

# Index

About DSU	01
About School of Engineering (SoE)	02
Message from the Dean	03
Program overview	04
About Program	05
Salient Features of the Curriculum	07
Important courses under the program	08
Program Industry Insights	08
Centre of Excellence AI & Robotics Dept	10
What are the Emerging Career Paths that you can Exp	ect11
Internship Opportunities	12
Industry Tie-Ups and Student Projects	13
Government Funded Projects	15
Placements	17
Foreign university collaboration	18
Infrastructure and Facilities	20
Library	22
Campus Hostel	23

# A Place to Grow, Excel, Invent & Innovate!

#### **About DSU**

Dayananda Sagar Institutions founded in the 60's by a visionary, Late Sri. R. Dayananda Sagar (Barrister-at-Law) committed to take knowledge to the people, transforms today's students into responsible citizens and professional leaders of tomorrow. Dayananda Sagar University created by an Act of the Karnataka State in 2014, built on this adorable legacy and inspired by its own milestones, meeting the needs of quality higher education in this part of the world.

This main campus is thoughtfully planned on 130 acres, with a picturesque site and a blossoming green environment, making it free from city crowds and pollution. Being a completely self-contained campus adjacent to Harohalli Kanakapura Road, Bengaluru South District., it is equipped with all the modern state-of-the-art infrastructure, creating a conducive environment for progressive experiential learning and transforming you into next-generation innovators, explorers, leaders, and researchers.



### **University Accreditation and Rankings**























## **About School of Engineering (SoE)**

Established in 2015, the School of Engineering (SoE) at Dayananda Sagar University (DSU) stands as a hub of innovation and academic excellence. It offers B.Tech, M.Tech, and Research programs across diverse disciplines including Computer Science and Engineering, Artificial Intelligence & Robotics, Al & ML, Data Science, Cyber Security, Electronics & Communication, Aerospace, and Mechanical Engineering. Through a blend of core, elective, and interdisciplinary courses, students develop a holistic understanding of engineering principles while engaging in research and real-world projects.

The AI & Robotics Department at DSU blends artificial intelligence, robotics, and data-driven technologies to prepare engineers for Industry 4.0 and beyond. Learning here is driven by innovation, research, interdisciplinary exposure, advanced labs, and real-world projects, shaping students into future-ready engineers and innovators. The School's state-of-the-art infrastructure, industry-aligned curriculum, emerging specializations, and strong placement support empower students to explore, create, and excel in the evolving world of intelligent automation.

#### **School Vision**

Transform lives through excellence in engineering education, research, and innovation with an emphasis on sustainability, inclusive technologies, and global needs.

#### **School Mission**

- 1. Design and deliver contemporary engineering curricula to address regional and global needs while emphasizing ethics, values, integrity, and regional relevance.
- 2. Carry out high-impact academic research, industry projects, and innovation activities with active student engagement to advance science and engineering knowledge and state-of-the-art industry practices.
- 3. Develop regional and national leaders to advance the society and economy.



# Message from the Dean Be You Be The Difference!

Welcome to the new way of learning at School of Engineering (SoE) of Dayananda Sagar University (DSU). At SoE, we are committed to helping you to make a positive difference in the world. We at SoE are immensely proud to provide all of our students with an outstanding education that equips them with the skills, experience, and confidence required to stand out from the crowd. The school promotes Culture of Excellence including the culture of Interdisciplinary, Research, Creativity, Innovations, and Entrepreneurship on various Cutting-Edge Technologies.

We at SoE, provide the World-Class Education that is Student-centric, Research-centric, and educational space where all of our students will have a transformative education, learn to be independent critical thinkers, be societally and ethically responsible, and to have a broad understanding of the world.

We value ability, not background, and we support all of our students to achieve their potential. We want you to enjoy your time here, confident that, upon completion of the Engineering degree program under SoE, you will have the knowledge, expertise, and employability skills to set you on your chosen career path. The decision you make about where to study is an extremely important one. I am pleased you are considering the School of Engineering at DSU, and hope that you choose to continue your education with us.



