



# POST GRADUATE PROGRAM IN DATA SCIENCE & BUSINESS ANALYTICS

( F o r m e r l y   P G P - B A B I )

## V.22



## INTRODUCING THE PG PROGRAM IN DATA SCIENCE AND BUSINESS ANALYTICS: V.22

A relentless industry focus - that's how the PGP-DSBA has been able to empower thousands of career transitions. All parts of the program experience are designed to make learners job-ready. But here's the challenge - the industry keeps evolving all the time.

Only high-quality learning has the power to transform lives, so we have high standards for our programs. To give our learners an even better competitive advantage, we are now introducing PGP-DSBA V.22 to keep pace with a rapidly growing industry.

With inputs from industry professionals, top Data Science academicians, and recently graduated alums, the upcoming version of the PGP-DSBA is your best bet for a rewarding Data Science career.

## GREAT LEARNING

### INDIA'S LEADING PROFESSIONAL LEARNING PLATFORM

**3.3**

Million+ Learners

**4000+**

Industry Experts

**160+**

Countries Reached

**1200+**

Hiring Partners



**Best Ed-tech  
Company  
of the Year\***

\*EdTechReview Awards 2020



**Best Online Skills  
Provider of the Year\***

\*Entrepreneur, Education Innovation Awards 2022

## PROGRAM BENEFITS



### Corporate Partners

The program is designed, delivered and endorsed by leading analytical, technology and consulting organizations. Our corporate partners are involved in curriculum design, facilitating projects, industry lectures and also suggesting pedagogical improvements.



### Industry Relevant Curriculum

The curriculum combines academic elegance and business relevance to facilitate participants in learning the basics of management, Data Science techniques and applications for data-based decision making.



### Flexible Learning

The PGP-DSBA program provides utmost learning flexibility. Learn while you earn with online sessions. We accommodate transfer cases and sabbaticals and provide the option to catch up even when you have missed classes.



### Hands-On Exposure

An integral part of the learning experience is the use of Data Science and Analytics tools wherein the candidates get hands-on exposure to Python, SQL, Tableau, R (Online).



### Industry Renowned Certificates

Earn two post graduate certificates - one from McCombs' School of Business at UT Austin and the other from Great Lakes Executive Learning, the executive learning arm of Great Lakes (A Top 10 B-School in India).



### Constantly Updated According to Industry Trends

Get the most up-to-date learning experience that reflect the changing industry landscape.

## AN ENHANCED LEARNING EXPERIENCE

Learning Modules	Old Version V.21	Updated Version V.22
Industry Sessions	4	8
Practice Hackathons	2	6
Connect Sessions with Peers	2 Virtual Sessions	3 Virtual Sessions
Practice Case Studies	10	15
Optional Modules	4 Marketing & Retail Analytics   Web & Social Media Analytics   Supply Chain & Logistics Analysis   Optimization Techniques	9 4 from Previous Version + Model Deployment + (GL Elevate AI Accelerator Pack) Power BI   Applications of AI   Cloud Computing   Blockchain
Choose between Saturday/Sunday Mentoring Sessions	No	Yes
Handbook on Case Studies by Alumni & Sessions by Alums on 'How They Applied Data Science at Work'	No	Yes
1:1 Career Coaching Sessions	2	3
Company Sponsored Hackathons	1	3
Guidance to publish Capstone Project in reputed Journals or 'Present at Conferences'	No	Yes



## PROGRAM PEDAGOGY

### ○ Program Delivery

The program is delivered in an online format with 30 weekend mentorship sessions that span over 11 months.

### ○ Online-Learning Management System

All candidates have access to the online LMS that hosts content (lecture recordings, discussion forums, assignments, reading material) and live webinars to enable the candidates to continue their learning during campus. The LMS provides an innovative learning environment that encourages collaborative approach between the candidates thus paving the way for maximizing learning effectiveness.

### ○ Capstone Project

All candidates would be pursuing an application-oriented capstone project in the field of Data Science. The project shall be mentored and evaluated by faculty from Great Lakes Institute of Management or industry experts. The project will be presented to the faculty board as part of the requirement for successful completion of the program.

### ○ Industry Perspective Lectures

This is an important component of the program that complements and substantiates the learning with an applied orientation. The participants get the opportunity to listen to eminent speakers from leading Data Science & Analytics companies and assimilate the best practices discussed by them in their lectures.

