



International  
Institute of Information  
Technology Bangalore

powered by

**upGrad**

Executive Post Graduate Certificate

# Data Science & AI

Infused with GenAI

Duration 6-9 months



# **Largest DS & AI program in India**

with 10+ Years of Legacy &  
30,000+ Learners





# About IIITB

## The International Institute of Information Technology Bangalore (IIITB)

Established in 1998, IIITB is a premier institute known for its interdisciplinary approach, integrating technology with social sciences. Supported by the Government of Karnataka and the IT industry, IIITB fosters strong academic-industry partnerships and attracts top talent from across India and abroad through its merit-based selection process.

The institute has graduated over 3,500 students, many of whom work at leading IT companies globally. With a focus on research and development in fields like Artificial Intelligence (AI) and Machine Learning (ML), IIITB is recognised as a leader in AI education.

Ranked 74th in the Engineering category of the National Institutional Ranking Framework (NIRF) in 2022, IIITB continues to excel in education and research, making it a preferred destination for aspiring technologists and future leaders.



**AICTE**



**UGC**

# ABOUT upGrad

“upGrad is a leading global learning and workforce development company. We’re on a single-minded mission of powering career success for every member of the global workforce as their trusted lifelong learning partner. Established in 2015, we have over 10 million learners who have upskilled in a range of online and offline programs from top universities in India and the world.”



**Ronnie Screwvala**

Co-founder & Executive Chairman

**GSV EDTECH 150**  
Top 150 Most Transformative  
Growth Companies

**BRANDON HALL  
GOLD AWARDS**  
15+ Across 2 Years

**PROMISING BRAND 2022**  
The Economic Times

**EDUCATION COMPANY  
OF THE YEAR**  
VC Circle, 2022

Entrepreneur India  
**EDUCATION INNOVATION  
AWARDS 2020**  
Best Communication &  
Teaching Platform



# Current Industry Trends

**14 LPA**

Average salary  
for Data Scientists  
in India (2025)

