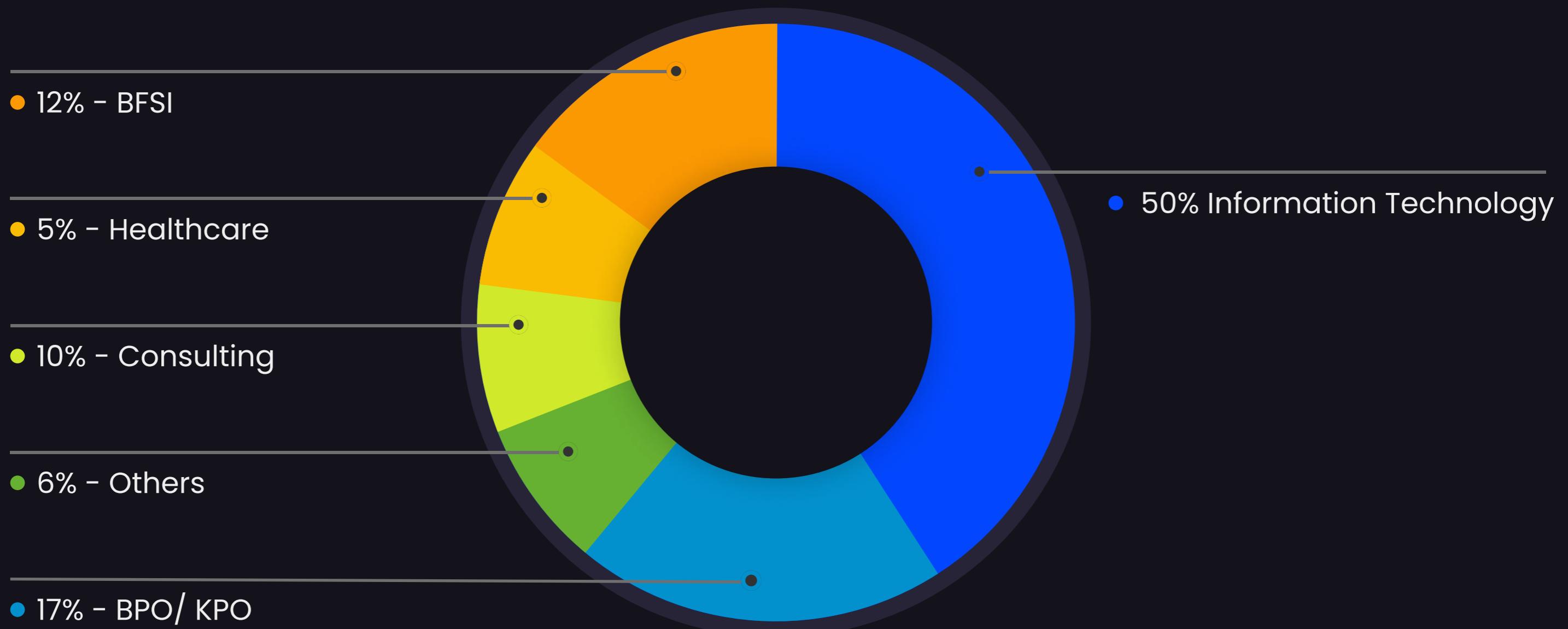
## Dr. Satya Jayadev Pappu

PhD from IIT Madras

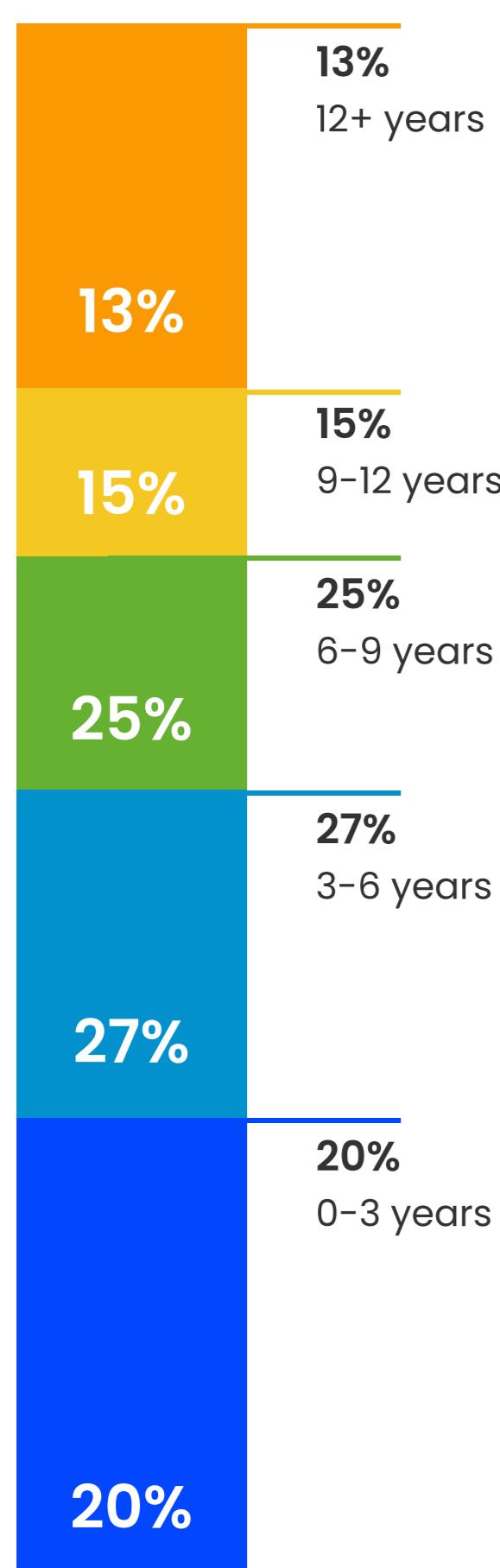
Dr. Jayadev working as a Senior Data Scientist in Gyan Data Pvt. Ltd. Jayadev research interests include modelling, analysis, optimization, and control of systems, applying tools of machine learning, reinforcement learning and deep learning.

# Meet the **Batch**

## Industries Our Learners Come From



## Work **Experience**



Some of their current employers include



# Glimpse of our Successful Transitions



4.6 ★★★★☆



4.5 ★★★★☆



4.38 ★★★★☆

## Career Transitions



**Gaurav Saboo**  
Senior Technical Associate

From  
**Technical Analyst**

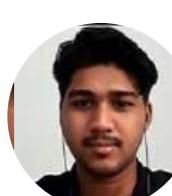
To  
**Senior Technical Associate**



**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**



# 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 because we believe that everyone has the right to quality education.

We create courses in collaboration with top universities and MNCs focused on employability, including iHUB IIT Roorkee, EICT IIT Guwahati, IITM Pravartak, IIM Ranchi, IIT Jammu, VNIT Nagpur, IU Germany, University of Essex, University of Liverpool, Microsoft, and others.

Our courses come with 24/7 support and are delivered by Subject Matter Experts (SMEs). These courses help learners increase their employability, and our outstanding career services help them jump-start their careers in their dream jobs.



## About IITM Pravartak

**IITM Pravartak**, a Technology Innovation Hub of IIT Madras is funded by Department of Science and Technology, GoI under its National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS), focuses on application-oriented research and innovation in the areas SNACS. BharOS, India's first mobile operating system is developed by an IITM Pravartak incubated company.

### Key Achievements of IIT Madras:

- Ranked No. 1 in India for both 'Overall' and 'Engineering' Categories in NIRF 2024 for 5 consecutive years.
- IIT Madras has been identified as an 'Institution of Eminence' by the Government of India.
- Ranked No. 4 as an Indian Institute in QS World University Rankings and Ranked No. 250 in the International QS World Rankings 2023.



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



## Contact Us

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