### ○ Experiential Learning

This program is designed to transform candidates to business-ready Data Science and Analytics professionals through hands-on experiential learning of relevant tools. This is achieved through hands-on labs, practice exercises, hackathons, quizzes and assignments on software packages such as R, Tableau, SAS (online) and Python.



# PROGRAM CURRICULUM

The curriculum of the PGP in Data Science and Business Analytics: V.22 has been updated in consultation with industry experts, academicians and program alums to ensure you learn the most cutting-edge topics.

## FOUNDATIONS

### Introduction to Data Science

- Python/R for Data Science
- Introduction to Python/R
- Dealing with Data using Python/R
- Visualization using Python / R
- Python-Markdown
- Missing Value Treatment
- Exploratory Data Analysis using Python/R

### Marketing & CRM

- Core Concepts of Marketing
- Customer Life Time Value
- Marketing Metrics for CRM

### Statistical Methods for Decision Making

- Descriptive Statistics
- Introduction to Probability
- Probability Distributions
- Hypothesis Testing and Estimation
- Goodness of Fit

### Business Finance

- Fundamentals of Finance
- Working Capital Management
- Capital Budgeting
- Capital Structure

### SQL Programming

- Introduction to DBMS
- ER Diagram
- Schema Design
- Key Constraints & Basics Of Normalization
- Joins
- Subqueries Involving Joins & Aggregations
- Sorting
- Independent Subqueries
- Correlated Subqueries
- Analytic Functions
- Set Operations
- Grouping and Filtering

## DATA SCIENCE TECHNIQUES

### Optimization Techniques

- Linear Programming
- Goal Programming
- Integer Programming
- Non-Linear Programming

### Predictive Modeling

- Multiple Linear Regression(MLR) for Predictive Analytics
- Logistic Regression
- Linear Discriminant Analysis

### Advanced Statistics

- Analysis of Variance
- Regression Analysis
- Dimension Reduction Techniques

### Data Mining

- Introduction to Supervised and Unsupervised Learning
- Clustering
- Decision Trees
- Random Forest
- Neural Networks

# PROGRAM CURRICULUM

## DATA SCIENCE TECHNIQUES

### Time Series Forecasting

- Introduction to Time Series
- Correlation
- Forecasting
- Autoregressive Moving Average (ARMA) Models
- Autoregressive Integrated Moving Average (ARIMA) Models
- Case Studies

### Machine Learning

- Handling Unstructured Data
- Machine Learning Algorithms
- Bias Variance Trade-off
- Handling Unbalanced Data
- Boosting
- Model Validation

## DOMAIN EXPOSURE

### Marketing & Retail Analytics

- Marketing and Retail Terminologies: Review
- Customer Analytics
- KNIME
- Retail Dashboards
- Customer Churn
- Association Rules Mining

### Finance & Risk Analytics

- Why Credit Risk - Using a Market Case Study
- Comparison of Credit Risk Models
- Overview of Probability of Default (PD) Modeling
- PD Models, Types of Models, Steps to Make a Good Model
- Market Risk
- Value at Risk - Using Stock Case Study
- Fraud Detection

### Web & Social Media Analytics

- Web Analytics: Understanding The Metrics
- Basic & Advanced Web Metrics
- Google Analytics: Demo & Hands-on
- Campaign Analytics
- Text Mining

### Supply Chain & Logistics Analytics

- Introduction to Supply Chain
- Dealing with Demand Uncertainty
- Inventory Control & Management
- Inventory Classification Methods (EOQ)
- Inventory Modeling (Reorder Point, Safety Stock)
- Advanced Forecasting Methods
- Procurement Analytics

# PROGRAM CURRICULUM

## VISUALIZATION AND INSIGHTS

### Data Visualization Using Tableau

- Introduction to Data Visualization
- Introduction to Tableau
- Basic Charts and Dashboard
- Descriptive Statistics, Dimensions and Measures
- Visual Analytics: Storytelling through Data
- Dashboard Design & Principles
- Advanced Design Components/ Principles: Enhancing the Power of Dashboards
- Special Chart Types
- Case Study: Hands-on Using Tableau
- Integrate Tableau with Google Sheets