**Dr. Udaya Kumar Reddy K R**Dean, School of Engineering

#### **Program overview**

The AI and Robotics program integrates cognitive technologies, AI/ML, computer vision, and robotics to develop intelligent systems capable of autonomous perception, reasoning, and action. Students explore cutting-edge cognitive technologies like natural language processing, knowledge representation, and deep learning, while also delving into AI/ML techniques such as supervised and unsupervised learning, neural networks, and reinforcement learning. The program emphasizes computer vision, covering image processing, object detection, and 3D vision, enabling robots to interpret visual data. Additionally, students gain comprehensive knowledge of robotics, including kinematics, dynamics, and motion planning, as well as sensor integration and human-robot interaction. Graduates are equipped to contribute to various fields, driving advancements in AI and robotics technologies across industries.

The B.Tech. program in Artificial Intelligence and Robotics at Dayananda Sagar University (DSU) is designed to prepare students for careers in the rapidly growing field of AI and robotics. The program includes a combination of coursework and hands-on experience, with students learning about the latest advances in AI and robotics, as well as how to design, build, and program robots. Graduates of the B.Tech. program in Artificial Intelligence and Robotics at DSU are in high demand from employers in a variety of industries, including manufacturing, healthcare, transportation, and logistics. They typically find jobs as robotics engineers, AI engineers, software engineers, and data scientists. The program is designed to generate skilled personnel required for the implementation of Industry 4.0 technologies in the industry. The program presents an equal percentage of Robotics and Artificial Intelligence related courses.

The program covers a wide range of topics, including:

#### **Artificial Intelligence**

Programming, machine learning, big data analytics, deep learning, and IT and communication systems

#### Robotics

Robot design and manufacturing, robot sensing and control, robot programming, and robot applications.

In addition to core coursework, the program also includes a significant amount of laboratory work. This gives students the opportunity to gain hands-on experience with robots and AI technologies.



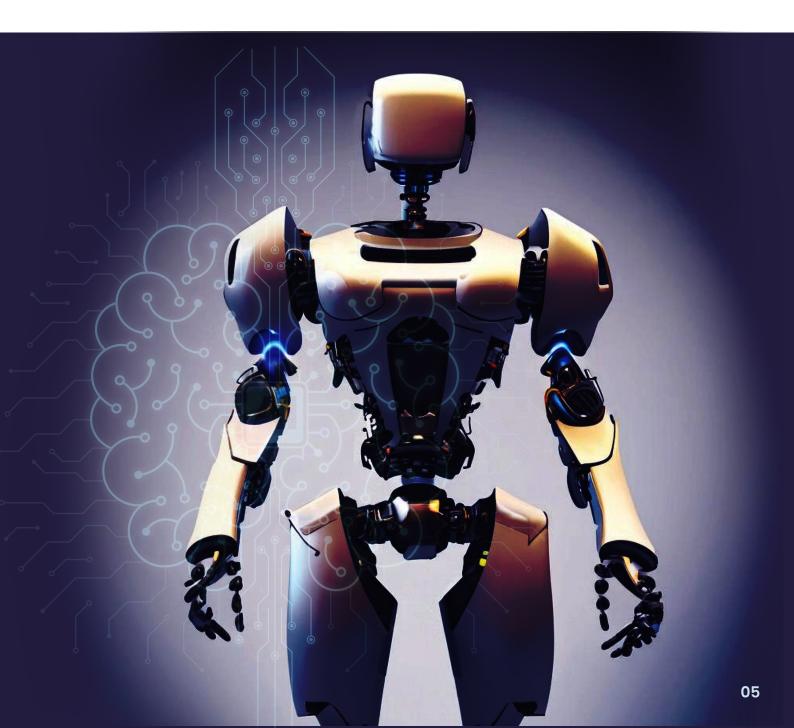
## **Program Vision and Mission**

#### **Vision**

To offer a leading program, fostering innovation and research, where intelligent systems enhance human experiences, guided by responsible Al practices and a diverse community of forward-thinking professionals.

## Mission

To educate and empower students in the fields of AI and Robotics, equipping them with the skills and knowledge to develop intelligent systems that improve lives and contribute to societal progress.



