IMARTICUS LEARNING

What are your career goals this year?

- Master analytics and data science skills
- Learn from the best & get mentored by an industry expert
- Network with industry leaders & other like-minded professionals

POST GRADUATE PROGRAM IN

DATA SCIENCE & ANALYTICS

FRESH GRADUATE WEEKDAY TRACK

(Recent graduates or early Career professionals)

Skill India

N·S·D·C National Skill Development Corporation

Case Study Partners:

Convergytics | Kabbage | creditas | InfiniteAnalytics

www.imarticus.org

PROGRAM HIGHLIGHTS

This Postgraduate Program In Data Science And Analytics has been developed by industry experts to help you learn the applications of Data Science from scratch and build powerful models to generate useful business insights and predictions. This project-based multi-skills program has been designed for fresh graduates looking to build their career in Data Science & Analytics. Early career professionals (<3 years' experience) will also benefit from the program.

This program comes with a interview guarantee and provides complete support to prepare learners for future interview opportunities.

CURRICULUM

EXPERIENTIAL LEARNING

Engaging case studies, projects, hackathon and bootcamps for effective learning

INDUSTRY-ENDORSED CURRICULUM

Learn about popular tools and techniques used by most of Data Analysts and Data Scientists

INDUSTRY CONNECT

INDUSTRY MENTORSHIP

Dedicated industry leaders to guide you through any career-related queries and chart your career roadmap

IMARTICUS IMMERSION

Connect with industry experts and develop your professional network at Imarticus' alumni events

EMPLOYMENT ASSISTANCE

CAREER SERVICES

Supercharge your employability through mock interviews, resume building and interview preparation workshops

GUARANTEED INTERVIEW OPPORTUNITIES

Guaranteed interview opportunities with leading companies and startups

TECH-ENABLED LEARNING

SMART CLASSROOM

Learning in technologically-augmented classrooms, enhanced with live lecture recording

LMS

Exclusive access to Imarticus' learning portal for additional learning and assessments

EXPERIENTIAL LEARNING

CASE STUDIES

Our case studies are developed in partnership with both industry leaders and innovative disruptors to develop your understanding of businesses in various stages of their life cycle. Each case study covers a different aspect of the curriculum, giving you an in-depth understanding of how analytics professionals solve real business problems.

Convergytics	Kabbage	InfiniteAnalytics	creditas
Forecasting customer demand for specific product in an apparel retail store chain	Predicting the propensity of a customer to utilise credit limit for a small business lending firm	Customer Segmentation to generate insights for targeting marketing campaigns	Segmenting customers with similar propensity of repayment for a financial institution

IN-CLASS PROJECTS

This program is uniquely designed to incorporate real-world projects that cover essential data science tools and techniques. This project-based learning approach will help you understand how to solve real business problems with data science techniques.

PROPERTY VALUE PREDICTION

- → Build a predictive model to predict the property valuations
- → Learn how analytics is used by real-estate companies

REAL-ESTATE ANALYTICS

VEHICLE PERFORMANCE PREDICTION

- → Predict vehicular performance of heavy vehicles based on data collected from sensors of the vehicles
- → Learn how analytics is used by automobile/ transportation companies

AUTOMOBILE ANALYTICS

VACCINE USAGE PREDICTION

- → Predict if a patient has been given a particular vaccine based on various medical attributes
- → Learn how analytics is used by healthcare professionals/hospitals

HEALTHCARE ANALYTICS

TAXI FARE PREDICTION

- → Predict taxi fares in a busy city using various journey related attributes, just like Uber & Ola
- → Learn how analytics is used by online transportation companies like Uber & Ola

TRANSPORTATION/ LOGISTICS ANALYTICS

TARGETED MARKETING

- → Based on social data, segment your customers in order to design the right promotional campaigns for each segment
- → Learn how marketing teams use analytics for campaigns