## TOOLS & MORE



CASE STUDIES



CAPSTONE PROJECT

**EXPERIENTIAL  
LEARNING**



ASSIGNMENTS

HACKATHONS





# CAPSTONE PROJECTS



## Retail

**Actionable insights for improving sales of a consumer durables retailer using POS data analytics**

*Techniques used: Market Basket Analysis, RFM (Recency-Frequency- Monetary) Analysis, Time Series Forecasting*



## E-commerce

**Customer engagement and brand perception of Indian e-commerce: A social media approach**

*Techniques used: Text Mining, K-Means Clustering, Regression Trees, XGBoost, Neural Network*



## Web & Social Media

**Tapping social media exchanges on Twitter - A case study of the 2015 Chennai floods**

*Techniques used: Topic Modeling using 9 Latent Dirichlet Allocation. K-Means & Hierarchical Clustering*



## Banking

**Developing best prediction model of credit default for a retail bank**

*Techniques used: Linear Discriminant Analysis, Logistic Regression, Neural Network, Boosting, Random Forest, CART*



## Supply Chain

**Developing a demand forecasting model for optimizing supply chain**

*Techniques used: Text Mining, K-Means Clustering, Regression Trees, XGBoost, Neural Network*



## Healthcare

**Prediction of user's mood using smartphone data**

*Techniques used: Logistic Regression, Random Tree, ADA Boost, Random Forest, KSVM*



## Retail

**Market basket analysis for consumer durables**

*Techniques used: Market Basket Analysis, Brand Loyalty Analysis*



## Insurance

**Personal insurance digital assistant**

*Techniques used: NLP (Natural Language Processing), Vector Space Model, Latent Semantic Analysis*



## Entrepreneurship / Startups

**Startup insights through data analysis**

*Techniques used: Univariate and Bivariate Analysis, Multinomial Logistic Regression, Random Forest*



## Finance & Accounts

**Vendor invoicing grief project**

*Techniques used: Conditional Inference Tree, Logistic Regression, CART and Random Forest*

# FACULTY



## **Dr. Bappaditya Mukhopadhyay**

Co-Director, Gurgaon, Professor - Analytics & Statistics, Great Lakes Institute of Management, Ph.D (Indian Statistical Institute)



## **Dr. P. K. Viswanathan**

Co-Director, Chennai, Professor - Analytics & Operations, Great Lakes Institute of Management, Ph.D, Madras University, MBA - FMS Delhi



## **Dr. Kumar Muthuraman**

University Distinguished Teaching Professor - McCombs School of Business, University of Texas at Austin - Director, Center for Research and Analytics, H. Timothy (Tim) Harkins Centennial Professor, Ph.D - Stanford University



## **Dr. Srabashi Basu**

Professor - Analytics & Quantitative Methods, Great Lakes Institute of Management, Ph.D, Penn State University, MSc Statistics - University of Calcutta



## **Prof. Dan Mitchell**

Clinical Assistant Professor at The University of Texas at Austin  
Ph.D, University of Texas at Austin  
MS - Mathematics, New York University



## **Dr. C. P. Gupta**

Professor, Department of Financial Studies, University of Delhi, M.Phil - Finance, Ph.D - Finance, Visiting Professor at IIMs, ICAI Delhi, MDI Gurgaon, Great Lakes Institute of Management



## **Dr. Jones Mathew**

Professor, Great Lakes Institute of Management  
Ph.D, Indian Institute of Foreign Trade (IIFT),  
MBA - Marketing, BIT-Mesra, Ranchi



## **Dr. Mudit Kulshreshtha**

Professor - Analytics, Great Lakes Institute of Management  
Ph.D - IGIDR, Advanced Research Institute of Reserve Bank of India



## **Prof. Prashant Koparkar**

Corporate Trainer and Consultant - Machine Learning  
25+ years of experience in the IT industry  
8+ years in UK & USA



## **Prof. Rajesh Jakhotia**

Adjunct Faculty, Great Lakes Institute of Management,  
SMP - IIM, Calcutta



## **Prof. Snehamoy Mukherjee**

Adjunct Faculty, Great Lakes Institute of Management  
MSc - Mathematics and Scientific Computing, IIT- Kanpur



## **Prof. Abhinanda Sarkar**

Consultant Data Scientist, Compegence, B.Stat, M.Stat - Indian Statistical Institute, Ph.D in Statistics - Stanford University



## **Prof. Vivek Anand**

Adjunct Faculty, Visualisation, Great Lakes Institute of Management, MBA, Monash University, Melbourne Vic.



