Dhirubhai Ambani Institute of Information and Communication Technology
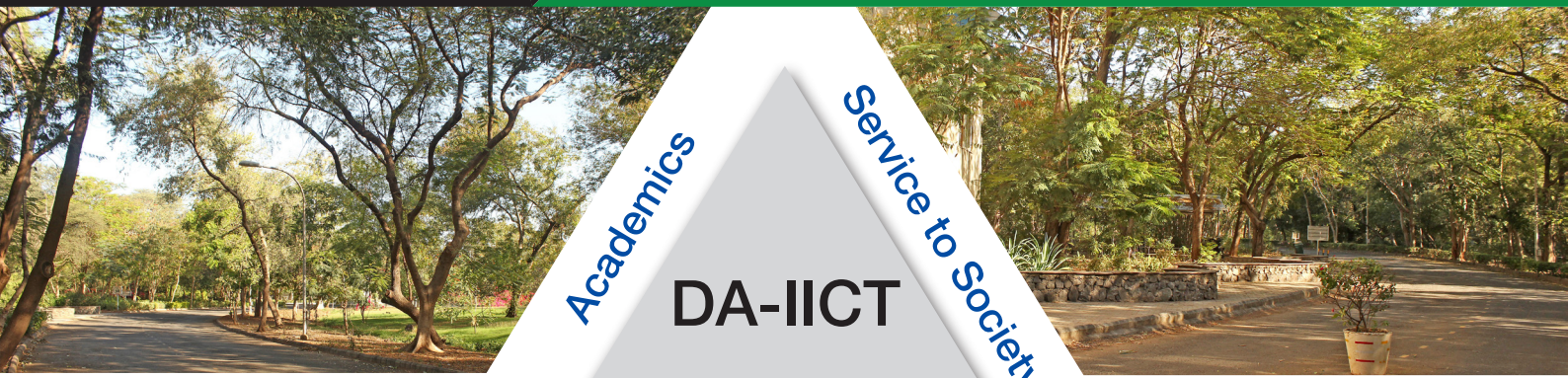
DA-IICT

ENGINEERS WITH
SOCIAL RESPONSIBILITY

MSc. in
Data Science

Academics

Service to Society

DA-IICT

Research & Innovation

OBJECTIVE OF THE PROGRAMME

With the advent of digital revolution most of the organizations are deluged with humongous volume of data in the structured and unstructured form. Globally the organizations are facing a huge challenge in converting the information into knowledge for making better decisions. Building skills in data science is thus increasingly valuable for organizations. Data science is poised to infiltrate all organizations. Organizations at the frontier of knowledge have begun taking advantage of data science to grow and transform their strategies. A deep understanding of data science, and its role in business is now essential for the leaders to position their organizations, given that the upcoming wave of competition is going to be based on this new science. They need to identify the opportunities for data science to be used profitably, to understand its implication in the business and plan its implementation. Thus, for a forward-looking organization, it is essential to invest in building capabilities in data science to survive and grow. DA-IICT being an eminent institute in the ICT domain considers it appropriate to design and offer a master's programme in Data Science to produce highly skilled bright young industry-ready data scientists to cater to the needs of the data focused organizations.

PROGRAM CONTENT

The program offerings comprise courses of three broad types: foundational courses on statistics, mathematics and computer science including database management and programming in Python and R; advanced courses on machine learning, deep learning, artificial intelligence, big-data storage and processing, optimization, data visualization, time-series analysis, multimedia data analysis; finally, a one semester internship with an industry or with a faculty on a cutting-edge research problem in data science. The program also includes value added courses to make the student industry ready.

As the participants in the program come from varied academic backgrounds, it is important to bring every student on the same level playing field. Keeping this in view, the foundational courses are offered in the first semester. In the second and the third semesters, the advanced level courses are offered. Value added courses are offered during the summer break. Finally, the internship happens in the last semester.

PEDAGOGY

The program relies on a wide range of teaching methods including lectures, tutorials, case studies, lab exercises, and projects throughout the year. The program's emphasis is on learning by doing and this is imparted in the form of mini-projects and case-studies.

PARTICIPANTS

Science (Statistics, Mathematics, Physics)/ IT/ Computer Science/ Data Science/ Economics/ Engineering Graduates or its equivalent with good mathematical aptitude, basic programming skills and inclination to pursue a career in data science.