E-COMMERCE MARKETING ANALYTICS

GLOBAL CLIMATE CHANGE ANALYSIS

- → Perform in-depth analysis to study the change of climate across all many years
- → Learn how researchers use analytics for environmental studies

ENVIRONMENTAL STUDY/RESEARCH ANALYTICS

PRODUCT PRICING OF MOBILE PHONES

- → Predict range of prices of mobile phones that can be accepted by the customers in the market, and ultimately finding appropriate product price before launching the product.
- → Learn how retail companies use analytics to set up prices for their products

RETAIL ANALYTICS

HEART DISEASE PREDICTION

- → Build a predictive model to predict if a person suffers from a heart disease
- → Learn how analytics is used by healthcare professional/hospitals

HEALTHCARE ANALYTICS

CAPSTONE PROJECT

On completion of the program, you will work on a capstone project. Through 4 weeks of extensive project work, you will solve a real business problem. The project will be evaluated by industry experts and can be showcased to prospective employers.

*These are indicative projects. The faculty can change the project for better learning experience

TRAINING METHODOLOGY

INSTRUCTION

LIVE CLASSROOM LECTURES WITH FACULTY & LEARNING MATERIAL ON LMS

Live lectures with our expert faculty supplemented by additional learning material on LMS.

Benefits:
→ In-depth understanding of concepts
→ Real-time interaction and query resolution
→ Additional self-learning at your own convenience

Used for:
Live instructions by expert faculty and additional self-learning opportunities.

REINFORCEMENT

PRACTICAL HANDS-ON LEARNING

Hands-on experience with rigorous exercises, real-world projects & case studies to solve real business problems. Participate in competitive bootcamps and hackathons.

Benefits:
→ Develop competency to solve real business problems with data science techniques
→ Develop competitive skills to stand out in a crowd

Used for:
Learning real-world applications of popular data science tools and techniques.

ASSESSMENTS

QUIZZES, ASSIGNMENTS & EXAMS

Work on quizzes and assignments to test your knowledge, along with mock interviews and exams.

Benefits:
→ Gauge your progress throughout the program
→ Identify areas of improvement and learning gaps

Used for:
Ensuring consistent progress over the course of the program and preparing for interview opportunities.

INDUSTRY ENDORSED CURRICULUM

The Postgraduate Program In Data Science And Analytics features a cutting-edge industry-aligned curriculum that covers the most popular data science tools and techniques to help you get ready for your data science career.

INDUSTRY ENDORSED CURRICULUM

FRESH GRADUATE WEEKDAY TRACK
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MODULE 1

SQL

BASIC SQL
Introduction to SQL | DDL & DML Statement | SELECT Statement AGGREGATE functions | WHERE, ORDER BY, DISTINCT, GROUP BY, LIKE, AND & OR clause | UPDATE & DELETE query

ADVANCED SQL - PART 01
JOINS | UNION, UNION ALL, INTERSECT | Using VIEWS & INDEXES | Sub Queries | NULL values & DATE function

MODULE 2

PYTHON PROGRAMMING

INTRO TO PYTHON
Jupyter Environment | Pseudocode | Using Print | Wrong usage of print
Variables | Creating a variable | Reassign a variable | Multiple variable assignment
Data Types | Data type conversion (Implicit) | Data type conversion (Explicit)
Arithmetic Operations | String Operations | Boolean Operations | String handling Concatenation | If-else, loops

PYTHON OBJECTS
What is Tuple? | Creating tuple | Tuple operations | Tuple: In-built function
What is a list? | Creating a list | List operations | List: In-built functions | List Joins
What is a dictionary? | Dictionary operations | Dictionary in-built functions
Conditional statements: if else | Conditional statements: nested if

NUMPY
What is python numpy | Functions to create array | Numpy operations - dtypes, size, shape, reshape, itemsize | Indexing array | Slicing array | Arithmetic operations on array | Arithmetic functions on array - sum, min | Concatenation of Arrays

