

POST GRADUATE PROGRAM IN **DATA SCIENCE & ARTIFICIAL INTELLIGENCE**

Data Science Certificate

In Collaboration With:

UCLA **Extension**

Do your near-term
career goals look
like these?



Become a Machine Learning & AI expert



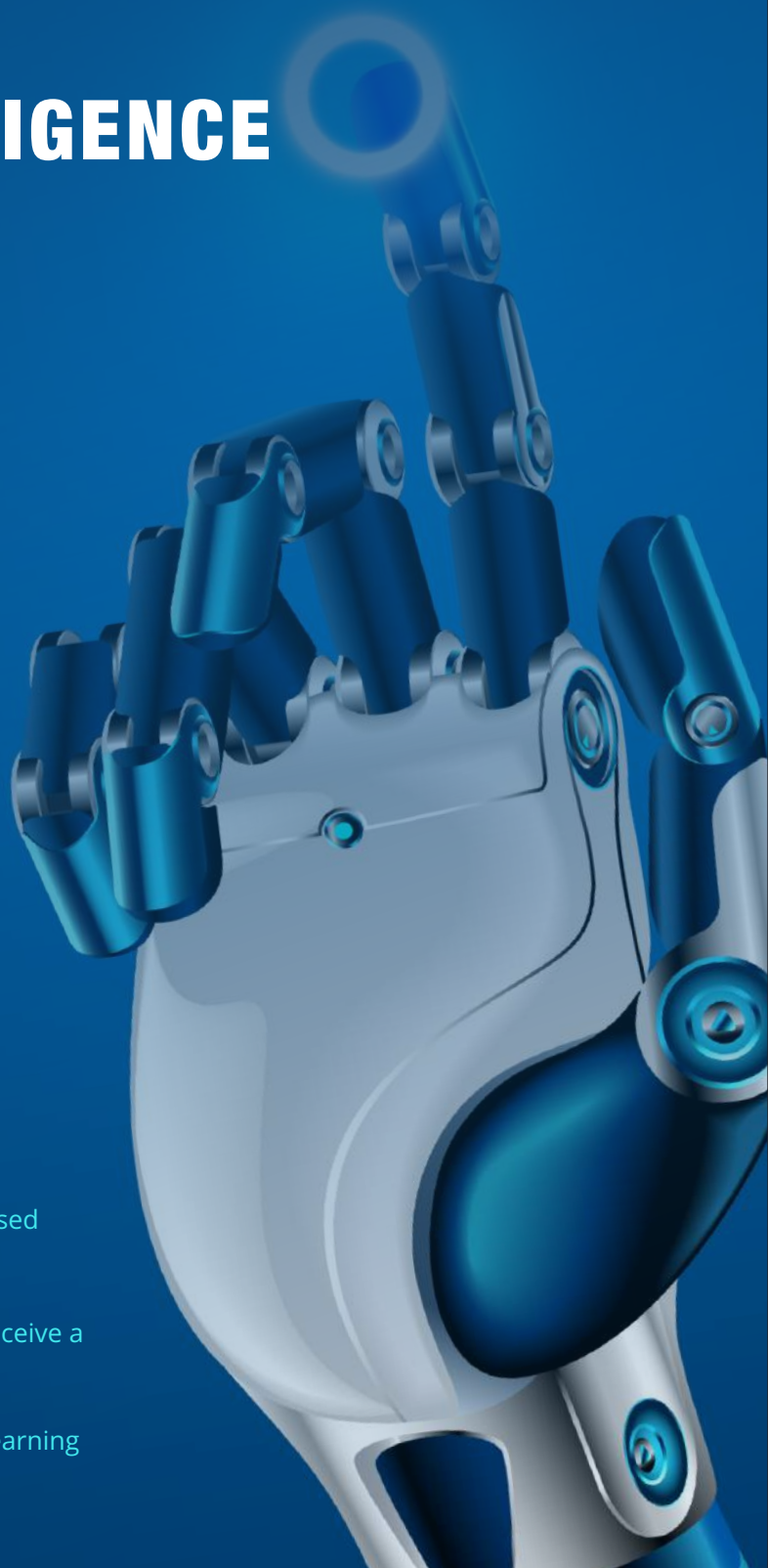
Learn the most popular tools and techniques used
by Machine Learning professionals



Secure an industry-relevant qualification and receive a
UCLA Extension Gold-Seal Certificate



Build an extensive Machine Learning & Deep Learning
project portfolio







ABOUT UCLA EXTENSION

With a century-old legacy of educational excellence, UCLA Extension is one of the oldest, largest, and most respected Higher Education Providers in the United States, and is routinely ranked among the top public Universities in the US. Striving to introduce internationally-recognized professional education to the MENA region, we bring you a comprehensive tech-enabled Data Science Fundamentals learning module delivered by world-class UCLA Extension Instructors and industry experts.

