



iHUB DivyaSampark



Department of Science & Technology
Government of India



EXECUTIVE POST GRADUATE CERTIFICATION IN DATA SCIENCE & ARTIFICIAL INTELLIGENCE

Become skilled in the field of data science and artificial intelligence by enrolling for this course



10 Million
Learners



1:1 Personalized
Mentorship



55% Average
Salary Hike

Executive Post Graduate Certification in Data Science and AI

Master machine learning and artificial intelligence skills with this advanced data science and artificial intelligence course from iHUB IIT Roorkee. Learn from IIT faculty and industry experts with 1:1 mentorship in this intensive online bootcamp. The top 2 performers from each batch may get a fellowship worth Rs. 80,000, plus the opportunity to showcase their startup ideas and secure incubation support of up to Rs. 50 Lakhs for their startup from iHUB DivyaSampark, IIT Roorkee.



Hottest Job of 21st Century



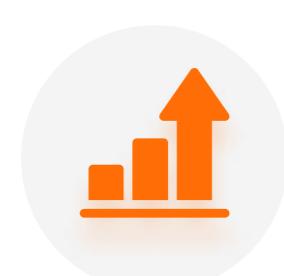
2.7 Million Job Postings

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 skills which fetch them 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 Students



1,000+

Industry-expert Instructors



400+

Hiring Partners



500+

Corporates Upskilled



55%

Average Salary Hike



155+

Countries' Learners

About Program

Become an expert in Data Science and Artificial Intelligence with iHUB IIT Roorkee. Build a strong foundation by learning in-demand skills, solving real-world challenges, and working on real-world projects. A flexible learning environment and 24/7 support make this course perfect for beginners and professionals alike.



Learning Format

Online Bootcamp



11 Months

Live Classes



Campus Immersion

IIT Roorkee



Executive PG

Certification

Key Highlights

- ✓ 620 Hrs of Applied Learning
- ✓ 218 Hrs of Self-paced Learning
- ✓ 50+ Industry Projects & Case Studies
- ✓ 24*7 Support
- ✓ 1:1 Mock Interview
- ✓ No Cost EMI Option
- ✓ One-on-One with Industry Mentors
- ✓ Up to Rs. 50 Lakhs startup Incubation Support*
- ✓ 3 Guaranteed Job Interviews upon movement to Placement Pool
- ✓ 90+ Live Sessions Across 11 months
- ✓ Learn from IIT Faculty & Industry Practitioners
- ✓ Designed for Working Professionals and Freshers
- ✓ Dedicated Learning Management Team
- ✓ iHUB DivyaSampark, IIT Roorkee Certification
- ✓ 2 Days Campus Immersion at IIT Roorkee
- ✓ Top 2 performers per batch will receive Rs 80000 in fellowship*
- ✓ Free Voucher for Exam AZ-900: Microsoft Azure Fundamentals worth \$99