PANDAS
Python pandas | Data structures | What is series? | Creating a series | Manipulating series | Usage if .loc and .iloc | What is a dataframe? | Creating a dataframe

DATA FRAME MANIPULATION
Manipulating dataframes | Indexing a dataframe | Read data from various sources
Concatenate the dataframes | Merge using inner join | Merge using outer join
Merge using right join | Merge using left join | Reshape using melt() function
Check for duplicates

VISUALIZATION
Plots using Matplotlib | Line plot | Scatter plot | Bar plot | Pie plot | Histogram
Box plot | Plots using Seaborn | Strip plot | Pair plot | Distribution plot | Count plot
Heatmap

EDA
Summary Statistics | Missing Value Treatment | Dataframe analysis using groupby()
Advanced Data Explorations

INDUSTRY ENDORSED CURRICULUM

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MODULE 3

STATISTICS & PROBABILITY

ABOUT DATA
Data definition | Raw and Processed data | Data Types (NOIR)

DESCRIPTIVE STATS
Measure of Central Tendency | Measure of Dispersion | Measure of Association

PROBABILITY
Basic terminology | Rules and Events | Conditional probability and Bayes theorem

DATA DISTRIBUTION
Skewness | t-Distribution | Uniform Distribution | Binomial Distribution | Poisson Distribution | Geometric Distribution | Gaussian Distribution | Standard Normal Distribution | Central Limit Theorem

INFERENTIAL STATS
Estimation technique | Hypothesis Testing (t-statistic calculations)

SAMPLING TECNIQUES
Random Sampling | Stratified Sampling

STATISTICAL TESTS
ANOVA | Chi-Square

MODULE 4

MACHINE LEARNING WITH PYTHON

SUPERVISED LEARNING

Machine Leaning Fundamentals:
ML Modelling Flow | Parametric and Non-Parametric ML Algorithm | Types of ML Performance Measures | Bias-Variance Trade-O | Overfitting and Underfitting Optimization

Linear Regression:
Linear Regression with OLS | Linear Regression with SGD | Evaluating Model Parameters | L1 and L2 Regularization | Measuring Performance Metrics

Logistic Regression:
Logistic Regression MLE | Logistic Regression with SGD | Evaluating Model Performance | Measuring Performance Metrics: Precision, Recall, AUC ROC, etc

Decision Trees:
Intro to Decision Tree | Entropy and Information Gain | Standard Deviation Reduction | Gini Index | CART and CHAID | Performance Metrics

Random Forests:
Bootstrap Sampling | Bagging (Bootstrap Aggregation) | Intro to Random Forest | Why Random Forest | Performance Metrics

MACHINE LEARNING WITH PYTHON

K-Nearest Neighbours (K-NN):
What is KNN? | KNN Algorithm | Working of KNN | How to choose the value of K (Elbow Method)

Support Vector Machines (SVM):
Understanding Vectors | Decision Boundary | Support Vectors | Understanding Hyperplane | What is Support Vector Machine | Working of SVM | Kernels and Types of Kernels | Strengths and Challenges of SVM

Ensemble Techniques:
Boosting | AdaBoost | Gradient Boosting | XGBoos

UNSUPERVISED LEARNING
Principal Component Analysis | Intro to Dimensionality Reduction | What is PCA? | Computing Components in PCA | Dimensionality Reductio using PCA

K-Means Clustering | Intro to Clustering | What is K-Means Clustering? | K-Means Clustering Algorithm | Choosing the Optimum K value (Elbow Method) | Various Distance Measures

Hierarchical clustering | Intro to Hierarchical Clustering | Dendrogram | Types of Hierarchical Clustering: Agglomerative and Divisive | Cluster Linkage

TIME SERIES
Understanding Time Series Data | Visualizing and Understanding Time Series Components | Autocovariance | ACF and PACF | Autoregressive models: AR, MA, ARMA, ARIMA | Exponential Smoothing | Holt-Winter's Model