After completing our Post Graduate Program in Data Science & Artificial Intelligence, not only do you receive a Gold-Seal Certificate from UCLA Extension, you will also become a member of UCLA Extension's community of global alumni. You will gain unrestricted access to extensive professional networking and career advancement opportunities reserved solely for UCLA Extension alumni members, as well as add considerable value to your resume.

ABOUT THIS PROGRAM

The Post Graduate Program in Data Science & Artificial Intelligence is an industry-aligned training program that focuses on the practical applications of Machine learning and Data Analytics, transforming you into a highly-skilled job-ready professional in the process. Supercharge your practical industry knowledge and accelerate your entry into the roles of Data Scientist, Data Analyst or AI / ML Engineer with this state-of-the-art project-based PG program. Once done, you'll be adept at dealing with different types of structured and unstructured data to solve critical business problems using Data Science, Analytics, AI & ML. You will also learn to leverage key elements of AI - Natural Language Processing & Computer Vision.

CURRICULUM

INDUSTRY-ENDORSED CURRICULUM

Master the popular tools & techniques used by Machine Learning professionals, through multiple lab sessions, bootcamps, and hackathons

UCLA EXTENSION GOLD-SEAL CERTIFICATE

Learn Data science Core Modules from University of California, Los Angeles (UCLA) Extension

INDUSTRY CONNECT

INDUSTRY MENTORSHIP

Guest lectures & mentorship sessions teach you cutting-edge techniques to solve complex business problems

IMARTICUS IMMERSION

Connect with industry experts & develop a professional network at Imarticus' alumni events

EMPLOYMENT ASSISTANCE

CAREER SERVICES

Enhance your employability through hackathons, mock interviews and interview preparation workshops

TECH-ENABLED LEARNING

SMART CLASSROOM

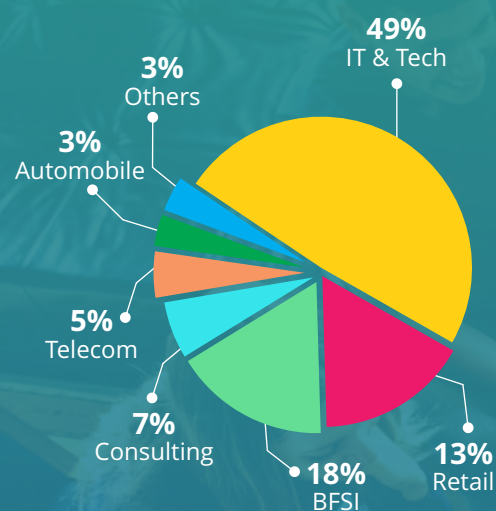
Learn in technologically-augmented classrooms, enhanced with live lecture recording

LMS

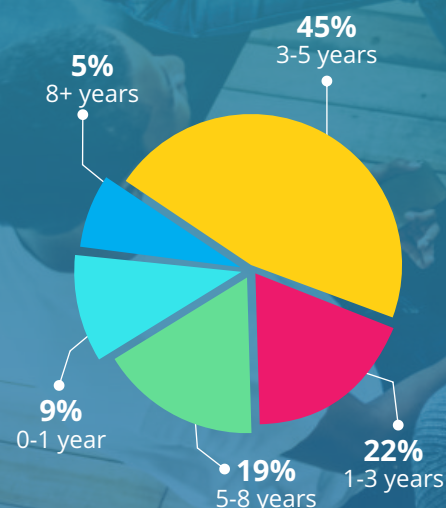
Get access to our state-of-the-art LMS portal to track your learning journey and revisit challenging topics

DIVERSE BATCH PROFILE

INDUSTRY



WORK EXPERIENCE



**Profile of previous Imarticus PGAA batches*

EXPERIENTIAL LEARNING

IN-CLASS PROJECTS

This world-class professional training program is designed in a truly unique way, incorporating real-world projects that cover essential Analytics & AI tools and techniques. This project-based learning approach will help you internalize key industry practices and learn how to practically apply various Analytics & AI concepts in real-business scenarios efficiently.