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

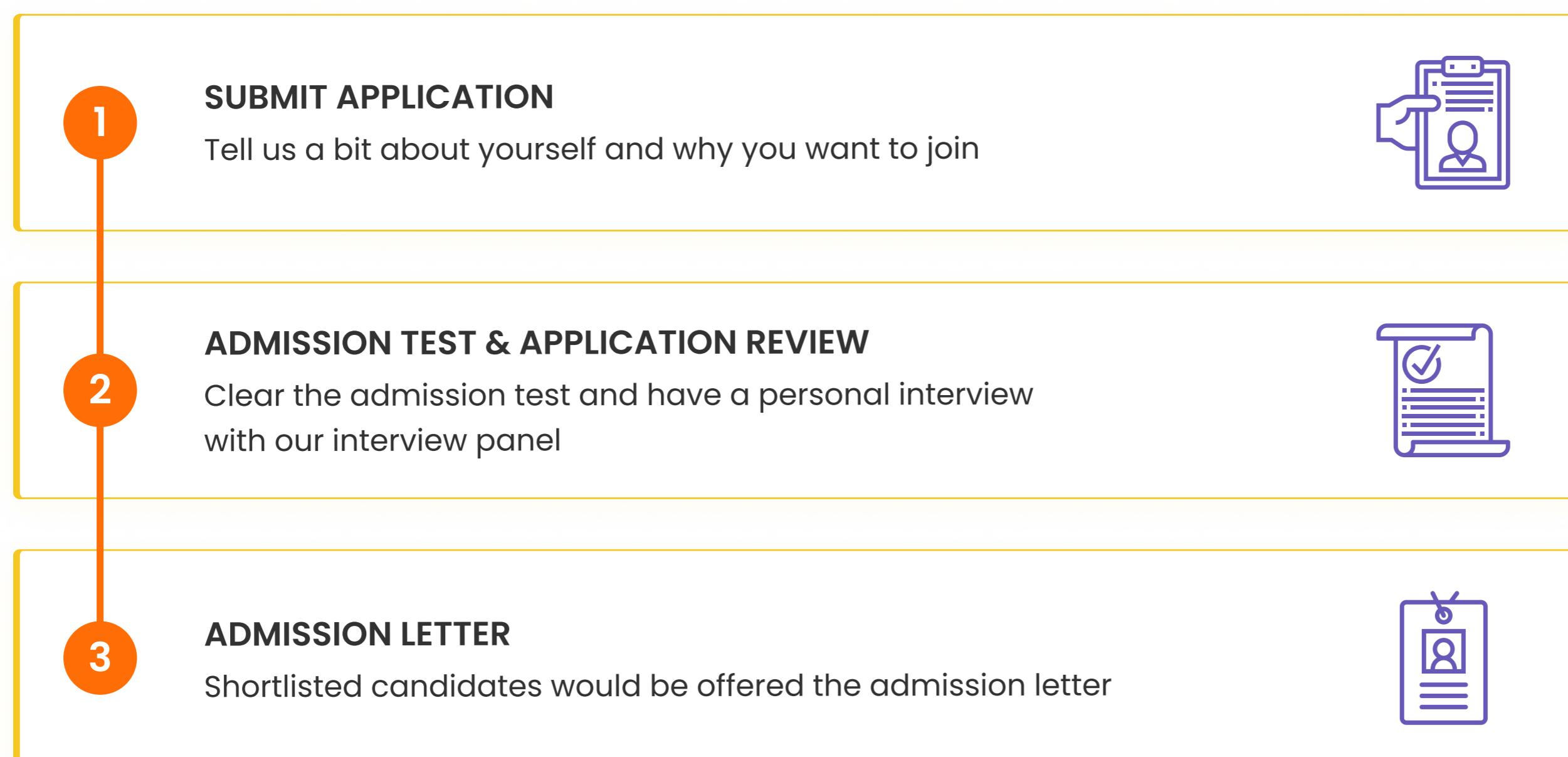
Hands-on exercises, project work, quizzes, and capstone projects

Who Can **Apply for the Course?**

- ✓ Individuals with a bachelor's degree and a strong interest in learning AI and data science
- ✓ IT professionals looking to make a career transition as data scientists and artificial intelligence engineers
- ✓ Software Developers, Project Managers, Non-Technical Professionals & Entry-level professionals looking to build their careers in artificial intelligence and data science
- ✓ Undergraduate freshers with an interest in Data Science & AI

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.



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 Transformation Using SQL

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

Module 3

Python Libraries For Data Science

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

Module 4

Inferential Analytics

- Statistics and Descriptive Analytics using MS Excel
- Python for Descriptive, Diagnostic, and Inferential Statistics
- Prescriptive Analytics

Module 5

Machine Learning

- Introduction to Machine learning
- Regression
- Classification
- Clustering
- Supervised Learning
- Unsupervised Learning
- Performance Metrics

Module 6

Advanced Machine Learning Algorithms

- Bagging And Boosting Algorithms
- Other Machine Learning Algorithms
- Predictive Analytics And Machine Learning
- Cognitive Science and Analytics

Module 7

Data Science At Scale with Pyspark

- Introduction to Big Data And Spark
- RDDs
- Advanced Concepts & Spark-Hive

Module 8

Deep Learning Using TensorFlow

- Artificial Intelligence Basics
- Neural Networks
- Deep Learning

Module 9

Natural Language Processing

- Text Mining, Cleaning, and Pre-processing
- Text classification, NLTK, sentiment analysis, etc
- Sentence Structure, Sequence Tagging, Sequence Tasks, and Language Modeling
- AI Chatbots and Recommendations Engine

Module 10

Computer Vision

- RBM and DBNs & Variational AutoEncoder
- Object Detection using Convolutional Neural Net
- Generating images with Neural Style and Working with Deep Generative Models
- Distributed & Parallel Computing for Deep Learning Models
- Reinforcement Learning
- Deploying Deep Learning Models and Beyond

Module 11

Advanced Deep Learning Algorithms

- LSTM
- Transformers
- BERT
- GPT
- LLM

Program Curriculum

Module 12

Power BI

- Power BI Basics
- DAX
- Data Visualization with Analytics
- Hands-on Exercise

Module 13

Git

- Version Control
- GIT

Module 14

Azure Data Engineering

- Non-Relational Data Stores and Azure Data Lake Storage
- Data Lake and Azure Cosmos DB
- Relational Data Stores
- Why Azure SQL?
- Azure Batch
- Azure Data Factory
- Azure Data Bricks
- Azure Stream Analytics

Module 15

MLOps

- Introduction to MLOps
- Deploying Machine Learning Models

Module 16

Data Science Capstone Project

Module 17

Business Case Studies

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

Module 18

Excel Analytics

- Excel Fundamentals
- Excel For Data Analytics
- Data Visualization with Excel
- Excel Power Tools
- Classification Problems using Excel
- Information Measure in Excel
- Regression Problems Using Excel

Skills to Master

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

Tools to Master



Course Projects

Projects cover the following industries:



Retail



Social Media



Supply Chain



Entrepreneurship



E-commerce



Banking



Healthcare



Insurance

Real Estate Analytics

Beginner

Real Estate Analytics will involve supervised learning with an ensemble of various regression algorithms where we will optimize the predictions based on the error rate.

