



**PGP-DSBA**

POST GRADUATE PROGRAM IN

# **DATA SCIENCE & BUSINESS ANALYTICS**

FORMERLY PGP-BABI

# HOTTEST JOB OF THE 21ST CENTURY



In 2020 global estimate calls for **2.7 million job postings** for analytics & data science roles



**50%** data scientists & business analysts have a **Master's degree**

**Analytics**

**28.8% CAGR**  
Indian analytics industry

*Indian Analytics Industry is growing rapidly as compared to IT.*

**IT**

**8.6% CAGR**  
IT sector



By 2020, India will face a demand-supply gap of **2,00,000 data science professionals**

## OUR CREDENTIALS



**NUMBER 1**

Data Science Program  
in India for 5 Years in  
a Row



**15,000+**

Students



**90%+**

Participants  
recommend the  
program to others



**10 Million+**

Hours of Learning  
Delivered



**1100+**

Industry Experts &  
25+ India's Best  
Data Science Faculty



**70+**

Batches

# PROGRAM BENEFITS



## India's No.1 Analytics Program

Great Lakes is one of the premier business schools in the country and has been ranked within the top ten in the country by Outlook, Business Today and Business India. This program has been ranked No. 1 by Analytics India Magazine fourth time in a row and No. 2 by Analytics Vidhya.



## Industry Relevant Curriculum

The curriculum combines academic elegance and business relevance to facilitate the participants learn basics of management, followed by analytical techniques and weaves them with applications for data-based decision making.



## 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.



## 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 R, Tableau, SAS (online) and Python.



## 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.



## Certificate from Top B-school

Get an industry-recognised certificate from one of India's top 10 B schools Great Lakes Institute of Management

# 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 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 Business Analytics. The project shall be mentored and evaluated by faculty from Great Lakes or Industry. 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 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 on relevant tools. This is achieved through practice exercises, hackathons, quizzes and assignments on software packages such as R, Tableau, SAS (online) and Python.

# PROGRAM CURRICULUM

## FOUNDATIONS

### Introduction to Analytics

- 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

## ANALYTICS 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
- Random Forest
- Decision Trees
- Neural Networks

# PROGRAM CURRICULUM

## ANALYTICS 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

### Web & Social Media Analytics

- Web Analytics: Understanding the metrics
- Basic & Advanced Web Metrics
- Google Analytics: Demo & Hands on
- Campaign Analytics
- Text 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

### 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



Python



R



Tableau



SAS (Online)

### EXPERIENTIAL LEARNING



Capstone Project



Case Studies



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



## 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



## Supply Chain

Developing a demand forecasting model for optimizing supply chain

**Techniques used:** Text Mining, Kmeans Clustering, Regression Trees, XGBoost, Neural Network



## Retail

Market basket analysis for consumer durables

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



## Entrepreneurship /Start Ups

Start-up insights through data analysis

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



## E-commerce

Customer engagement and brand perception of Indian ecommerce- A social media approach

**Techniques used:** Text Mining, Kmeans Clustering, Regression Trees, XGBoost, Neural Network



## 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



## Healthcare

Prediction of user's mood using smartphone data

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



## Insurance

Personal insurance digital assistant

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



## 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 Ph.D (Indian Statistical Institute)



## 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, University Ph.D. - Stanford University



## 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. Jones Mathew

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



## Prof. Prashant Koparkar

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



## Prof. Snehamoy Mukherjee

Adjunct Faculty, Great Lakes MSc - Mathematics and Scientific Computing (IIT, Kanpur)



## Prof. Vivek Anand

Adjunct Faculty, Data Visualization, Great Lakes MBA (Monash University Melbourne Vic.)



## Dr. Narayana Darapaneni

Professor, Great Lakes Institute of Management PhD (Pierre & Marie Curie University, Paris)



## Prof. Dipayan Sarkar

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



## Prof. Gurumoorthy P

Faculty, Data Science And Machine Learning



## Prof. Saurabh Aggarwal

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



## Dr. P. K. Viswanathan

Co-Director, Chennai, Professor - Analytics & Operations, Great Lakes Ph.D (Madras University), MBA (FMS Delhi)



## Dr. Srabashi Basu

Professor - Analytics & Quantitative Methods, Great Lakes Ph.D (Penn State University, USA), MSc Statistics (University of Calcutta)



## 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. Mudit Kulshreshtha

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



## Prof. Rajesh Jakhotia

Adjunct Faculty, Great Lakes, SMP (IIM, Calcutta)