INTRODUCTION TO DEEP LEARNING
Basics of Deep Learning | What is Computer Vision | What is Natural Language Processing

MODULE 5

R PROGRAMMING
Intallation of Libraries | Constants and Variables | Numbers | Numeric Vectors | Arithmetic operations and functions | Characters and Strings | String vector | String operations and functions | List | Different R operations using a List, matrix, Array

DATA SCIENCE WITH R

If-else | If-Then-Else | Loops | Writing an R-function (user defined function) | Named parameters | Different apply functions | Create a dataframe from scratch | Reading a datafile directly into a dataframe | Different operations on a dataframe | EDA using R | Reading different file formats | R functions for statistical analysis | ggplot2 library

SUPERVISED LEARNING
Linear Regression | Logistic Regression | Decision Trees | Random Forests | K-Nearest Neighbours (k-NN) | Supprt Vector Machines

UNSUPERVISED LEARNING
K-Means Clustering | Hierarchical clustering

INDUSTRY ENDORSED CURRICULUM

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MODULE 6

BIG DATA & HADOOP

HADOOP FRAMEWORK
Linux commands & Shell | Creating and Executing Linux Script | Introduction to Big Data | Hadoop Eco-System | HDFS Architecture | 'YARN Architecture" Map-Reduce Basics | Hive | Pig | Sqoop & Flume - Data Ingestion | Oozie | Hbase

SPARK
Introduction to Spark | Apache Spark Architecture | Components of Spark | Spark RDDs | RDD Operations: Transformations and Actions | Spark SQL Library - DataFrames | Leveraging Hive for Spark

MACHINE LEARNING WITH SPARK & REAL-TIME STREAMING
Machine Learning using Spark ML | Illustrate ML Algorithms using PySpark Into to Kafka for Spark Streaming | Apache Spark Streaming Features | Spark Streaming Workow | Streaming | Context and Dstreams

MODULE 7

DATA VISUALIZATION WITH TABLEAU AND POWERBI

TABLEAU
Intro to Tableau Interface | Connnecting to Data | Visual Analytics | Mapping | Calculations | Dashboard and Stories

POWER BI
PowerBI | Visualisation with BI | Data Analysis Expressions

MODULE 7

Resume building | Interview preparation workshops | Mock interviews | Career Mentorship | Capstone Project

MENTORSHIP

A dedicated student engagement manager and an industry mentor will guide you on the most suitable career path based on your skills and interests and resolve your career-related queries throughout your learning journey with Imarticus.
They will help you with:

ACADEMIC ASSISTANCE

- → Provide unparalleled 1:1 support and guidance
- → Help execute in-class assignments and case studies
- → Discuss and identify learning gaps and offer solutions such as refresher sessions and one-on-one project feedback

CAREER ASSISTANCE

- → Maintain close interaction with students during the career assistance and placements phase of the program
- → Talk you through industry insights and best practices
- → Provide you with interview tips and job search advice

MONITOR PROGRESS

- → Set learning goals
- → Discuss your progress status with trainers and other industry mentors on a regular basis to ensure consistent advancement

RESEARCH SHOWS THAT THROUGH MENTORSHIP YOU ARE:

20%
more likely to get a raise

5x
more likely to get promoted

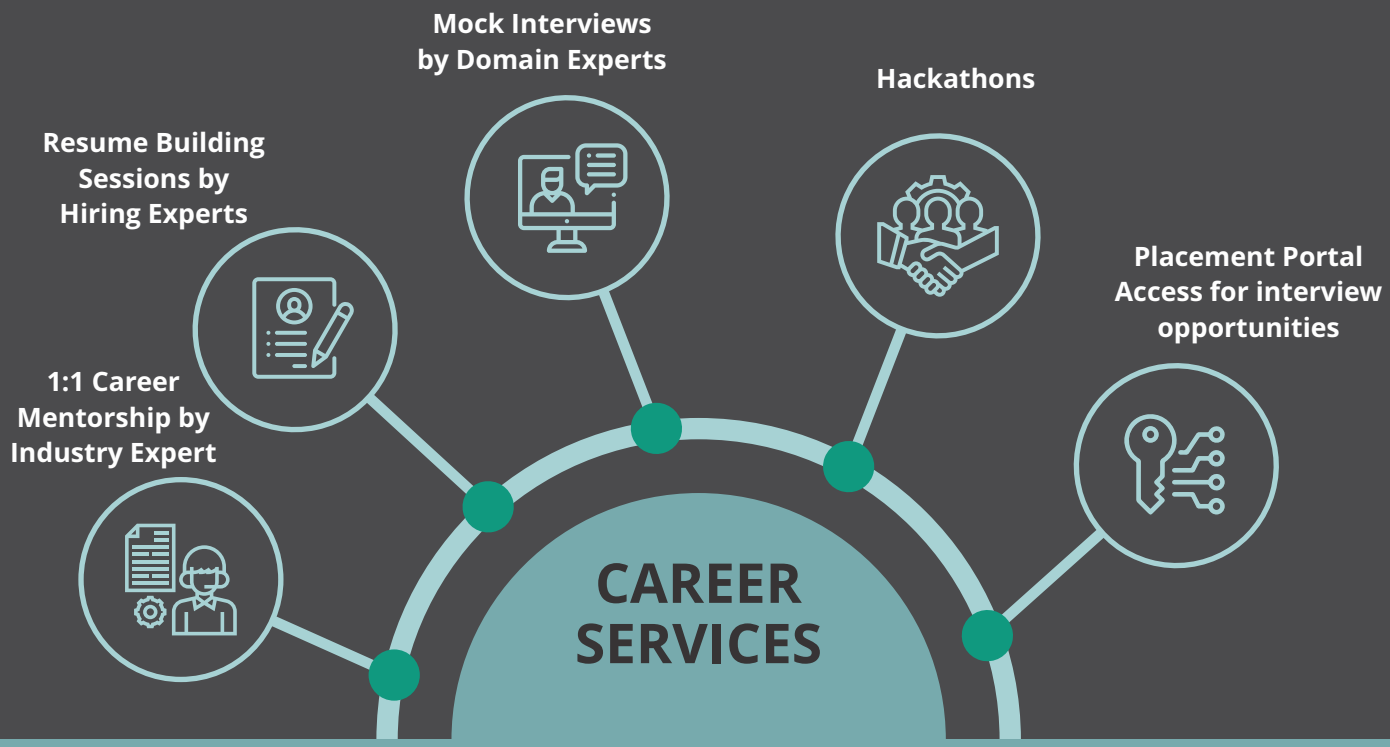
Source: Forbes

IMARTICUS IMMERSION

Imarticus Immersion is an industry-driven networking event that we organize for our students to provide them with an opportunity to:

- Network with industry veterans
- Gain valuable insights from industry speakers
- Connect with Imarticus' alumni group
- Participate in the batch convocation ceremony

CAREER SERVICES



IMARTICUS DATA SCIENCE

HACKATHON

Enter The National Level Imarticus Data Science Hackathon

- Compete to solve a challenging Data Science problem.
- Sharpen their Data Science skills - Enhance CV & Profile
- Get preferred by hiring partners.