Source: Glassdoor

**57.5%**

CAGR of Indian  
Data Science market  
till 2028

Source: Milleniumpost

**50%**

Increase in search  
volume for 'Data Science'  
since 2020

Source: Exploding Topics

**36%**

Increase in growth of  
Data Science jobs  
by 2031

Source: Harvard Extension School

**\$378.7B**

Size of global  
Data Science market  
by 2030

Source: Milleniumpost

# Program Highlights

Here are the  
**top reasons** why  
you should consider  
this program



## **Future-Ready Curriculum**

Master In-Demand and Trending Competencies



## **Personalised Learning Experience**

Learning Experience Tailored to Your Needs



## **In-Demand Tools**

30+ Industry Tools, Languages, Libraries



## **Outcome-Driven Learning Experience**

Personalised Portfolio-Building Support and Career Preparation Sessions



## **Best-in-Industry Experts**

Decorated IIITB Faculty and Top Industry Practitioners



## **Golden Learning Ratio**

Perfect Blend of Mathematics, Technology, and Business Understanding



## **Hands-on Learning**

Solve 15+ Domain-Focused Assignments and Case Studies

# Career Transitions



**Abhishek Singh**  
MIS Executive (F&B)

Senior Data Analyst, Myntra



**Ayush Modi**  
Associate Consultant (IT)

Marketing Analyst,  
Globalization Partners



**Ashish Y**  
Asst. Manager  
(Manufacturing/Production)

Business Analyst, Arvind



**Jai Krishna**  
Fresher

Business Analyst, Quantzig



**Shadab Hussain**  
Data Scientist (IT)

Analyst, TheMathCompany



**Damodar Bandi**  
Global Supply Chain Analyst  
(Software)

Sr. Business Analyst, Data  
Semantics



**Shubhadip B**  
Technical Project Manager  
(Tech Solutions)

Sr. Technical Project Manager,  
Aurionpro



**Deepshikha**  
Senior Associate (Tech)

Data Analyst, Amazon



**Rohit W**  
Quality Assurance Tester  
(BFSI)

Python Automation Engineer,  
Credit Suisse



**Hariharan S**  
AVP (BFSI)

Project Manager, HSBC



**Mohit Mamgain**  
Internship (IT)  
Batch: March 2018

Data Analyst, Shine.com



**Aakash Dusane**  
Software Engineer (Software)

Data Scientist, Quantzig

# Program Completion Certificate



Earn valuable credentials with an Executive Post Graduate Certificate in Data Science and Artificial Intelligence and join India's largest DS & AI alumni network of over 10,000 professionals



# Faculty



**Prof. Debabrata Das**  
Director, IIIT Bangalore



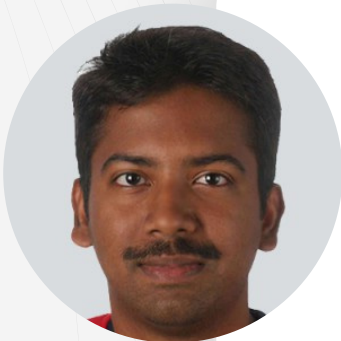
He has received his PhD from IIT-KGP. His main areas of research are IoT and Wireless Access Network.



**Prof. G. Srinivasaraghavan**  
IIIT Bangalore



Prof. Srinivasaraghavan has a PhD in Computer Science from IIT-K and 18 years of experience with Infosys Technologies and several other companies.



**Prof. Dinesh Babu Jayagopi**  
IIIT Bangalore



Dr. Dinesh is currently an Associate Professor at IIIT-B where he heads the Multimodal Perception Lab. His research interests are in Audio-Visual Signal Processing, Machine Learning, and Social Computing. He obtained his doctorate from Ecole Polytechnic Federale Lausanne (EPFL), Switzerland.



**Prof. Chandrashekar Ramanathan**  
Dean (Academics), IIIT Bangalore



Prof. Chandrashekar is a faculty member at IIIT-B since 2007 serving as professor, researcher and administrator. He has been working in the field of Computing for over 25 years in various capacities across industry and academia.



**Prof. Tricha Anjali**  
Ex-Associate Dean, IIIT Bangalore



Prof. Anjali has a PhD from Georgia Institute of Technology as well as an integrated MTech (EE) from IIT Bombay.

# Industry Experts



**Abhishek Vijayvargia**  
Senior Data Scientist



Having worked with Microsoft as a Senior Data Scientist, he is an alumnus of IIT Kharagpur with 10+ years of experience in a Data Science domain



Ex-Senior Data Scientist



**Anand**  
CEO



CEO, Gramener A gold medallist from IIM Bangalore, an alumnus of IIT Madras and London Business School, Anand is among the top 10 data scientists in India with 20 years of experience.



Faculty



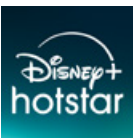
Principal



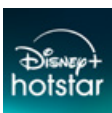
Ex-Consultant



**Sajjan Kedia**  
Sr. Engineering manager



Senior Engineering Manager, Hotstar Sajjan has extensive experience in the field of ML, Big Data, Data Science, and AI.



Sr. Engineering manager



Machine Learning Engineer



Machine Learning Research Engineer



**Mirza Rahim Baig**  
Startup Mentor



Analytics Lead, Zalando Mirza is a veteran professional with 10+ years of experience in application of data science, machine learning in e-commerce and healthcare.