1

Real Estate Price Prediction using Linear Regression

2

Bankruptcy Prediction using Logistic Regression

3

Identifying Good and Bad Customers for Granting Credit, using Decision Trees

4

Forecasting the Sale of Furniture of a Superstore, using Time Series

5

Predicting Term Deposit Subscriptions for a Bank, using Decision Tree and Random forest

6

Predicting occurrence of Breast Cancer, using KNN

7

Predicting House Prices using Real Estate Data, using Linear Regression

8

Classifying Type of Flower based on Botanical Data, using Logistic regression

9

Predicting the Close Value of a Financial Firm's Stock, using Neural Network

10

Predicting Brand of a Car by its Specifications, using K-Means Clustering

11

Predicting Credit Card Default for a Bank, using SVM

12

Building image classification model to identify hand-written digits in an image, using CNN on TensorFlow

13

Calculating the estimated probability of credit default to manage the risk of a bank, using ANN on Keras

14

Classifying consumer complaint of a number of products, using RNN

15

Classifying music in different genres, using LSTM

16

Object detection, using Computer Vision

17

Sentiment analysis, using NLP

*Some of these projects might change during the course.

HOW WILL YOU LEARN?

Online Learning & live training by UCLA Extension

Industry-Oriented Projects

Hackathon/Capstone Project



Live instructor-led training by Imarticus

Assignments and assessments

Placement Preparation Workshops

TRAINING METHODOLOGY

INSTRUCTION

SELF-PACED INTERACTIVE LEARNING & LIVE LECTURES



Learn Data Science Fundamentals through online videos and live virtual sessions from the UCLA Extension faculty, followed by live classes with expert faculty from Imarticus Learning.

Benefits:

- In-depth understanding of concepts
- Real-time interaction & query resolution
- Hands-on experience

Used for:

Live instruction by expert faculty and hands-on practice.

REINFORCEMENT

PRACTICAL HANDS-ON LEARNING



Hands on experience with real-world projects to solve critical business problems. Participate in bootcamp & hackathon.

Benefits:

- Develop competency to solve business problems through machine learning techniques
- Be job ready from Day 1

Used for:

Learning real-world applications of key tools and techniques used in the industry.

ASSESSMENTS

QUIZZES, ASSIGNMENTS & EXAMS



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

Benefits:

- Gauge your progress throughout the program
- Identify areas of improvement and learning gaps
- Build confidence for the program's placement phase

Used for:

Ensuring consistent progress over the course of the program and preparing for placements

INDUSTRY ENDORSED CURRICULUM

Our Post Graduate Program in Data Science & Artificial Intelligence features a cutting-edge industry-aligned curriculum that offers a perfect blend of statistical, technical and businesses knowledge. The curriculum has been designed in consultation with multiple industry leaders to ensure that you learn exactly what employers need. The Data Science Core Modules have been developed in collaboration with UCLA Extension and will be delivered by their world-class instructors.

PREP MODULE

INTRODUCTION TO PYTHON PROGRAMMING

2 WEEK

- Data Science Basics
- Intro to Python Programming
- Python Objects and Functions
- Python Library: Numpy
- Python Library: Pandas
- Introduction to Data Visualization

MODULE 01

INTRODUCTION TO DATA SCIENCE

In Collaboration With:

UCLA Extension

5 WEEK

- Managing Data, SQL Programming
- EDA with DML (SQL)
- Statistics Thinking
- Story Telling & Visualization
- Tableau
- Python and SQL
- Regression and Clustering

MODULE 02

EXPLORATORY DATA ANALYSIS & VISUALIZATION

In Collaboration With:

UCLA Extension

5 WEEK

- R workspace environment
- Data Basics, Univariate and Bivariate Graphs
- Regression, Transformations
- Multi-variate Graphs, Multi-variate Regression
- Merging and Reshaping Data, Missing Variable Bias
- Clustering
- Tableau