Professionals who are interested in upskilling in the field of data science.

OUTCOME OF THE PROGRAM

On completion of the program the participants would
- Acquire a strong foundation in data management and data analysis
- Be well-versed with state of the art Data Analytics tools & techniques
- Demonstrate skills to formulate and solve real-life problems using data
- Develop data driven decision making skills and be equipped to apply technology in Business
- Demonstrate a critical awareness of the current areas of business where data science is applied

PROGRAM STRUCTURE

AUTUMN SEMESTER (Semester-1)
Course Name
- Mathematical Foundation for Data Science
- Data Structures and Algorithms *(Lab:Python)*
- Statistical Methods *(Lab:R)*
- Programming Lab
- Introduction to Database Management

WINTER SEMESTER (Semester-2)
Course Name
- Machine Learning
- Numerical Methods for Data Science
- Big-Data Processing
- Mini Project -1
- Optimization
- Technical Elective-1

*Mini Project (to be executed in phases 1,2,3) will start in second semester and will continue till the end of third semester. Mini-project (1,2,3) will be done under the supervision of the same faculty member. Students are expected to work on Mini Project during summer semester also.

SUMMER BREAK
Value Added Courses (Compulsory) – Pass/Fail

The students are required to have a Pass grade of Value Added Courses, which would be offered in the Summer Semester after their second semester. The Value Added courses can have multiple modules with a minimum of 60 hrs of training covered from different modules.

AUTUMN SEMESTER (Semester-3)
Course Name
- Deep Learning
- Interactive Data Visualization (*Lab:Tableau)*
- Open Elective-1
- Technical Elective-2
- Mini Project-2
- Mini Project-3

WINTER SEMESTER (Semester-4)
On-Campus Projects / Industry Internship

Technical Electives in the areas of
- Image Processing
- Speech Processing
- Computer Vision
- Natural Language Processing
- Financial/ Business Data Analysis
- Computational Finance
- Information Retrieval
- Social Media Analytics
- Security
- Cloud Computing
- Data Warehousing and Data Mining
- Statistical Foundation for Data Science

Total Seats - 60

Tuition fee: Rs. 1,25,000 per Semester (2023)*

* For Admission Process/ Eligibility/ Fee Structures/ Important Dates - visit: **www.daiict.ac.in**

Education Loan: The Institute will facilitate the students to avail educational loans from selected Banks.
Financial Support: The Institute will award a limited number of Merit-Cum-Means Scholarships to the admitted students based on their academic performance and annual income of their parent(s)/guardian(s). The Financial Assistance to the students shall be as per DA-IICT norms.

For Inquiries: E-mail: pg_admissions@daiict.ac.in   Voice Call: 080 66 91 91 80

THE FACULTY

The institute has around 80+ full time, visiting and adjunct faculty members. Almost all are Ph.D.'s from reputed institutes in India and abroad. They represent disciplines like Mathematics, Statistics, Computer science, Physics, Data Science, Computational Science, Communication, Signal Processing, Electronics, Design, Humanities and Social Sciences.

The faculty members excel in both teaching and research. Many of them are involved in national/ international collaborative research projects and some are engaged in consultancy projects with industries.
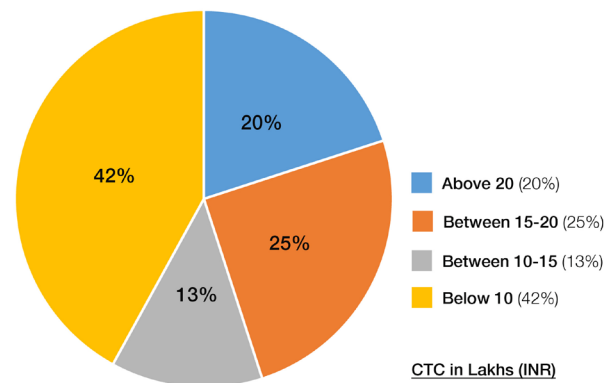
For details see the link:
https://www.daiict.ac.in/faculty

PLACEMENTS

Campus placements at DA-IICT provide the students with a foot-in-the-door opportunity, enabling them to start off their career right after they have completed their course curriculum. The Placement Cell plays a crucial role in locating internship and job opportunities for Graduates passing out from the institute by being in touch with reputed firms and industrial establishments. The Placement Cell operates round the year to facilitate contacts between companies and graduates.