## **Dr. Rohit Kapoor**

Associate Professor, IIM - Indore



## **Dr. Narayana Darapaneni**

Professor, Great Lakes Institute of Management  
Ph.D, Pierre & Marie Curie University, Paris



## **Prof. Krishna Mohan**

Sr. Manager - Technology, Thomson Reuters



## **Prof. Dipayan Sarkar**

Consultant, Author, Visiting Faculty - Great Lakes Institute of Management, Master in Economics - Karnataka University, Post Graduate Program in Business Analytics, IIT - Stuart School of Business



## **Dr. Narain Gupta**

Assistant Professor, MDI



## **Prof. Gurumoorthy P**

Faculty, Data Science & Machine Learning



## **Prof. Raghavshyam Ramamurthy**

Adjunct Faculty, Data Visualisation



## **Prof. Saurabh Aggarwal**

Professor, HBTI Kanpur, B.Tech - Indian Institute of Technology, Delhi, M.Tech



## **Prof. Vinit Thakur**

Data Science Consultant & Trainer

# INDUSTRY GUESTS

**Mr. Lakshmi Narayanan**  
Vice Chairman



***"The structure of the PGP-DSBA program is very interesting, in which learning happens both inside and outside the class."***

**Mr. Lakshmi Narayan**  
Vice Chairman, Cognizant Technology Solutions

**Mr. Abhinav Kumar**  
AVP, Decision Analytics



**Mr. Sanjoy Roy Choudhury**  
Vice President



**Mr. Muthu Ramanujam**  
Head, Retail Bank Finance Analytics



**Mr. Titir Pal**  
Director, Research & Analytics



**Mr. Sundar Varadarajan**  
Senior Vice President & Practice Head,  
Bi & Analytics



**Dr. Satish Raghavendran**  
Vice President



**Mr. Manu Chandra**  
Co-Founder & Director



**Mr. Rajarajan TR**  
Principal Data Scientist



**Mr. Suresh Krishnaswamy**  
Director, Analytics



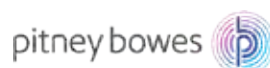
**Mr. Manish Gupta**  
Senior Applied Scientist