PLACEMENT PARTNERS

WNS	genpact	citibank	Cognizant	BARCLAYS
Incture TECHNOLOGIES	ninjacart	MEDLIFE	peel-works	Nepa
Honeywell	CONCENTRIX	Mu Sigma	ADF APPLIED DATA FINANCE	capillary

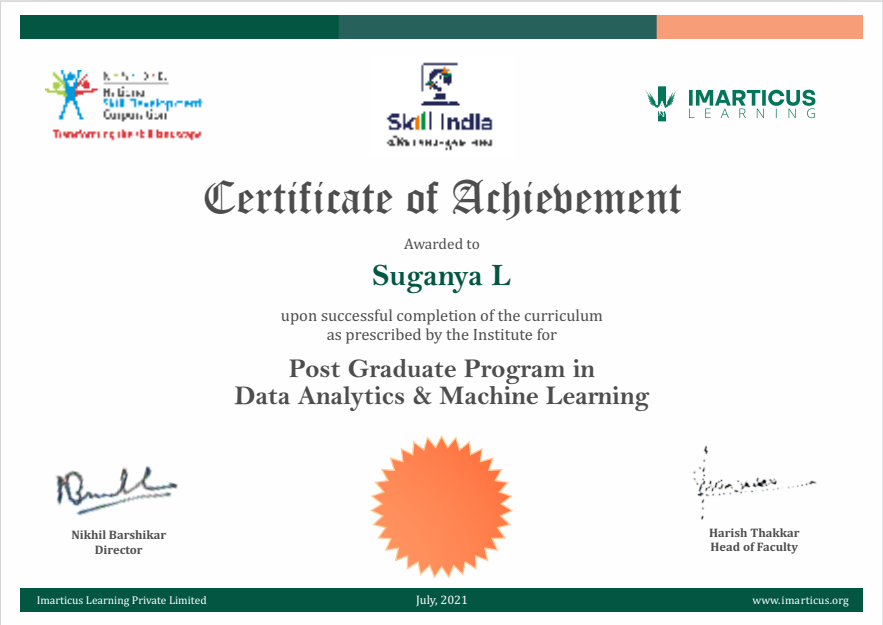
DIVERSE JOB ROLES

Students will receive guaranteed interview opportunities across diverse job roles at leading firms and start-ups.

- DATA ANALYST
- BUSINESS INTELLIGENCE ANALYST
- DATA SCIENTIST
- DATA MINING SPECIALIST
- DATA SCIENCE CONSULTANT
- MACHINE LEARNING ENGINEER
- BUSINESS ANALYTICS CONSULTANT
- RESEARCH DATA ANALYST

CERTIFICATION

On completion of the Postgraduate Program In Data Science & Analytics, aspirants will receive an Industry-endorsed Certificate of Achievement



SMART CLASSROOMS

Never Miss a Class!

All your lectures and classes are recorded and archived in our state-of-the-art learning management system. The lectures are then made available to our students to enable them to refer to the lectures and brush up on challenging concepts.

BENEFITS:

→ Digitally enhanced learning experience
→ High quality HD smart lecture recording system (get access to recorded lectures in HD quality)
→ Access recordings anytime anywhere

LEARNING MANAGEMENT SYSTEM

Our postgraduate students receive exclusive access to our hi-tech learning management system (LMS) that ensures a seamless self-paced online learning experience.

KNOWLEDGE REPOSITORY
24/7 access to high-quality self-paced content curated by industry leaders

SELF-PACED LEARNING
Anytime access to all your recorded lectures, presentations and study material

TRACK YOUR PROGRESS
Track and monitor your learning curve for the duration of the course

HONE YOUR SKILLS
Work on quizzes and assignments to test your knowledge through the LMS

OFFLINE LEARNING
Access your lectures and study material in offline mode to learn anytime, anywhere!

FACULTY

Our teaching staff comprises specialists and working professionals from renowned Financial Services and Analytics firms such as JP Morgan, Nomura, Genpact, Accenture, Citibank and Barclays and possess over 150 years of combined domain expertise that ensures your learning is industry-relevant and extremely job-specific.