Team Lead - Product



Marketing Analytics



Ex-Analytics Lead

# More than 30+ In-Demand Industry Tools and Technologies

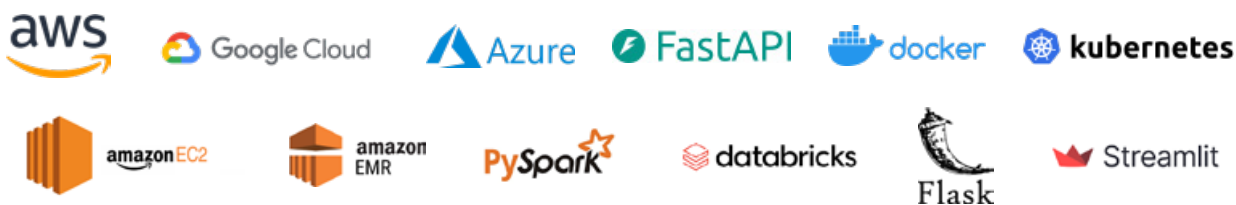
## Python for Data Science



## Data Analytics and Business Intelligence



## Cloud Computing, Big Data, Software Fundamentals



## Foundations of Machine Learning



## Deep Learning and Natural Language Processing



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# Assignments and Case Studies from 6+ In-Demand Business Domains