**Mr. Eron Kar**  
Director & Head, Analytics CoE



**Mr. Anshuman Gupta, Ph.D**  
Director, Data Science



**Mr. V Shekhar Avasthy**  
Chief Data Scientist & Principal  
Consultant

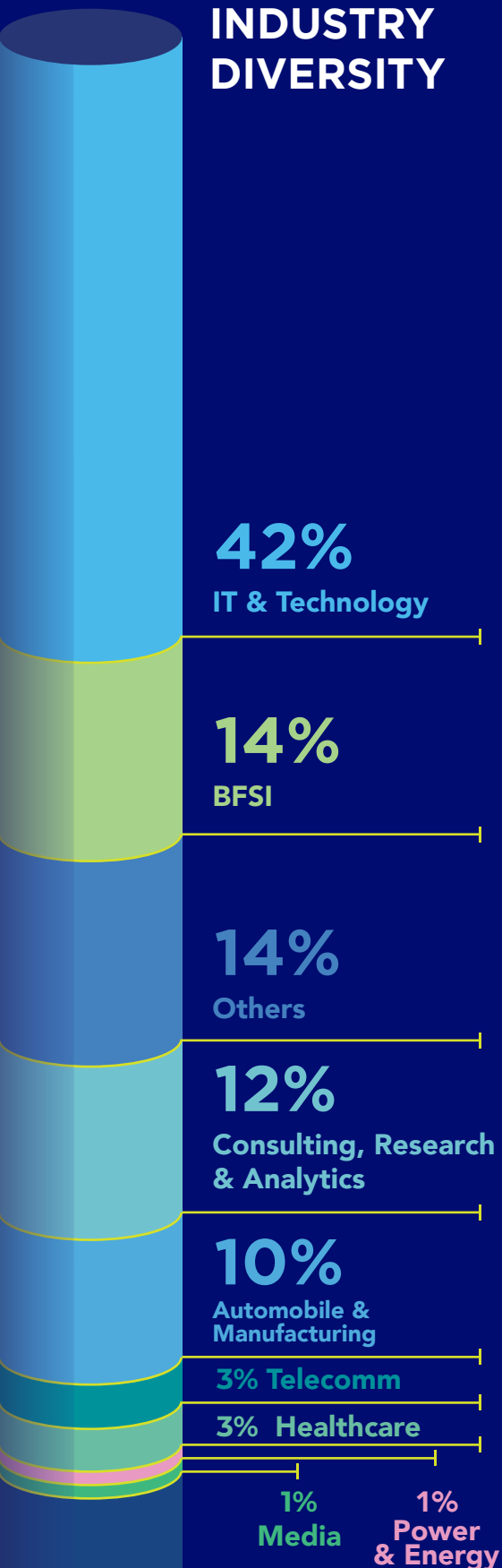


**Dr. Vinay M R**  
Practice Lead Data Scientist



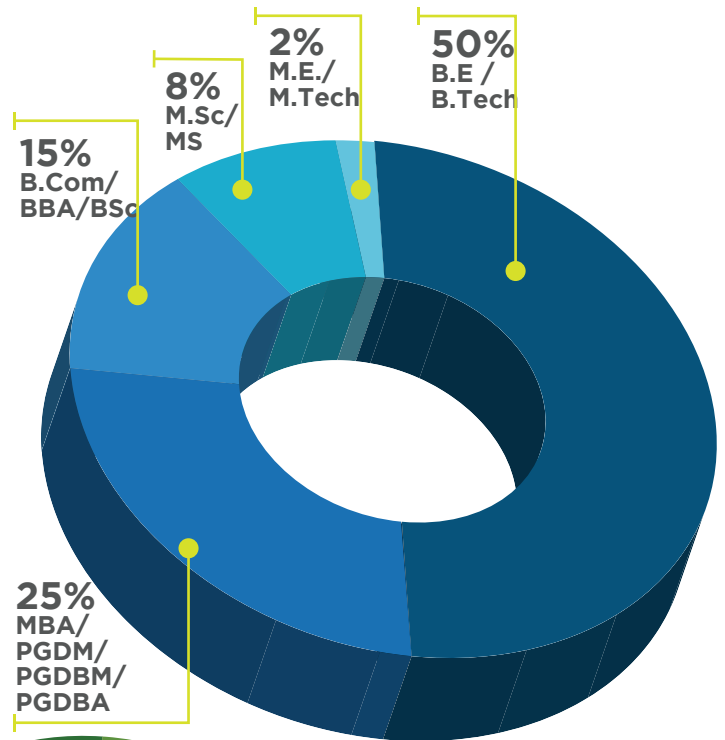
# MEET THE CLASS

## INDUSTRY DIVERSITY

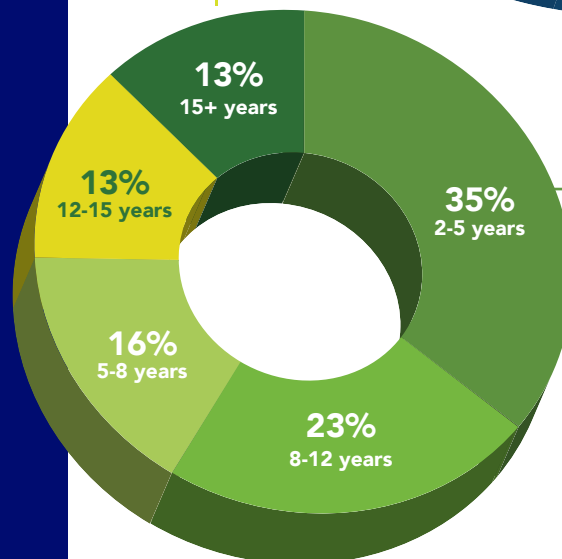


The PGP-DSBA class consists of professionals across various industries, with a wide range of experience across roles in technology, consulting, analytics and marketing.

## EDUCATION BACKGROUND



## WORK EXPERIENCE



The PGP-DSBA class comes from leading organizations. Some of their current employers include:



## STUDENTS' SPEAK



"Capstone project during the program was a great learning experience and helped me immensely during my statistical modeling projects."