## Prof. Abhinanda Sarkar

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



## Dr. Rohit Kapoor

Associate Professor, IIM Indore



## Prof. Krishna Mohan

Sr. Manager - Technology, Thomson Reuters



## Dr. Narain Gupta

Assistant Professor, MDI



## Prof. Raghavshyam Ramamurthy

Adjunct Faculty, Data Visualization



## Prof. Vinit Thakur

Data Science Consultant & Trainer

# INDUSTRY GUESTS

**Mr. Lakshmi Narayanan**  
Vice Chairman



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



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



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



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



**Mr. Suresh Krishnaswamy**  
Director, Analytics



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



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



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 Solution

**Mr. Sanjoy Roy Choudhury**  
Vice President



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



**Dr. Satish Raghavendran**  
Vice President



**Mr. Rajarajan TR**  
Principal Data Scientist



**Mr. Manish Gupta**  
Senior Applied Scientist



**Mr. Anshuman Gupta, PhD**  
Director, Data Science

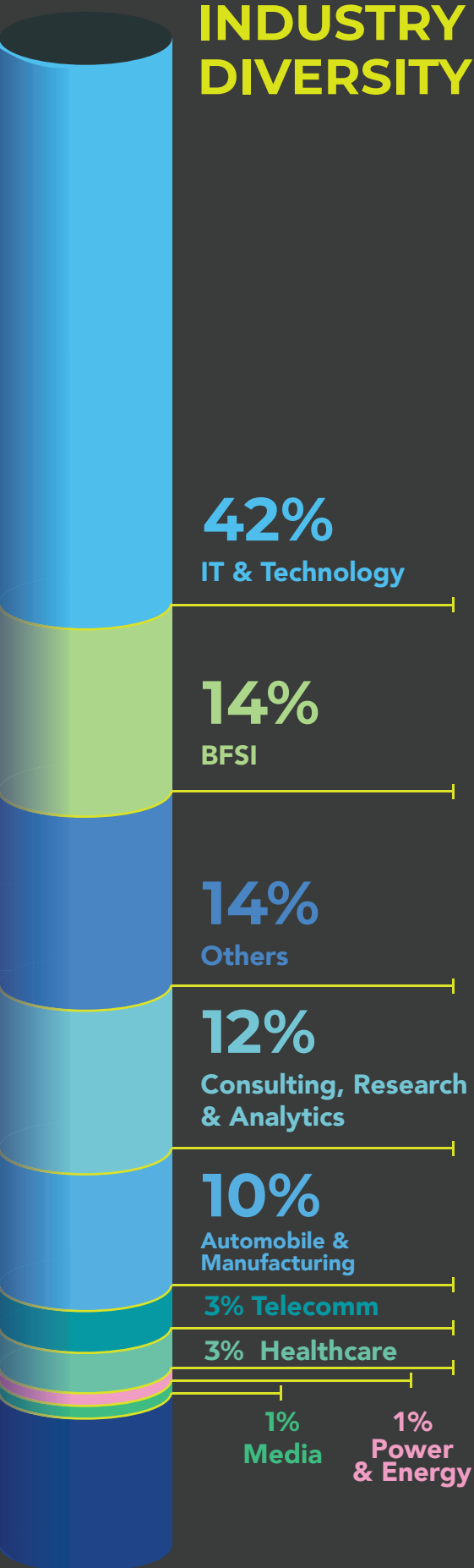


**Dr. Vinay M R**  
Practice Lead Data Scientist



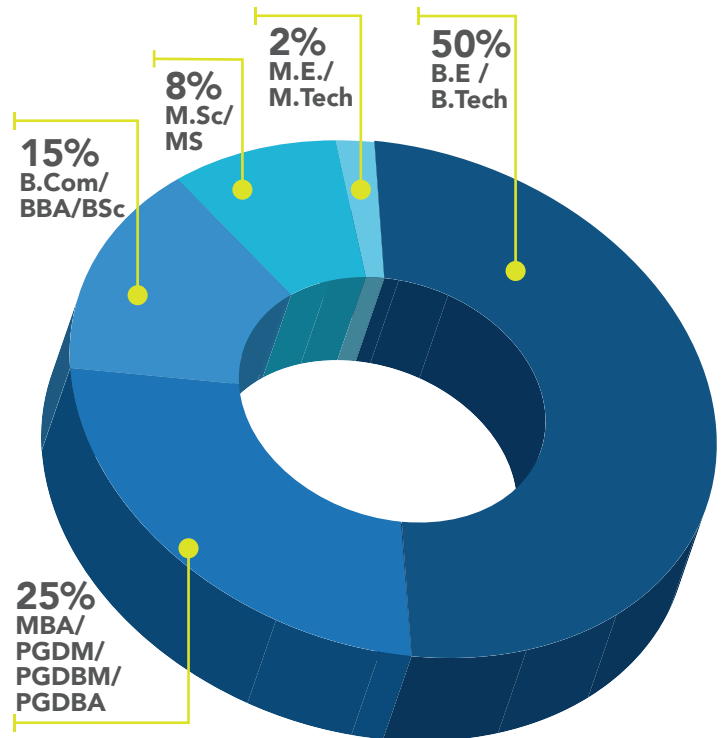
# MEET THE CLASS

## INDUSTRY DIVERSITY

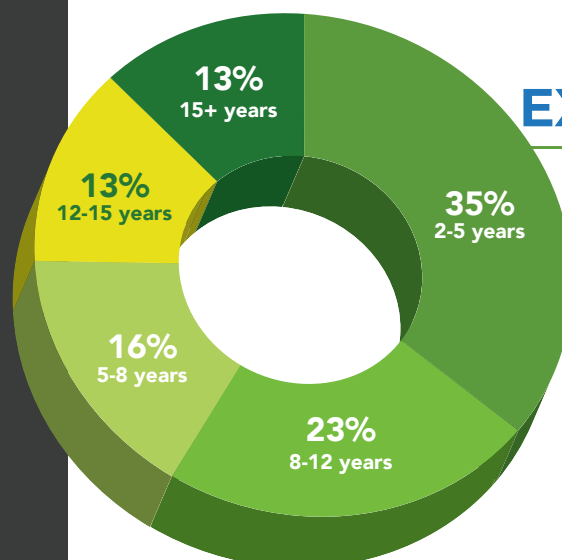


The PGP-DSBA class consists of professionals across various industries, with a wide range of experience across roles in technology, consulting, analytics and marketing.

## 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



## GL Excelerate Career Fair

We conduct regular career fairs in various cities to connect our students to industry opportunities. Our recent GL Excelerate saw 12 hiring partners like Accenture, HSBC, Ust-Global, Rakuten, Myntra, DXC Technologies, Tredence, Brillio, TheMathCompany, AB InBev etc. conduct over 300 interviews for positions such as Business Analyst, Data Analyst, Data Scientist etc.



## Personal Career Coach

Get access to career mentoring depending upon your experience in the industry with a personal career coach. The coaches are either from the data science industry or have transitioned into data science and analytics roles so the candidates benefit from their guidance on how to build a career into analytics in a specific industry.