## **InfoSec**

Feature Engineering  
using Sklearn



## **Media & Entertainment**

Data Analysis using SQL



## **Transportation**

EDA  
using Python



## **Manufacturing**

Regularisation using  
Sklearn



## **Civil Engineering**

Classification using  
CNNs



## **BFSI**

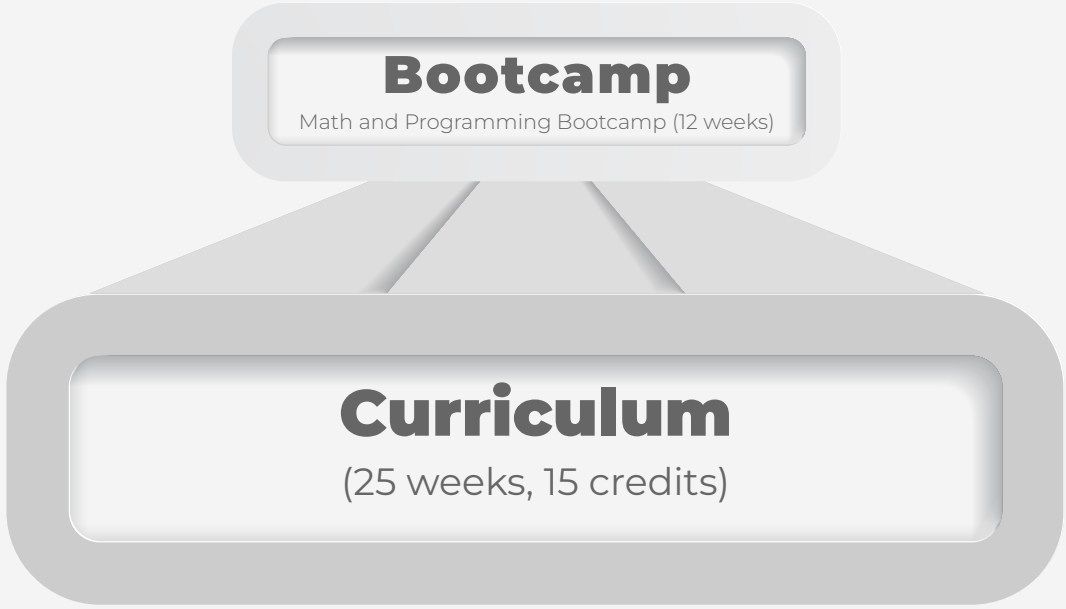
Sequence Data Prediction  
using RNN



## **FMCG**

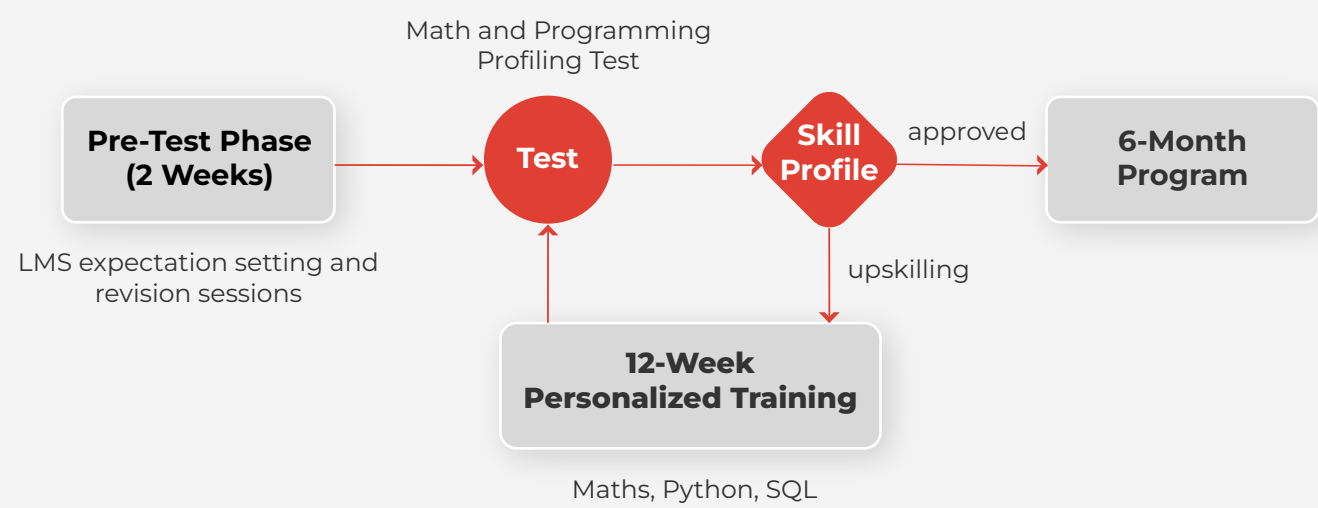
Big Data Analysis  
using Spark

# Your Program Journey



## Applied Math and Programming Bootcamp

Personalise the initial 3 months of the program to your profile



Topics: Sets, Combinatorics, Basics of Probability, Conditional Probability, Descriptive Statistics, Functions, Vector Algebra, Derivatives, Integrals, Coding Environments, Variables, Data Types, Syntax, Conditionals, Loops, Functions, Lists, Sets, Tuples, Dictionaries, Introduction to MySQL, Basic SQL Querying

Marks Structure: Total marks - 100

- **Section A - 40 marks**, basic mathematics      **Section B - 60 marks**, basic programming
- Passing marks - 25 marks in section A & 35 marks in section B

*Unlimited attempts at the test and the bootcamp at no added cost!  
We make sure that you are well-equipped to draw the most benefit from the program!*



# Curriculum

The curriculum will equip you with the most up-to-date and industry-relevant skills and technologies for data science and machine learning such as programming and mathematics, data analysis tools and techniques, cloud computing and big data analytics, and foundational topics in machine learning, deep learning, and natural language processing.

## Topics

### Advanced Mathematics for Data Science and Machine Learning

Master essential mathematical concepts to understand how to work with large amounts of data and train efficient machine learning models

- Conditional Probability and Probability Distributions
- Advanced Linear Algebra and Linear Transformations
- Multivariate Calculus

### Advanced Programming for Data Science and Machine Learning

Wrangle real-world data using universal programming languages such as Python and SQL, and use GenAI for generating and debugging code faster

- GenAI for Coding and Problem-Solving
- Object-Oriented Programming
- Python Data Science Libraries
- Database Design and SQL Querying with MySQL
- Introduction to NoSQL Databases

### Data Analysis and Exploration

Implement industry-standard statistical methods using tools such as Python, Tableau, and Power BI to analyse data and derive business insights

- Data Analysis with Python
- Exploratory Data Analysis
- Inferential Statistics and Hypothesis Testing
- Data Analysis and Visualisation with Power BI and Tableau

### Cloud Computing and Big Data Fundamentals

Take your data processing and analysis workflows to the cloud and work with larger amounts of data to derive enterprise-scale business insights

