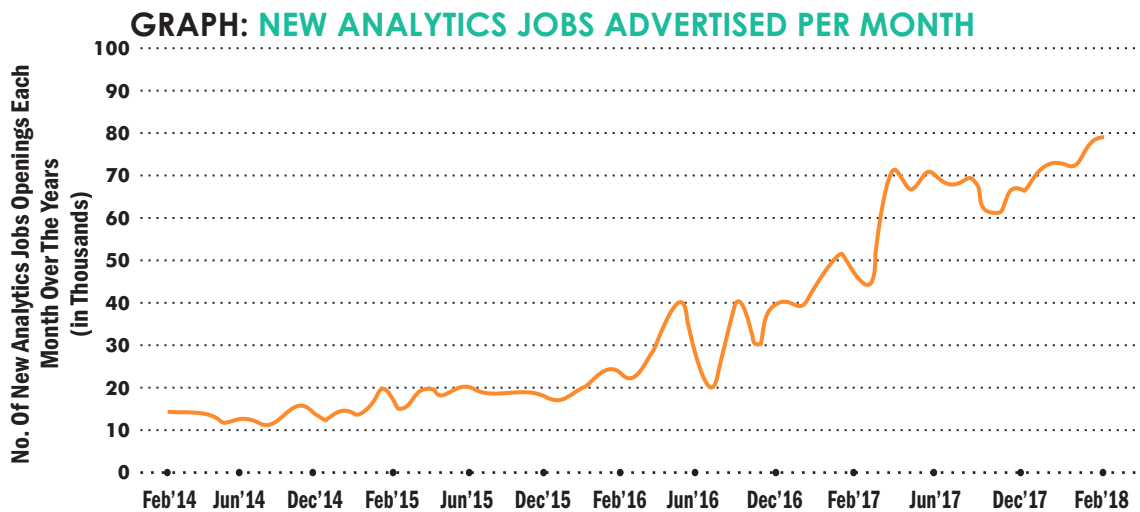# PGEP

Post Graduate Executive Certificate Program in Data Science & Big Data

Supercharge your Data Science Career!

High Demand, Soaring Salaries

BIG DATA
&
DATA SCIENCE
OPPORTUNITY

BIG DATA, OPPORTUNITIES (INDIA)

India is the second-biggest analytics jobs hub after the US, a recent study by skilling platform Edvancer and Analytics Magazine India revealed. The figure marks a 76% jump from the previous year.

GRAPH: NEW ANALYTICS JOBS ADVERTISED PER MONTH

No. Of New Analytics Jobs Openings Each Month Over The Years (in Thousands)

y-axis: 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100

x-axis: Feb'14, Jun'14, Dec'14, Feb'15, Jun'15, Dec'15, Feb'16, Jun'16, Dec'16, Feb'17, Jun'17, Dec'17, Feb'18

TOP TRENDS IN ANALYTICS JOBS IN 2018 AS FOLLOWS:

- The total number of data science and analytics jobs nearly doubled from 2017 to 2018.

- There's been a sharp contrast in the percentage increase of analytics job inventory in the past years – from 2015 to 2016, the number of analytics jobs increased by 76% from 2017.

- Currently, if we go by the reports, nearly 50000 analytics job positions are currently available to get filled by suitable candidates. Although the exact numbers are difficult to ascertain.

- Amazon, Goldman Sachs, Citi, E&Y, Accenture, IBM, HCL, JPMorgan Chase, KPMG and Capgemini – are 10 top-tier organizations with the highest number of analytics opening in India.

- Companies are looking to hire professionals who are well-versed with new tech concepts such as analytics, big data, data science, artificial intelligence (AI) and machine-learning, among others.

EK
MULAQAT

Achievements

- **Dr Ranjan is ranked 6th All India, according to Research Study by Omega journal "Faculty Research Productivity" in the area MIS.**

- **Dr Ranjan holds the highest number of GOOGLE SCHOLAR RESEARCH citations in her current organization , IMT Group, with H-index 17.**

- **Dr Ranjan's course "Business Intelligence and Big data" is ranked India's top ten course outlines by Indian corporate's most circulated magazine on analytics CONSECURIVELY FOR TW YEARS 2015 AND 2016.**

- **Dr Ranjan is a Hong Kong University of Science & Technology (HKUST) Executive Certified Big Data Expert. She consults companies on Big Data Analytics.**

Prof. Jayanthi Ranjan

Programme Director

Acknowledged by AIMS INTERNATIONAL in 2011, 2012, 2013 and 2014 as Best Management Researcher and Professor; Highly regarded as an innovation-driven, creator of dynamic active foreign collaborations and many international value added projects builder in management education, researched by IIM Bangalore as top ten best research productive faculty Dr. Jayanthi Ranjan has successfully balanced academic research and administrative role.