Solar Power Efficiency

Beginner

The project will encompass three target variables that we will predict using the supervised machine learning algorithms for regression problems and minimize the error by tuning the hyperparameters.

Recommendation Engine

Beginner

In the Recommendation Engine project, we will use singular value decomposition to draw out relevant recommendations for music and movie selections based on the historical data points.

Stock Price Prediction

Intermediate

Forecasting a stock price based on time series analysis and forecasting using ARIMA, Seasonal ARIMA and other deep learning techniques to forecast stock prices based on historical data points.

Weather Forecasting

Intermediate

Ensemble of supervised machine learning algorithms to predict and forecast the weather based on historical data points, & optimization of the model to reduce the error in predictions using hyperparameter tuning and other data modeling techniques.

Image Classification

Intermediate

The project involves processing image data that is fed to the convolutional neural networks which then efficiently predicts the species of the input that is provided during the predictions.

Gesture Recognition

Advance

In this computer vision project, we will extract frames in real time and feed it to an already trained neural network that will correctly classify the gesture that is most relevant to the specified frame in real time.

American Sign Language Recognition

Advance

In this project we will use computer vision and deep learning to feed real time frames that will correctly predict the ASL references to the signs made in the video and generate the audio for the same as well.

Sentiment Analysis

Advance

Classic NLP problem encompasses processing textual data and then feeding the information to the deep learning model which then processes and predicts the sentiment associated with the text in both supervised and unsupervised learning settings.

Housing Price Prediction

Advance

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

Course Advisors / Faculty



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.



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.



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



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.



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.



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.