MODULE 03

BIG DATA MANAGEMENT

In Collaboration With:

UCLA Extension

5 WEEK

- Introduction to Big Data
- Data Lake, Data Warehouse, Cloud
- Simulating the cloud using Docker
- Apache Spark and Delta Lake
- Big Data Application Development
- Data Engineering
- Delta Tables

MODULE 04

MACHINE LEARNING WITH PYTHON

In Collaboration With:

UCLA Extension

5 WEEK

- Data science, data cleaning & management
- Python, Anaconda, Spyder, Jupyter
- Machine Learning
- Linear Regression
- Logistic regression, classification models
- Cross validation, regularization, and model selection
- Tree models, random forest
- Naïve Bayes, SVM, ANN, Time Series
- Unsupervised learning: PCA, K-means clustering
- Introduction to deep learning, Tensorflow
- AI, Text analysis
- Predictive analytics

MODULE 06

NATURAL LANGUAGE PROCESSING (NLP)

2 WEEK

- Introduction to NLP
- Sentence Segmentation & Tokenization
- Stemming, Lemmatization
- Part of Speech, Named Entity Recognition
- Stop Words Removal (English)
- NLTK
- Extracting Features from Text
- Bag-of-Words(BoW), TF-IDF
- Naïve Bayes Classifier
- spaCy
- Support Vector Classifier

MODULE 05

DEEP LEARNING

6 WEEK

- Deep Learning Basics
- Neural Networks
- Artificial Neural Network (ANN)
- KERAS
- Tensorflow 2.0
- Convolutional Neural Network (CNN)
- Recurrent Neural Network (RNN)
- Deep Learning Applications

MODULE 07

COMPUTER VISION

2 WEEK

- Image Formation
- Image Processing
- Image statistics & Histogram
- Harris Corner Detector
- Object Detection with HoG
- Stream Video Processing with OpenCV
- Convolutional Neural Network
- Convolution Operation, Padding, Pooling
- CNN in Keras
- Transfer Learning
- ImageNet
- VGGNet (VGG16)

MODULE 08

CAREER SUPPORT

2 WEEK

- Resume building
- LinkedIn profile
- GitHub Project Portfolio
- Interview Preparation
- Mock Interview

CAREER SERVICES

The Career Assistance Services (CAS) team works hand-in-hand with you from the first placement session during the program launch right until the final mock interviews on course completion. We thoroughly prepare you to be interview-ready and ensure you land your dream job.



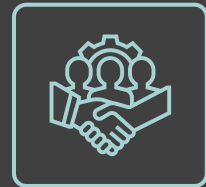
**1:1 Career
Mentorship by
Industry Experts**



**Resume Building
Sessions by
Hiring Experts**



**Mock Interviews
by Domain
Experts**



















Hackathons

TOP RECRUITERS



... and more

WHAT CAREER TRANSITION CAN I EXPECT?

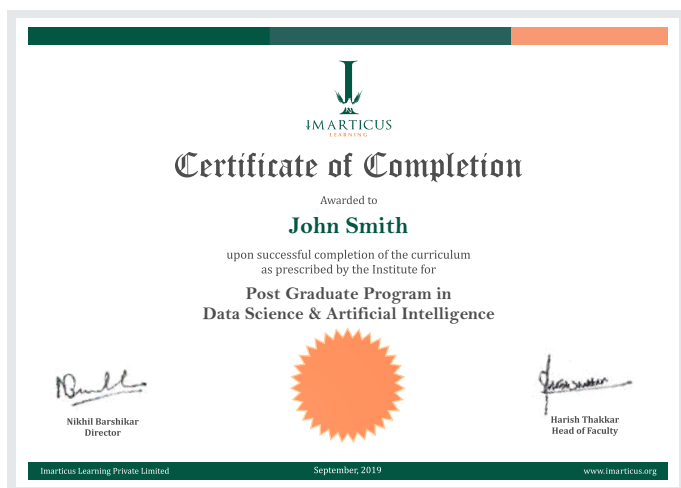
 Thejus Gowda Operations Executive AFTER IMARTICUS Machine Learning Engineer 	 Kirthi Tej Yendloori Fresher, Bachelor of Engineering AFTER IMARTICUS Machine Learning Engineer 	 Srushti Karvekar Data Analyst Intern AFTER IMARTICUS Machine Learning Engineer 	 Gaurav Deshmukh Fresher, Bachelor of Engineering AFTER IMARTICUS Data Scientist 
 Akshay Mohan Business Developer AFTER IMARTICUS Data Scientist 	 Md Saif Ali Senior Associate AFTER IMARTICUS Data Scientist 	 Rishikesh Nimbalkar Fresher, M.Sc. AFTER IMARTICUS Data Scientist 	 Krishnan Venkataraman Software Engineer AFTER IMARTICUS Data Scientist 