Dr. Jayanthi Ranjan is a PhD from Jamia Millia Islamia central university, India in data analytics and has more than 24 years of teaching & research experience. She has been ranked 6th in ALL INDIA RESEARCH PRODUCTIVITY IN MIS AREA. Her course Big Data and Business Intelligence is ranked top ten in India. She has the highest google scholar citations in the entire IMT Group. She is HKUST certified BIG DATA Analytics expert. She has published more than 150 papers and guided 10 PhD students.

As, IMT Group Campus Associate Dean, Dr Ranjan redefined the boundaries of nature of international mobility and the institute's international relations was ranked no 1 from 2009 to 2016 (Outlook, CNBC, NHRDC and Business World). In 2012. Her administrative interests include academic brand building, rankings and international quality partnerships and research interests include big data analytics.

PROGRAM BENEFITS

IMT Advantage

Top ten ranked business school with diverse international and national faculty; known for academic excellence.

Certification and IMT MDP Alumni Status

On successful completion of the Programme, Participants shall be awarded with "Certificate of Completion" from IMT Ghaziabad and IMT MDP Alumni status.

Program & Principle Faculty

Program is India's top 6th ranked w.r.t research productivity and the course outline of Big data Analytics, and the Program director is top ten ranked faculty in India for Analytics.

Industry Relevant Curriculum

The curriculum combines Academic excellence and Industry Relevance to facilitate the participants learn basics of Analytics and Big Data, followed by in depth and advance level of statistical and quantitative analysis to help organizations in taking tough business decisions.

Flexible Pedagogy

The program creates a blended learning environment that causes minimal disruption to work schedule. The online classroom sessions keep your learning continuous, self-paced and cumulative and more enriching.

Hands on Exposure on tools

An integral part of the learning experience is the use of Analytics tools wherein the Partcipants get hands-on exposure to, R, SPARK, APACHE, HIVE, MONGODB, ZooKeeper, and many more.

Access to Analytics Lab

During the tenure of the course , Participants can visit any of the IMT Location (Ghaziabad & Hyderabad) for practice sessions at Analytics Lab.

Campus Visit

All Participants will get an opportunity to visit campus twice i.e one after 3 months of the completion of the course and second visit in the end for Project Work and Industrial visits.

PROGRAM PEDAGOGY

Classroom Learning

The program consists of 90 hours of online and offline sessions delivered by IMT faculty panel and senior professionals from the field of analytics. This ensures that the program culminates academic input infused with IMT excellence and Industry's Business relevance, thereby providing the participants with a remarkable learning experience.

Plug-n-Play

With Plug-n-learn technology, one can attend sessions from anywhere, anytime. Although sessions are live but it gives flexibility to participants to access recorded session anytime on Mobile or desktop.

Experiential Learning

Experiential learning into a data analytics class by working on an analytics project. The data sets are complex, interesting, often messy, and challenging. The hands-on learning experience sets IMT students up for success and sets them apart on the job market. This is achieved through an experiential learning format wherein participants practice exercises and assignments on software packages such as R, Big data tools and Tableau.

Industry Speakers

It combines innovative lectures, Industry-relevant curriculum and hands-on training by eminent speakers from leading analytics companies

Capstone Project

The Capstone Project gives you the opportunity to apply what you've learned about how to make data-driven decisions to a real business challenge. The project shall be mentored and evaluated by faculty from IMT. The project will be presented to the faculty board during campus visit as part of the requirement for successful completion of the program.