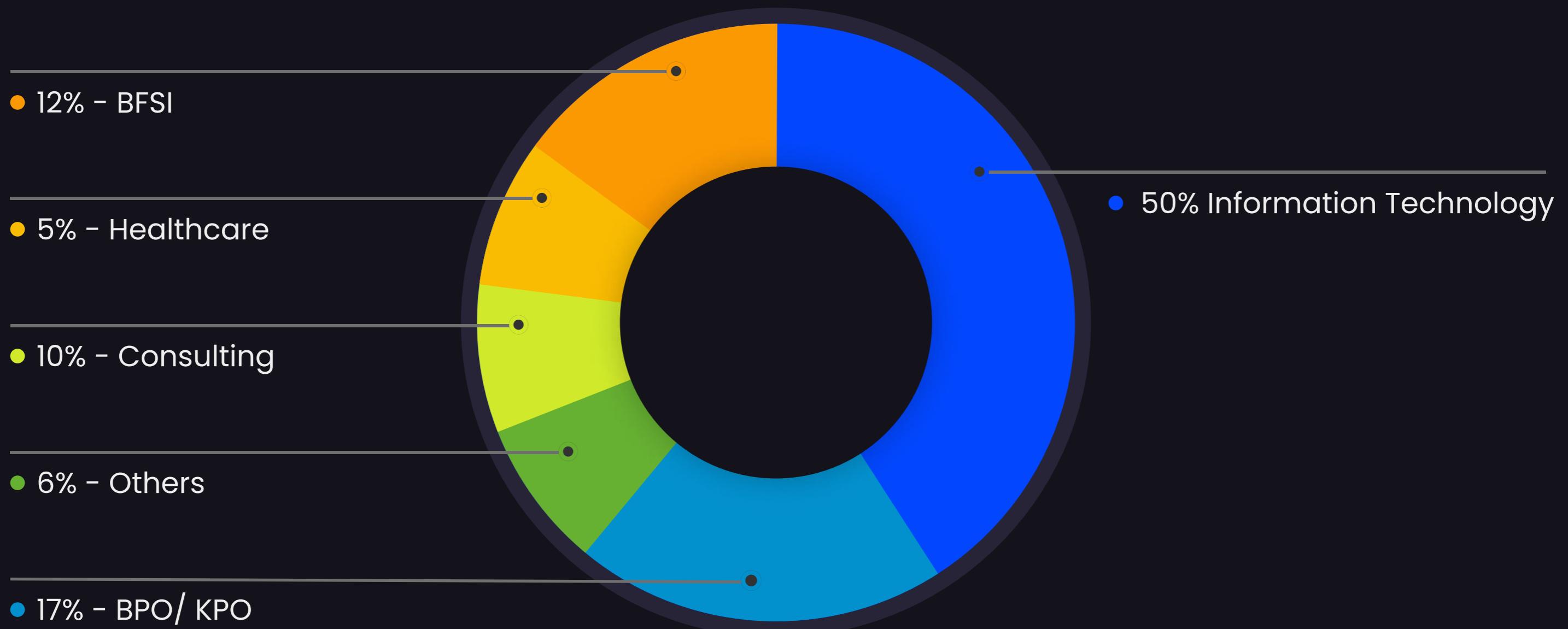
Muthusamy Manigandan

Data Science Consultant, Ex- Apple

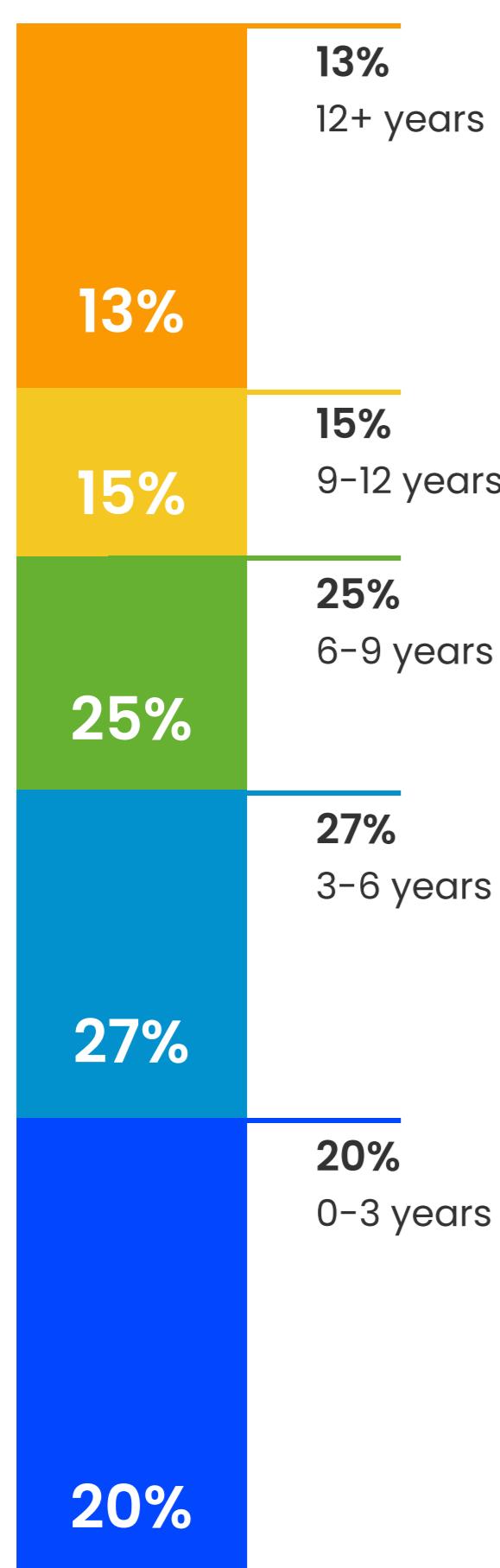
Manigandan has 16+ years of experience in cloud projects for Fortune 500 companies. He comes with a strong background in architecture and implementation of AWS, Azure, GCP, along with hands-on experience in DevOps tools.

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

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 prepare your career trajectory



Profile Building

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



Mock Interview Preparation

Prepare yourself with mock interviews including the 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



3 Guaranteed Job Interviews

3 Guaranteed Job Interviews will be provided once the learner is moved to the placement pool. Get noticed by our 400+ hiring partners.**



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**

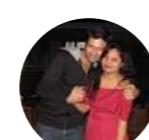


Anoop Prasad

Assistant Professor at EWIT

The training and support team are highly cooperative. The best thing about it is the prompt support. The trainers are well-versed with the concepts and great content.

“



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.

“



Shreyash Limbhewala

Technical Delivery Lead

Intellipaat offers a well curated rich learning content which I liked the most. The set of PPTs, PDFs, and other course material were of highest quality, due to which my learning was great too.

“

Glimpse of our Successful Transitions



4.6 ★★★★☆



4.5 ★★★★☆



4.38 ★★★★☆

Career Transitions



Program Partners



About Intellipaat

Intellipaat is one of the leading online training providers with more than 1.2 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:

- Certification from iHUB DivyaSampark, IIT Roorkee



Collaboration with Microsoft

When it comes to new-age technologies and tools, Microsoft is the biggest names and leading innovators. The course is led by experts who will walk you through all of the necessary skills in the domain and get you started on projects relevant to various organisations.



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



Contact Us

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