**Vishranth**  
Senior Business Analyst



"I finally chose GL, being a blend of industry expertise and highly experienced teaching faculty. It's a reputed brand in the management space with a focus on practical and tie-ups with many analytical firms. I did a compact yet quite powerful one-year course in Data Science and Analytics. Of course, placement assistance during and after course completion helped many candidates."

**Vilas Wakale**  
Independent Consultant



"The choice of Great Learning program over several others was a simple decision as this program allowed a blend of practical industry exposure and real life capstone project interspersed with domain knowledge through eminent faculty members and industry guests alike. Moreover, assignment-led assessment approach and a very robust LMS provided was thoroughly a rewarding experience."

**Amit Madan**  
Country Manager



"PGP-DSBA is a very targeted and focused course for professionals wanting to break-through in the analytics domain. The course is well-structured with respect to content and is backed by great faculty and thus providing a solid platform to foray into the analytics domain."

**Karan Seghal**  
Associate Vice President



"It's not really about learning the tools and techniques rather it has more to do with critical thinking and how you come up with a solution. I learned it well with Great Lakes PG Program - DSBA."

**Parul Oberoi**  
Engagement Manager





# CAREER SUPPORT

## ◇ E-PORTFOLIO

An e-portfolio is a snapshot of all the projects done and skills acquired during the program that is shareable across social media channels. This will help you establish your expertise to potential recruiters.

## ◇ RESUME BUILDING AND INTERVIEW PREPARATION

We help you build your resume to highlight your skills and your previous professional experience. You'll also learn to crack interviews with our interview preparation sessions.

## ◇ CAREER GUIDANCE

Get access to career mentoring from industry experts who've transitioned to Data Science roles. Benefit from their guidance on how to build a rewarding career in Data Science.

## ◇ JOB BOARD

The program provides candidates access to the Great Learning Job Board. 1200+ organizations approach us with job opportunities which are shared through the Job Board with our candidates. Our candidates get an average salary hike of 48% on a successful transition.



