



ENGINEERS WITH
SOCIAL RESPONSIBILITY

MSc. Data Science



Academics

Service to Society

DA-IICT

Research & Innovation





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DA-IICT at a Glance

DA-IICT was founded in 2000 as a unique university devoted to the cutting-edge interdisciplinary area of Information and Communication Technology (ICT). ICT was emerging as the technology of the future bringing in the fourth Industrial Revolution. Well known and highly qualified faculty members joined DA-IICT and developed a curriculum and research program steeped in all aspects of ICT, societal, scientific, and technical. This spirit has been nurtured for the last 23 years and DA-IICT wants to continue its excellence in interdisciplinary teaching and research well into the future.

The Act No. 6 of 2003 of the Gujarat Legislature provided for the establishment of the DA-IICT and conferred on it the status of a University. On 30 November 2004, the DA-IICT was included in the list of Universities maintained by the University Grants Commission under Section 2(f) of the UGC Act, 1956. DA-IICT is a member of the Association of Indian Universities (AIU) as approved by the AIU at its 84th Annual Meeting held during 12-14 November 2009. The National Assessment and Accreditation Council, Government of India has accredited DA-IICT with an **A⁺ Grade in 2023**.

Vision and Mission

The vision of the institute is to become a globally recognized institution that offers innovative programs, outstanding faculty, an atmosphere of innovation, a responsive administration, a vibrant campus and a collaborative learning environment that continuously adapts to the changing landscape of research and innovation and the future of work. Toward this, we plan to design and deliver academic programs in both disciplinary and multidisciplinary domains to prepare students for a rapidly evolving work environment.

Ranked among top 100 Engineering Institution by MHRD, Govt of India (NIRF-2019 rankings)

NAAC (Accreditation): A⁺ Grade (Year- 2023)
Selected for Center of Excellence award
Annual Student Scholarships: INR 3-4 Crores

First Private University to mentor PPP model based (central, state and industry funded) Institute - IIIT Vadodara (build academics and provided faculty support)

Only **Anchor Institute** in Gujarat to mentor the Faculty members of Engineering Colleges in Gujarat

Awarded the **Best University** in Innovation in Gujarat by Govt. of Gujarat in 2017



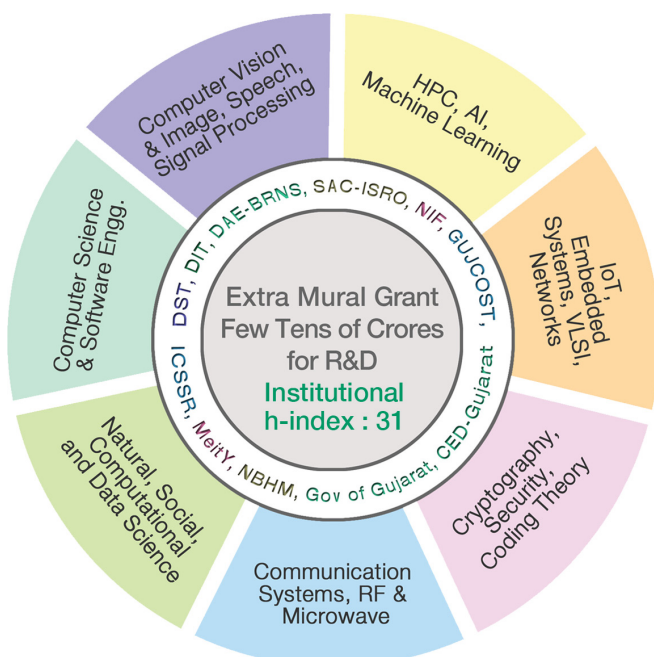


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Academics and Research at DA-IICT

Interdisciplinary and Multidisciplinary Research Oriented Academic Programs

Level	Name of the Program	Duration	Unique Features
Doctoral	PhD	4-6 years	- Entry through national level entrance test & interview - Fellowship (PM) INR 35000 - 40000
PG	MTech (ICT)	2 years	- Four specializations: ML, SS, VLSI & ES and WCSP
	MSc (IT)	2 years	- Industry oriented IT program
	MSc (Data Science)	2 years	- Hands-on & case study-based program
	MSc (Agriculture Analytics)	2 years	- In collaboration with AAU, IIRS
	MDes (CD)	2 years	- Fusion of ICT and Design
UG	BTech (ICT)	4 years	- 1 st Institute in India to offer unique program in ICT in 2001
	BTech (Hons in ICT; minor in Computational Science)	4 years	- 1 st Institute in India to offer UG program in Computational Science
	BTech (Mathematics and Computing (MnC))	4 years	- Intersection of Computer Science & Applied Mathematics to solve complex problems
	BTech (EVD) Electronics & VLSI Design	4 years	- 1 st Institute in Gujarat to offer



International Projects

NSF-USA, Indo-French, Indo-Spain

Industry / Consultancy Projects

nVIDIA (USA), FactSet (UK), Vista (India), ISRO Amnax Technology, GoG (Climate Dept.)