CERTIFICATE

On successful completion of this course, you will receive:

1.

Post Graduation Program in Analytics
and AI Certificate



2.

Data Science Program -
Gold-Seal Certificate from UCLA Extension



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 lecture recordings anytime, anywhere

LEARNING MANAGEMENT SYSTEM

Our postgraduate students receive 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 videos 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!

INSTRUCTORS

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

Overall Rating

4.6

Experiential Learning
& Practicality

4.8

Presentation Skills &
Delivery

4.7

Enthusiasm for the
Subject

4.7

Course Preparation
& Organisation



BRUCE HUANG, PH.D.

Instructor From: **UCLA** Extension

Dr. Bruce Huang is Director and Continuing Educator for the UCLA Extension department of Digital Technology. Bruce has helped develop and implement the Data Science certificate program at UCLA Extension, and regularly teaches courses within the program, including those in intensive format. In addition to his work with UCLA Extension, Bruce is the Founding Director of the UCLA Silicon Beach Innovation Lab and Professor of Engineering Entrepreneurship at the UCLA School of Engineering. Bruce is a serial entrepreneur in technology and education – he founded his first entrepreneurial enterprise at the age of 14. He an alumnus of University of Texas and Massachusetts Institute of Technology (MIT), and continues to serve on the Education Council at MIT. His overall work encompasses his passion about higher education and its intersection with entrepreneurship.



BIANCA CUNG

Instructor From: **UCLA** Extension

Bianca Cung received her undergraduate and Master's degree training in Statistics at UCLA. Thereafter, she completed a doctoral degree in Education from the University of California, Irvine. Technology and previous work on computer learning software inspired Bianca to eventually begin working in online education, and her passion for data analytics brought her to teach programming and data science courses at UCLA Extension. Bianca's research interests are media and technology for education, international education, diversity and equity, STEM, second language acquisition, and statistics. While she enjoys analyzing and working with large datasets, she also enjoys helping others get started with their investigations. For her, the most rewarding thing about teaching is seeing students be able to apply newly acquired skills and create noteworthy projects.

****Indicative Faculty Profiles**

INSTRUCTORS



DR. WILLIAM YU

Instructor From: **UCLA** Extension

Dr. William Yu joined the UCLA Anderson Forecast in 2011 as an economist, focusing on the economic modeling and forecasting of Los Angeles economy. He also analyzes the U.S. and Chinese economy and writes the quarterly U.S.-China economic report. His research interests encompass a wide range of economic and financial issues, such as time series econometrics, data analytics, housing markets, human capital, and innovation.

William received his bachelor's degree in finance from National Taiwan University in 1995 and was an analyst in Fubon Financial Holding in Taipei from 1997 to 2000. In 2006, he received his Ph.D. degree in economics from the University of Washington where he was also an economics instructor and won two distinguished teaching awards. In 2006, he worked for the Frank Russell Investment Group for Treasury and corporate yields modeling and forecasting. From 2006 to 2011, he served as an assistant and an associate professor of economics at Winona State University.

Currently, he teaches courses at UCLA Anderson School of Management and UCLA Extension in data science and predictive analytics. In 2019, he received the distinguished instructor award for digital technology from UCLA Extension. He also serves as a faculty advisor in Anderson's Applied Management Research field study program.



JOSHUA COOK

Instructor From: **UCLA** Extension

Joshua Cook is a UCLA Extension data science and digital technology course instructor, as well as a Staff Curriculum Engineer with Databricks where he specializes in designing and implementing reference applications for processing large volumes of data and building analytical models over high-dimensional datasets. In previous roles, he has deployed predictive automobile traffic machine learning models and JupyterHubs capable of supporting 100s of users. He is also the author of the book Docker for Data Science (Springer/Apress, 2017).