http://placement.daiict.ac.in/

M.Sc. (DS) (2020-22 Batch)
PLACED STUDENTS STATISTICS

- 20%
- 25%
- 13%
- 42%

- Above 20 (20%)
- Between 15-20 (25%)
- Between 10-15 (13%)
- Below 10 (42%)

CTC in Lakhs (INR)

Message to Prospective Students

The primary goal of this "One-of-a-Kind" truly multidisciplinary Post Graduate programme – MSc in Data Science is that each student will have (i) strong academic foundations in Computer Science related to Data Science, Statistics and Machine Learning, (ii) required industry ready technical skills with Global Certification from SAS to handle the challenges of data analysis spectrum ranging from asking an interesting question to acquiring, managing, analysis and visualization.

Dr. K. S. Dasgupta
Director

By choosing our Data science program, I am sure you will gain expertise in the area and work on real world problems. I strongly encourage you to apply and pursue your MSc-DS from DAIICT.

Dr. Manjunath Joshi
Dean (Research & Development)

The Master of Science in Data Science program prepares graduates with strong foundational knowledge and industry relevant skills, mentored by experienced faculty and subject matter experts. I invite aspirants to join, learn and explore this enriching program, and become a successful professional in Data Science and Analytics.

Dr. Maniklal Das
Dean (Academic Programs)

Our MSc.in DS program educates our students about how data science is changing our everyday life. We impart the right skills and training in maths, stats, programming, AI and domain knowledge to prepare the students for this new revolution. Join us to learn how to make a more comprehensive and complete picture of the world using data.

Dr. Bhaskar Chaudhury
Associate Dean (Academic Programs) and MSc.-DS Program Coordinator

ABOUT DA-IICT

DA-IICT, founded in 2000, is a unique university devoted to the cutting-edge interdisciplinary area of Information and Communication Technology (ICT). We design and deliver academic programs in both disciplinary and multidisciplinary domains covering the important aspects of ICT, Computational and Data Science, Humanities and Design. DA-IICT, being a university, is a member of the Association of Indian Universities (AIU). DA-IICT has been accredited with A grade by NAAC in 2017 and is consistently ranked among the top Engineering Institution in NIRF rankings. DA-IICT was awarded the Best University in Innovation in Gujarat by Govt. of Gujarat in 2017. DA-IICT has been awarded as a 'Center of Excellence' by the Government of Gujarat in 2022.

CAMPUS LIFE

DA-IICT is spread over 50 acres of land in Gandhinagar, Capital City of Gujarat. The DA-IICT campus is caringly planned and designed as an environmentally conscious campus in the country. The campus with trees, lawns and bushes bearing green leaves and exotic flowers surrounding the buildings and pathways instills environment consciousness among students and enriches their learning. The campus also has a herb garden with species of rare medicinal plants. The campus is a haven for bird-watchers, with a variety of species of birds being spotted.

DA-IICT can be reached in about 30 minutes from Sardar Vallabhai Patel International Airport/ the Gandhinagar Capital Railway Station/ the Central Railway Station located in Ahmedabad.

ALUMNI NETWORK

The DA-IICT Alumni Association exists to create and maintain a life-long association between the Institute and its alumni. The Association works to connect alumni, support students and build an extraordinary Institute experience through a diversity of events and celebrated traditions. The mission of the Association is to cultivate strong bonds between alumni, students and the Institute, to keep alumni acquainted, and create a network enabling them to remain involved with their alma mater.

https://daiict.almaconnect.com/

WORMY COMPOST-3
RO PLANT
WORMY COMPOST-2
WORMY COMPOST-1

S

L

STORE

POND

M

N

OPEN AIR THEATRE

Q

VOLLEYBALL COURT

PLAY GROUND

BASKETBALL COURT

RECHARGE WELL-1

POND

H

G

PARKING

A

B

POND

C

L

RW-2

I

J

K

PARKING

F

D

E

P

Q

BTC

POND

PARKING

PARKING

DG ROOM

T   SUB STATION

FOCAL POINT

GATE

R

NET HOUSE

50 Acres Campus

Dhirubhai Ambani
Institute of Information and Communication Technology

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