4.7	4.6	4.8	4.7	4.7
Overall Rating	Experiential Learning & Practicality	Presentation Skills & Delivery	Enthusiasm for the Subject	Course Preparation & Organisation

*Indicative faculty profiles:

DR. D. PRADEEP KUMAR | Data Science | Machine Learning | Data Mining

Dr. D. Pradeep Kumar holds over 6 years of research experience in Machine Learning, Data Mining, Soft computing, Time Series Forecasting and related topics and over 3 years of full-time teaching experience at an autonomous engineering college. Dr. Pradeep is a qualified UGC-NET lectureship and GATE CS.
His specialties include research and development of various soft computing hybrid models of time series forecasting and applying them in banking and finance and related domains; Learning new programming languages and programming the solutions of different problems.
Dr. D. Pradeep Kumar has been nominated by Analytics India Magazine as one of the top 10 most prominent Data Science academicians in India.

VINAY BORHADE | Python, ML, Deep Learning and R Programming

Vinay's tech expertise includes AI – Machine Learning, Python, PL-SQL, and Big Data – Netezza, Java/J2EE. Having served more than 10 years with Bank of America (Merrill Lynch), he has worked on projects like Finance, Liquidity and Capital Risk (Regulatory Reporting) and has won repeat business from clients for BOA using technologies like Machine Learning, Capitalize: Data Analytics, Quartz, Python, IBM Netezza, Oracle (Hexadata). Vinay started his Career with Patni Computer Systems and Zinc as Sr. Software Engineer and has gained knowledge and expertise in BFSI domain. He is a B.E in computers from Mumbai and has strong techno-functional skills.

ARUNKUMAR NAIR | Artificial Intelligence | Machine Learning | Python | Big Data

Arunkumar has over 19 years IT experience in Big Data Analytics, Data Visualization Data Warehouse, ,24X7 DBA, Cloud and application projects and 2 years of onsite experience in the USA and the Middle East. He holds extensive hands on technical expertise, architecture and provided solutions and has the ability to give technology vision, ramp-up and manage large teams. He has Worked for clients like Rocky Mountain, Navteq(Nokia), M&T Bank, WeightWatchers, Hollywood Media, SHRM USA. Arunkumar is passionate about Analytics because he can drive emerging Big Data technology and align it with business growth.

SRIRAMAN RAJAGOPALAN | Business Analytics | Big Data | Machine Learning

Sriraman has over 20 years of experience in the domains of business analytics, big data and machine learning. The first 15 years of his career were in the IT/IT-ES sector where he worked as a CRM technical-functional consultant. Over the last 5 years, he has worked as an independent analytics consultant for various corporate clients, where he has developed and deployed multiple analytics projects.

INDUSTRY OVERVIEW

In 2019, the Analytics industry grew to **$3.03 BILLION** in size and is expected to double by **2025 –** Analytics India Magazine

India's data science jobs will **grow by 62%** WITH **1.5 lakh** opportunities in **2020 –** Business Insider

Currently, **70%** of job postings are for data scientists with less than **5 years** of work experience

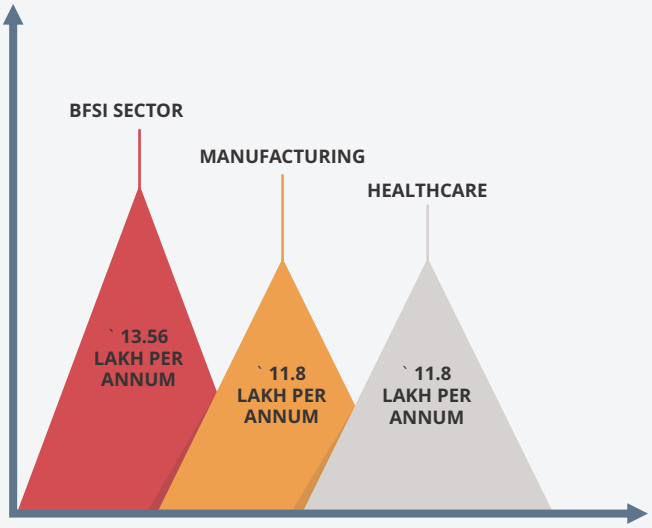
In 2019, close to **97,000** positions related to analytics and data were vacant owing to lack of qualified talent.