- Cloud Computing with AWS, GCP, Microsoft Azure
- Big Data Analysis with PySpark

### Foundations of Machine Learning

Train industry-standard machine learning models to automate insight generation and predict business metrics behaviour

- Machine Learning Paradigms
- Linear and Logistic Regression
- K Nearest Neighbors
- Regularisation and Hyperparameter Tuning
- Decision Trees and Ensembles
- Clustering Models

### Deep Learning and Natural Language Processing

Build and train deep neural network models for different kinds of business data such as images and sequences

- Artificial Neural Networks
- Convolutional and Recurrent Neural Networks
- Lexical, Syntactic, and Semantic Processing

### Deployment Fundamentals

Share and deploy your insights and machine learning models so that other collaborators can work with your contributions

- Containerisation and Deployment Tools
- Version Control

## Projects

- Querying with SQL**  
Analyse Spotify music data for targeted recommendations or NDAP insurance data for risk assessment
- Exploratory Data Analysis**  
Analyse NYC taxi operations for efficient taxi positioning or US beer production data for better brewery operation management
- Big Data Analysis**  
Analyse Mercari products data for better targeted recommendations or customer interaction data to enhance customer engagement
- Linear Regression**  
Predict household energy consumption using appliance energy readings data to increase power consumption efficiency or parcel delivery time for Porter using historical delivery data for better planning and management
- Deep Learning**  
Predict stock prices of Microsoft, Amazon, Google, IBM, using their historical stock price variations or temperature/pressure readings in Morocco using historical weather data



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# Build A Strong Portfolio



## Commits

Demonstrate consistency, collaboration, and coding discipline

## Code

Showcase well-documented repositories

## Projects

Host end-to-end DS/ML/AI projects that highlight real-world problem-solving

## Kernels

Highlight data processing and EDA methodologies

## Ranking

Evaluate and reflect global standing among data science practitioners

## Competitions

Demonstrate problem-solving under tight constraints

## Headline

Concise summary of goals, competencies, and professional identity

## Summary

Engaging overview of learnin and career journey

## Projects

Showcase practical experience, outcomes, and skill application

## GitHub helps with

- ✓ Validating coding skills
- ✓ Showing growth and consistency
- ✓ Being interview-ready for Tech roles

## Kaggle helps with

- ✓ Building credibility in data science circles
- ✓ Applying learning to real datasets
- ✓ Speaking confidently in Tech interviews

## LinkedIn helps with

- ✓ Improving visibility with recruiters
- ✓ Positioning better for job openings
- ✓ Networking with peers and mentors in the field

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# Microsoft-Certified Advantage –

This program doesn't just prepare you for the world of Data Science & AIML—it gives you the Microsoft edge.

Learners earn industry backed certification from upGrad in association with Microsoft by completing specially designed modules integrated into the program, boosting both credibility and career readiness.



## Microsoft Learn content modules Certification Modules:

- Introduction to Generative AI Concepts
- Introduction to GitHub Copilot
- Design & Manage Analytics Solutions using Power BI
- Designing & Implementing a Data Science Solution on Azure

# Rich and Dedicated **Live Support**

## **Industry Expert Sessions**

Engage with industry practitioners as they help you master in-demand skills and concepts using a demonstrative hands-on approach



## **IIITB Faculty Sessions**

Learn from some of the most accomplished academicians as they take your knowledge and understanding of data science to another level

## **Just-In-Time Interview Support**

Participate in Technical and HR mock interviews designed to boost your confidence and prepare you to ace interviews.