# ADMISSION DETAILS

## FEE DETAILS

### Post Graduate Program in Data Science & Business Analytics

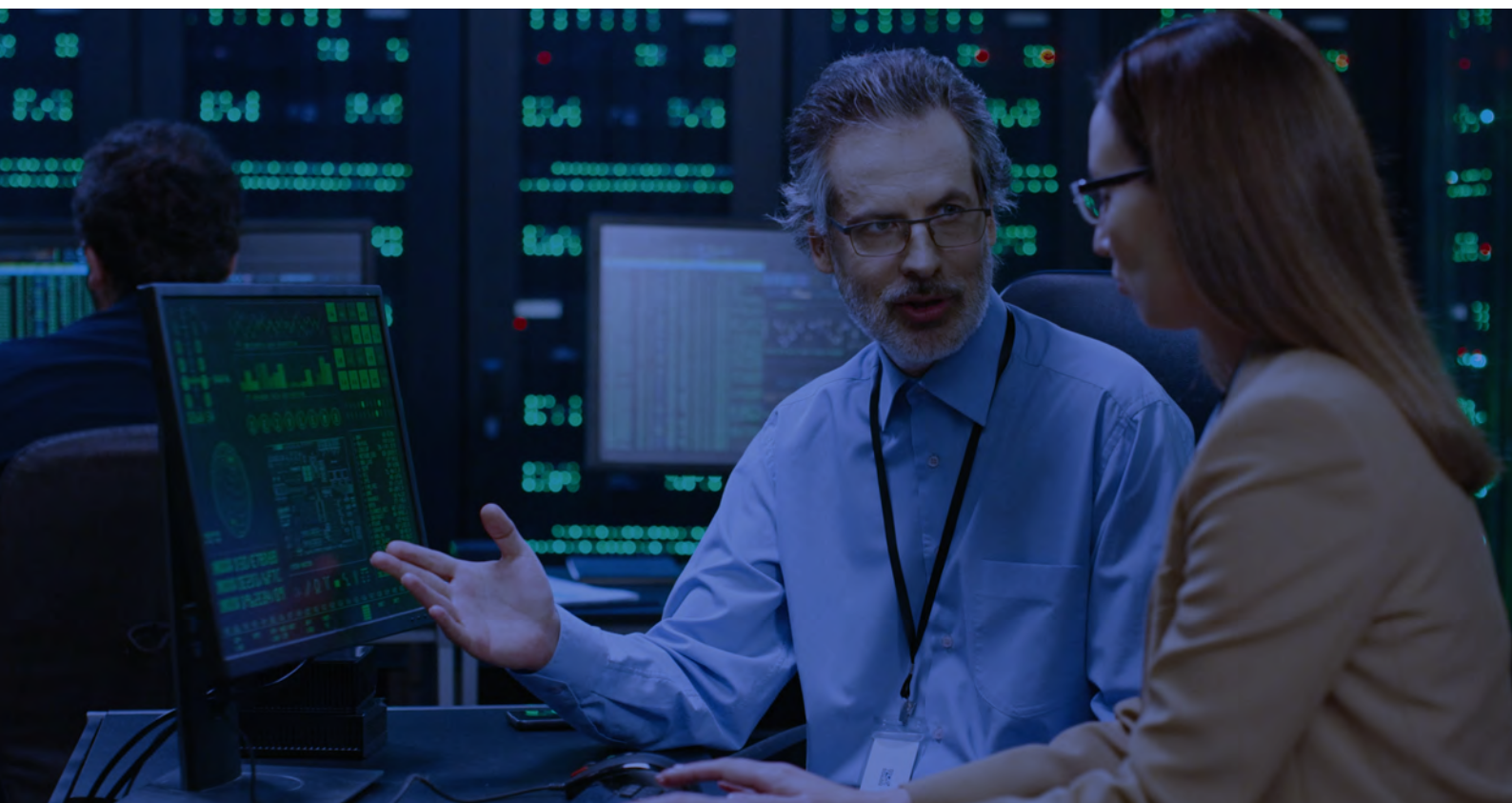
**₹ 2,40,000 + GST**

*The top 35 students will be able to reserve the seat at a fee of ₹2,25,000 + GST.*

Certificate from



- 11 Month Program | 225+ hours of learning content
- 8 real-world graded projects and 16+ real-world case studies
- 2-month capstone project guided by an industry expert
- Certificate from The McCombs School of Business at UT Austin and Great Lakes Institute of Management
- Dedicated career support through interview preparation and resume building sessions
- Access to GL Confluence: Industry and peer networking events
- Access to GL Excelerate: Curated job portal with opportunities shared by 1200+ hiring partners



# PROGRAM PARTNERS



**Great Learning**, a part of the BYJU'S group, is a leading global ed-tech company for professional and higher education. It offers comprehensive, industry-relevant programs across various cutting-edge Technology, Data, and Business domains. Great Learning's programs are developed in collaboration with the world's foremost academic institutions such as Stanford Executive Education, MIT Professional Education, Wharton Online, The University of Texas at Austin, Northwestern School of Professional Studies, National University Singapore, Deakin University, IIT Madras, IIT Bombay, IIT Roorkee, IIIT-Delhi, Great Lakes Institute of Management, and more. They are constantly reimagined and revamped to address the dynamic needs of the industry. Great Learning is the only ed-tech company to provide these programs in a blended mode, classroom mode, and purely online mode, relying on its vast network of expert mentors and highly qualified faculty to deliver an unmatched learning experience for learners in India and the world over. Great Learning is on a mission to enable transformative learning and career success in the digital economy for professionals and students across the globe and till date, we have impacted over 3.3 million learners from over 160+ countries.



**Great Lakes** Executive Learning is the executive learning arm of Great Lakes Institute of Management. Great Lakes is India's leading business school with campuses in Chennai and Gurgaon. Led by exceptional faculty and steered by an outstanding advisory council, Great Lakes is ranked amongst India's top 10 business schools and is ranked as the best in the country when it comes to learning Data Science and Analytics. Learning Data Science from Great Lakes ensures you get the industry credibility and acceptance as you look to build your career.



**The University of Texas at Austin's** McCombs School of Business is a premier business school at a world class public research university. It cultivates principled leaders and develops ideas through high-quality instruction, experiential learning, and the pursuit of relevant, groundbreaking research, shaping those who will shape tomorrow and solve the most challenging problems.

Power ahead in your career  
with Great Learning.  
Start learning today.

## CONTACT US



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