Cumulative analytics market in India stands at **$30 Billion**

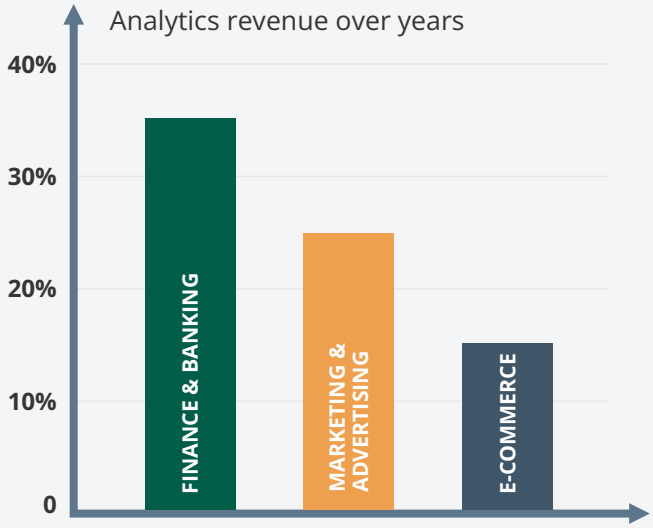
Outsourcing is the main driver of revenue amounting at **$27 Billion**

Domestic Analytics market in India stands at **$3.03 Billion**

THE AVERAGE SALARY OF DATA SCIENCE PROFESSIONALS



ANALYTICS REVENUE DISTRIBUTION ACROSS INDUSTRIES



PLACEMENT OVERVIEW

Imarticus Analytics Placement Snapshot

Highest salary –	Average Salary –	Students placed –	Hiring partners –
15 LACS	5.5 LACS	4500+	400+

SUCCESS STORIES

Aakash

Sapient

Ridhhiman Roy

TRANSORG

Vidit Bhardwaj

VIRTUALEMPLOYEE

Lipsa Saini

SysSoft

Anvita Baldi

BRANDSCAPES WORLDWIDE

Ashish Kumar

ERNST & YOUNG

"From Aspirations to Achievements"

TOP RECRUITERS

amazon	Walmart India	Infosys	Sapient	genpact
KPMG	TATA CONSULTANCY SERVICES	WNS	Kabbage	ninjacart
MEDLIFE	EY Building a better working world			

Student Reviews

Speaking about my experience, I really loved and enjoyed every step of learning Data Science with Imarticus. Continuous engagement in the deliverance of important knowledge with simultaneous practical exposure made me compatible with the learning experience. The curriculum is extremely *informative and outstanding by nature. Their learning atmosphere is highly unique. The trainers and the professors are equally supportive and are eager to clear your doubts and lacunas. By doing the Data Analytics course here, I secured a job for me.*

- Karen Soares

Placed at: peel-works

I believe Imarticus Learning is a great and outstanding institute. One who is looking forward to kick-start his or her career in Data Analytics needs to go for Imarticus. Their teaching faculty is highly experienced and deliver the knowledge effectively. Not only the curriculum is extensive and informative, but you get to work on the real-world problems related to Data Analytics. Whenever any doubts or confusion arises, you will find yourselves accompanied by an experienced faculty to solve the problems.

- Febin George

Placed at: Infosys

Admission

The Postgraduate Program In Data Science & Analytics program is ideal for fresh graduates as well as early career professionals (<3 years' experience) who are interested in building a career in data science and analytics industry.

ELIGIBILITY

Individuals with graduate or post graduate degree, preferably in Information Technology, Engineering or Mathematics. The applicants should have achieved 60% or above in Xth, XIIth and Bachelor's degree.

ADMISSION PROCESS

STEP 1
Basic qualification check:
Academic certificates

STEP 2
Pre-assessment:
Online aptitude test

STEP 3
In person interview:
Communication, motivation