## **Career Coaching Sessions**

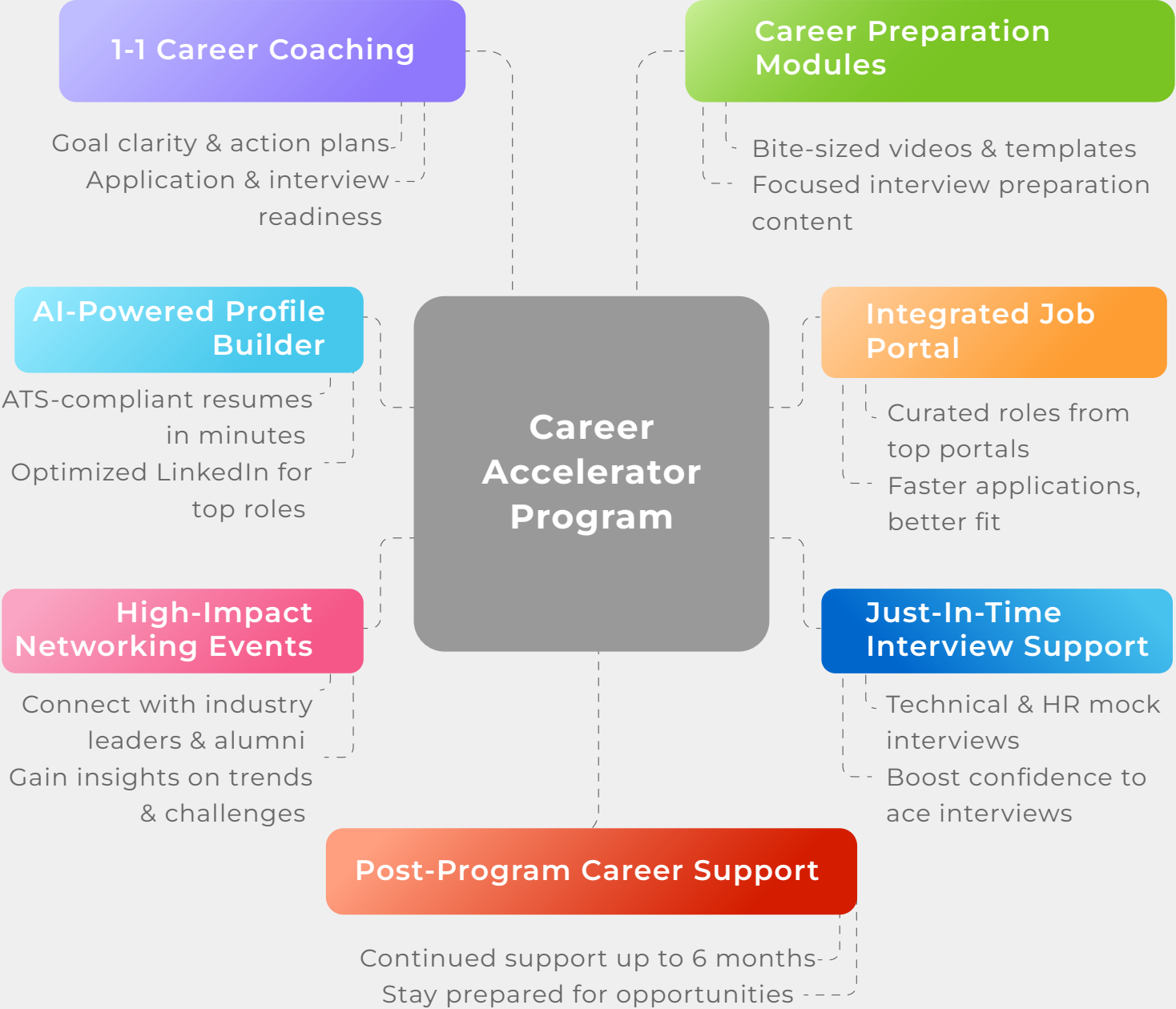
Engage in Career Coaching Sessions via Career preparation modules, High-impact networking events and Just-in-time mock interviews

## **Daily doubt resolution sessions**

Join doubt resolution session slots, that are available daily, and have an expert available to resolve your queries for a smooth learning journey



# Effective and Complete Career Support



## Student Support

### Telegram channel for learner communications

Cohort Telegram channel for timely program updates and announcements.