Major MOUs / LOUs

Univ. of Oregon (USA), Univ. of Auckland (NZ), Univ. of Swaziland (UoS), Univ. of Dayton (USA), Univ. of Hildesheim (Germany), Univ. Mara (Malaysia), Univ. of Evora (Portugal), ISEP (France), ISRO, Indian Navy, ISI Kolkata, TCS, Samsung R&D, IIT Gandhinagar, IIT Jammu, IIIT Vadodara, C R Rao AIMSCS, EDII



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Program Overview

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



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Course Curriculum

Autumn Semester (Semester-I)

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-II)

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.

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

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-III)

Course Name

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

Winter Semester (Semester-IV)

On-Campus Projects / Industry Internship



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Admissions

Total seats: 60

Eligibility Criteria

- A Bachelor's degree in Science from a recognized university with a minimum aggregate of 60% or its equivalent, as determined by the degree-granting institution, in disciplines such as Statistics, Mathematics, Physics, Computer Science, Economics, Econometrics, and Operational Research; OR
- A Bachelor's degree in Engineering or Technology from a recognized University with a minimum aggregate of 60% or its equivalent, as determined by the degree-granting institution, in disciplines such as Computer Science, Information Technology, Electronics, Electrical Engineering or Electronics and Communication.
- Candidates holding BCA, BSC (IT), BSC (AI/ML), and B.Sc. (Data Science) degrees with a minimum aggregate of 60% or its equivalent, as determined by the degree-granting institution, are also eligible to apply.
- Additionally, candidates must have passed the 12th standard with Mathematics as a main subject.

Candidates appearing in their final degree examination and expecting to complete it by July 2024 may also apply. However, their final admission will be subject to obtaining a minimum aggregate of 60% marks or its equivalent, as determined by the degree-granting institute/university. All admitted candidates must submit their degree certificates or proof of completion of the degree by 30 October 2024; failure to do so may result in cancellation of their admission.

There is no age limit applicable to this program.

Selection Process

The selection of candidates will be based on an entrance test conducted at designated centers nationwide. The tentative list of centers includes DA-IICT Gandhinagar, Ahmedabad, Bhopal, Bengaluru, Chennai, Mumbai, Hyderabad, Patna, Jaipur, Kolkata, New Delhi, Pune, Rajkot, Surat, Udaipur, Bhavnagar, Bhilai, Bhubaneswar, Chandigarh, Guwahati, Jammu, Kochi, Lucknow, Pant Nagar, Porbandar, Ranchi, and Vijayawada. Admission will be granted based on the aggregate score achieved in the entrance test, as reflected in the final merit list.





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Admissions

How to Apply

Candidates submit an online application by clicking on the link given on the Institute website.

Admission Offer

Final merit list of the confirmed and wait-listed candidates (based on their performance in the entrance examination) shall be posted in the website of the institute.

Important Dates

Online application website opens	14th March 2024
Last date for submission of online applications	20th May 2024
Entrance test	16th June 2024

Fees Structure*

At the time of counselling an amount of Rs. 1,67,000 (Rs. 1,37,000/- towards Tuition Fee for the First Semester, Rs. 5,000 for Value Added Courses, and Rs. 25,000/- towards a Caution Deposit) - The registration fee is payable at the time of registration and hostel rent on allotment of the hostel room.

Tuition fee	Rs. 1,37,000 per Semester
Value Added Courses	Rs. 5,000 per Semester
Registration Fee	Rs. 2,500 per Semester
Caution Deposit	Rs. 25,000 (Refundable at the end of the program)
Hostel Rent	Rs. 27,500 per semester
Food	On actuals. There are multiple food options available in the campus (The expense will be approximately Rs.5,500 pm)

***Subject to revision every Academic Year from 8 to 10%.**

Education Loan

The Institute will facilitate the students to avail educational loan from selected Banks. The bank officials will be present on campus at the time of registration of admitted students so as to enable the students to obtain details on procedures and terms and conditions of the loan. The students can also avail loan from banks of their choice and in either of the case; the Institute will extend support in completing the loan documentation process.

For Inquiries

Email: pg_admissions@daiict.ac.in

Voice call: 079 69 08 08 08

For more details please visit: www.daiict.ac.in