Joshua Cook is a UCLA Extension data science and digital technology course instructor, as well as a Staff Curriculum Engineer with Databricks where he specializes in designing and implementing reference applications for processing large volumes of data and building analytical models over high-dimensional datasets. In previous roles, he has deployed predictive automobile traffic machine learning models and JupyterHubs capable of supporting 100s of users. He is also the author of the book Docker for Data Science (Springer/Apress, 2017).

INDUSTRY LANDSCAPE

SPEED OF AI IMPLEMENTATION

New AI technologies are being introduced at an incredibly fast pace and it can be difficult to keep up. At this point in time, only a handful of people truly understand all of the implications these quickly evolving technologies will have for our world.

COLLABORATION BETWEEN PRIVATE AND PUBLIC SECTORS

Research and development of AI should not only be taken place in large tech companies. Instead, there needs to be strong and open collaboraton internationally, as well as between companies of all sizes, and between the public and private sectors.

POTENTIAL IMPACTS ON SOCIETY

It's hard to imagine the sheer number of things that AI will be able to improve, transform or create, as we begin to apply it to so many different areas of life.

COMMUNICATION OF ADVANTAGES AND OPPORTUNITIES

People who work for tech companies tend to offer the most positive outlook on the future opportunities that will be afforded by AI. However, outside of that sector, people often have negative impressions about AI technologies due to a lack of understanding.

ETHICAL DEVELOPMENT

As we prepare for the growth of AI, we need to push companies to develop new technologies ethically and responsibly, to better serve humanity and improve standards of living around the world.

LEGAL IMPLICATIONS WORLDWIDE

In almost every country, laws and regulations will need to be reviewed and updated to incorporate the new trends of the AI era.

WHY AI IS CRITICAL IN 2020 AND BEYOND

PRIORITIZING OF AI BY EVERY LARGE TECH COMPANY

Even Google, a company that used to say that mobile was its first priority, has shifted its focus toward AI. Nearly every tech company is heavily investing in AI research and development.

SHORTAGE OF KNOWLEDGEABLE WORKERS

Because AI is growing so rapidly, there is a great need for more data scientist, machine learning experts, and other technical professionals who can build out AI solutions and services.

COMPETITIVE ADVANTAGES FOR COMPANIES WHO FIRST APPLY AI CORRECTLY

Both big and small companies can apply AI, and those who do it first, and correctly, will enjoy stunning competitive advantages.

DIVERSE JOB ROLES

Our students receive placement opportunities across diverse job roles at leading firms with a salary hike of 40% to 80%.



DATA SCIENTIST



DATA SCIENCE ENGINEER



MACHINE LEARNING ENGINEER



ARTIFICIAL INTELLIGENCE ANALYST



DATA ANALYST



MACHINE LEARNING CONSULTANT



BUSINESS ANALYTS



WEB & SOCIAL MEDIA ANALYST

IMARTICUS ANALYTICS PLACEMENT SNAPSHOT



15,000+

Students Trained



60%

Average Salary Hike



400+

Hiring Partners

SUCCESS STORIES



AAKASH



RIDHHIMAN ROY



VIDIT BHARDWAJ



LIPSA SAINI



ANVITA BALDI



ASHISH KUMAR



"From Aspirations to Achievements"

Admission

Our Post Graduate Program In Analytics & Artificial Intelligence is ideal for experienced professionals who want to succeed in the Data Science, Analytics & AI industry, as well as those who are keen on enhancing their practical skills and business understanding of Data Science, Analytics, AI, Machine Learning & Deep Learning. It is also perfect for recent Graduates who want to launch New Age careers in Data Science, Analytics, Machine Learning & AI.

WHO IS THIS COURSE FOR?

This is an ideal course for Engineers, Software/IT Professionals, Data Professionals and Professionals with strong domain experience.

The candidate should have basic knowledge of programming and mathematics.

Admission Process

STEP 1

BASIC QUALIFICATION CHECK:
Academic certificates

STEP 2

PRE-ASSESSMENT:
Online aptitude test

STEP 3

IN PERSON INTERVIEW:
Communication,
motivation



www.imarticus.ae/data-science | 