### Non-academic and non-technical query assistance

24 X 7 m-AI-ask bot support for non academic assistance.

### Completion Support

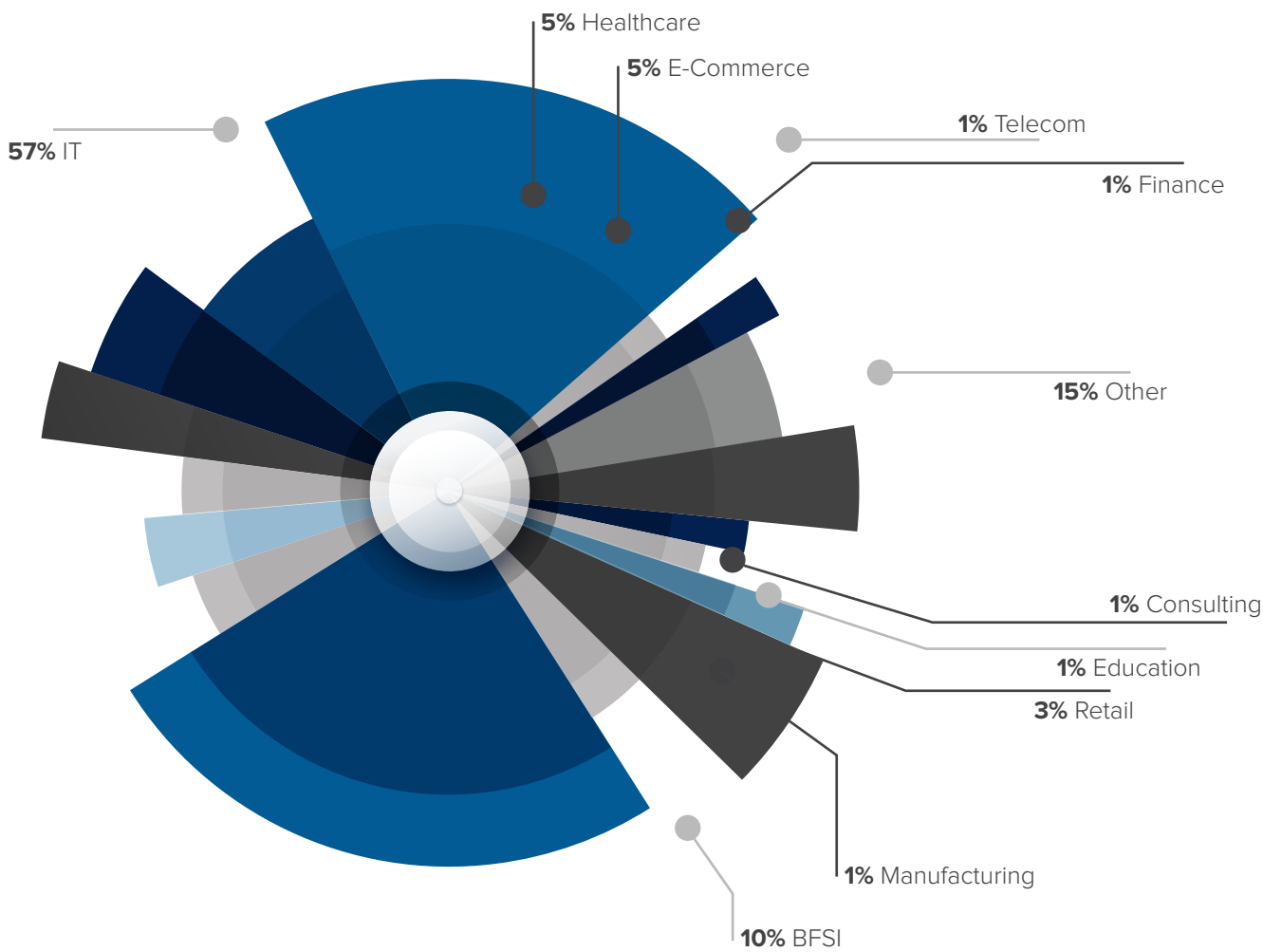
Personalised assistance for smooth program completion, managing backlogs, and cohort deferrals with free and paid waiver options.