## e-Portfolio & Resume Building Sessions

An e-portfolio is a snapshot of all the projects done and skills acquired during the program that is shareable across social media channels. We also help you build your resume to highlight your data science skill-set along with your previous professional experience.



## Great Learning Job Board

The program provides candidates access to the Great Learning Job Board. 200+ organizations approach us with 30-40 job opportunities monthly 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

₹ 2,25,000 +GST

Certificate from



- 11 Month Program | 225+ hours of learning content
- 13 courses
- 17 real-world projectsPersonalised weekly mentor-driven learning
- Certificate from The McCombs School of Business at UT Austin and Great Lakes
- Dedicated career support through interview preparation and 1:1 mentorship
- Access to GL Excelerate: Curated job portal and exclusive career fairs
- 2-month capstone project guided by an industry expert
- Access to GL Confluence: Industry and peer networking events



# PROGRAM PARTNERS



**Great Learning's** mission is to make professionals proficient and future-ready. Its programs always focus on the next frontier of growth in industry and currently straddle across Analytics, Data Science, Big Data, Machine Learning, Artificial Intelligence, Deep Learning, Cloud Computing and more. Great Learning uses technology, high-quality content, and industry collaboration to deliver an immersive learning experience that helps candidates learn, apply, and demonstrate their competencies. All programs are offered in collaboration with leading global universities and are taken by thousands of professionals every year to secure and grow their careers.



**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 ranked Second for its Master of Science in Business Analytics (MSBA) degree in 2018. McCombs is a premier business school at a world class public research university. It cultivates principled leaders and develop 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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