Class Schedule

Class Schedules are designed such that classes are conducted on weekends, thereby causing minimal disruption to work schedule.
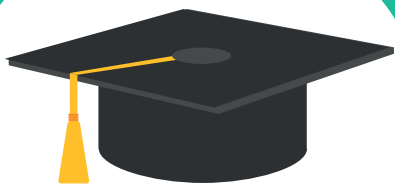
PROGRAM CURRICULUM

Introduction to Analytics, Data Base and Mining

- Fundamental of Business Intelligence, Business Analytics, Big Data
- Triangles of McKinsey, IBM. Definitions of IDC, Forrester, BCG and NASSCOM
- Importance of data management
- Database Structures- DBMS, Data Warehouse, Data Lakes,
- DB2 to Linux to window – New Path
- Basics of SAP HANA
- Introduction to Data mining & Data warehouse.
- Data Life cycle- Case Study

Data Science

- Refresher MIS
- DIKW Methodology
- Data models – Project management
- Normalization and De-Normalization.
- Overview of Distributed Computing and IT architecture
- Establishing an IT analytics Lab/Big Data Lab
- Overview of Data Warehouses
- Modelling, Data Cubes, OLAP and OLAP Market

Career In Analytics

- Career in Analytics
- Big Data Analytics
- Big Data Engineers
- Data scientist
- Profiles of systems analyst, data analyst, business analyst, data engineer, data Scientists

Data Mining
(Lab work using R and Spark)

- Data Mining and Business Analytics Model
- Classification
- Text Mining
- Clustering
- Association rule mining (Using real life examples)
- Web Mining
- CA, CHAID, CONJOINT models
- Meta data management and ETL tools
- Data Cleaning methods
- Scripting languages

Tools-
Excellence in Analytics

- Gartner Hyper Cycle Methodology
- ETL Tool Market (OWB, SAP, SAS Etc.)
- Cleaning Tools Market (TIBCO, WINPURE,DRAKE etc.)
- Big Data Tools(Hadoop, Cassandra Etc.)

Big Data

- What is Big Data, Advantages and its Structure
- International Data Corporation (IDC) on Big Data
- Elements of Big Data; 10 V's of Big Data
- Vendor Space – Apache and SNIA Servers
- Hive Architecture

Data Science Roadmap

- Framing a business question/Problem
- Understand Data and its importance
- Exploratory Analysis
- Overview of Big data Concepts (Cloudera, AWS, Twitter Storm etc.)
- Big Data Architecture, tools and Implementation
- Apache Hadoop HDFS Infrastructure
- MapReduce and yarn
- Flume, HIVE, Oozie and Zookeper

Machine Learning
## (Using R and Python)

- Historical Context: Machine learning,
- Supervised and Unsupervised learning
- Artificial Intelligence: who uses, how they use. companies who are pledging.
- Text mining
- Social media analytics. Concepts, SNA Social network analysis.
- Introduction of Neural and fuzzy networks in BIG DATA Analytics
- Genetic algorithms. PCA/Random Forest

Data Visualization
(Using Slash, Tableau and other tools)

- Data visualization introduction.
- Tools and vendor markets.
- Python's visualization tools
- Examples
- Pie Chart
- Bar Chart
- Histograms
- Mean, Median, Mode, Standard Deviation
- Box Plot
- Scatterplots
- Heat maps
- Correlation
- Time series

Case Study

Business challenges, Opportunities and risk in Big Data

- **Design thinking and Critical Analytical Thinking**
- **Business model innovation in Big Data for practicing BI, Data scientist professionals**
- **Project Work**

Tools to be Covered

A distinguishing feature of the pedagogy is the invaluable insights and exposure that participants get from leading practitioners and senior industry executives. Organizations from which experts have contributed to our lectures, projects and case studies include:
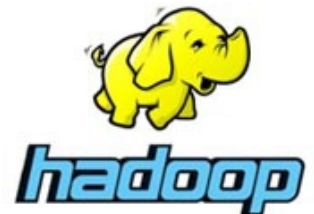
ELIGIBILITY & FEE DETAILS

Eligibility

Applicants should have Bachelor's Degree in any discipline with a minimum of 50% aggregate marks in graduation or equivalent and a minimum of three years full-time post qualification work experience.

Program Fees

For Indian Residents	**INR 80,000 + GST***
For International Students	**USD 2,000**

1st Installment	2nd Installment	3rd Installment
on registration	INR 25,000 + GST* USD 500	INR 25,000 + GST* USD 500
INR 30,000 + GST* USD 1000		

Admission Process

1 CV/Linkedin Profile submission by the applicant

2 The Profile shall be reviewed by the team for qualification, work experience and profile of the candidate

3 Shortlisted applicants shall be notified by the team and applicant proceed with admission formalities and fee payment

Nulearn

New Delhi

Recognized by :

Ministry of Commerce and Industry, Government of India

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