### Financial benefits

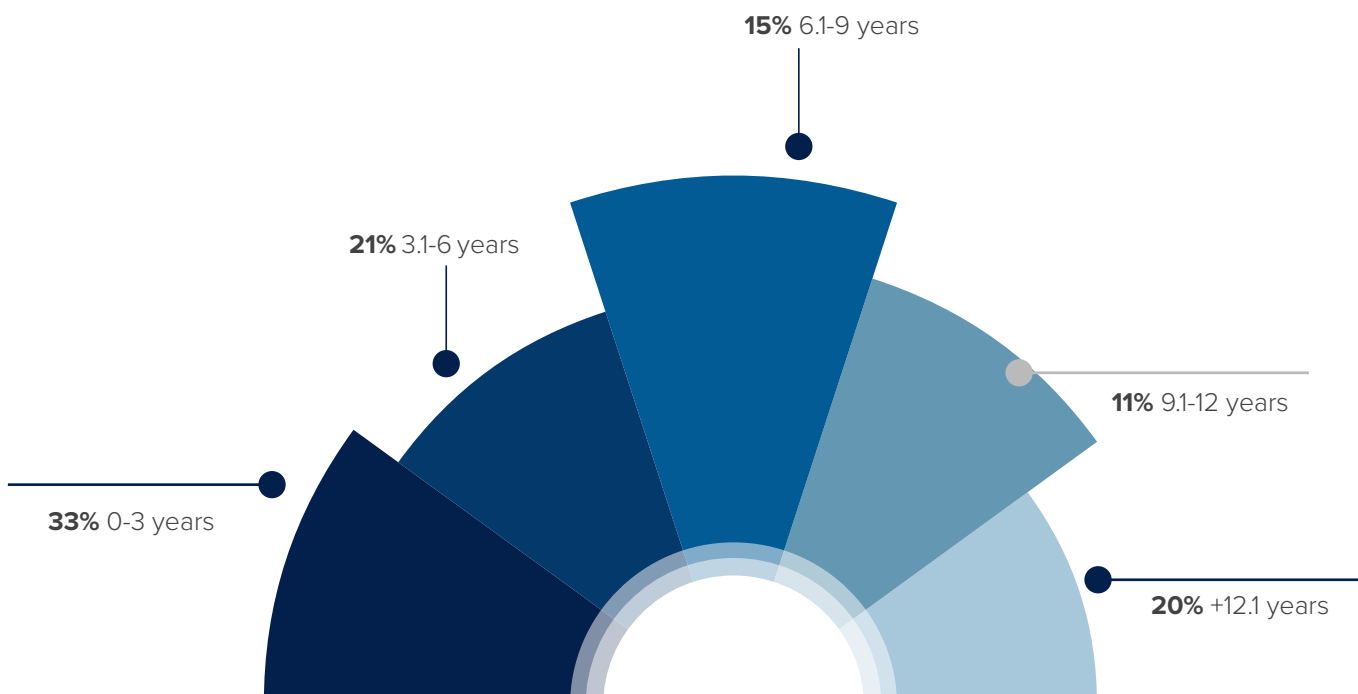
Access benefits like referrals and repeats by sharing details with your program co-ordinator or student support executive.

# Meet the Class

## Industries Our Students Come From



## Work Experience





Option to articulate to a Master's degree  
from Liverpool John Moores University

LJMU



Enrol in 4 small steps, Then take a giant leap.



### Eligibility Criteria

Bachelor's or Master's Degree or its equivalent in any discipline with minimum 50% aggregate mark or equivalent CGPA.





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LET'S TALK