### **Program Eligibility**

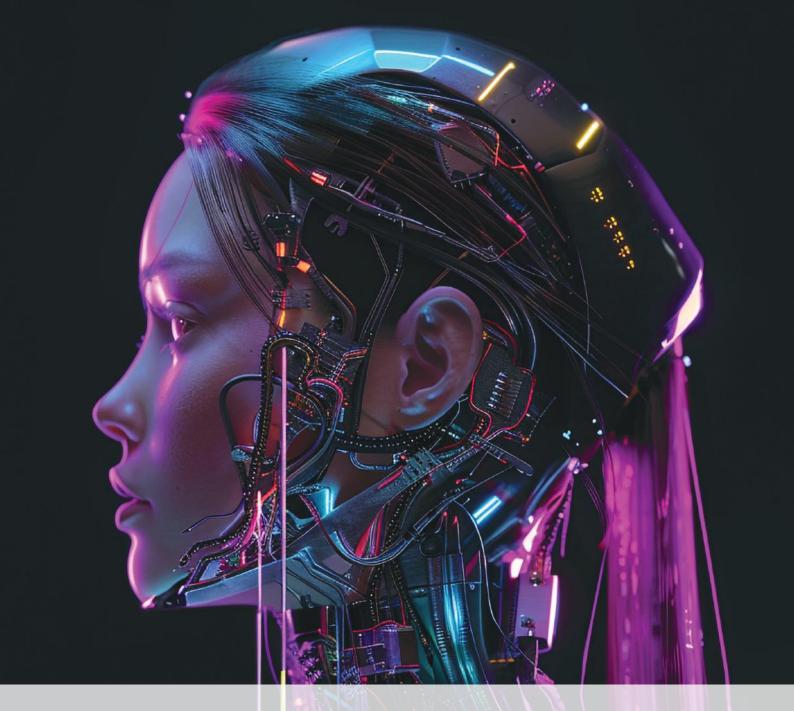
Pass in PUC / 10+2 examination with Physics and Mathematics as compulsory subjects along with one of the Chemistry / Biotechnology / Biology / Computer Science / Electronics / Technical Vocational subjects and obtained at least 45% marks (40% in case of candidate belonging to SC/ST & OBC category) in the above subjects taken together, of any Board recognized by the respective State Governments / Central Government / Union Territories or any other qualification recognized as equivalent there to.

University offers prestigious merit scholarships based on your IIT-JEE Scores as per university cut off

Program Duration: 4 YEARS (8 Semesters)

## Program Unique Feature

Features	Description
Degree	Dedicated B.Tech in Al & Robotics
Curriculum	Perfect Assimilation of Al-ML technology & Advanced Deep Learning with Digital Technology integration for Robotic control systems.
Labs	Industry-grade equipment including Robotic manipulators, vision, Architecture, Unmanned Aerial Vehicle (UAH), AMRs, Humanoids, High performance computing facilities.
Pedagogy	Strong emphasis on project-based learning, research, and competition participation.
Industry Connect	Active MoUs and collaborations with leading companies for practical exposure.
Ecosystem	Entrepreneurship support in Bangalore's tech hub environment.



#### Salient Features of the Curriculum

The Unique Selling Proposition (USP) of our AI and Robotics program lies in its interdisciplinary approach, combining cognitive technologies, AI/ML, computer vision, and robotics. This holistic curriculum prepares students to tackle complex challenges by providing them with a comprehensive understanding of the field. Our program stands out by emphasizing practical hands-on experience, encouraging innovation, and promoting ethical considerations in the development of intelligent systems. Additionally, our strong industry partnerships and opportunities for research collaboration ensure that students gain real-world exposure and stay at the forefront of technological advancements.

#### Important courses under the program

- Natural Language Processing
- Knowledge Representation and Reasoning: 

  Ethical Considerations in Al
- Cognitive Robotics:
- Neural Networks and Deep Learning
- Cognitive Science

- Human-Computer Interaction
- Machine Learning for Robotics
- Robotic Perception
- Cognitive Modeling

## Program Industry Insights (Market Demand)

The global market for AI and Robotics is not just growing; it is exploding.

## Artificial Intelligence (AI) Market

Market Size: The global AI market size will be USD 757.58 billion in 2025 showing a sharp rise from USD 638.2 billion in 2024.

Projected Growth: It is projected to expand at a compound annual growth rate (CAGR) of 36.8% from 2024 to 2030. This is an exceptionally high growth rate, indicating massive investment and adoption.

Key Driver: The adoption of AI across industries for predictive analytics, process optimization, and personalized customer experiences is a primary driver. Generative AI (e.g., ChatGPT, Midjourney) has recently created a new wave of demand and investment.



#### **Robotics Market**

Market Size: The global robotics market is projected to reach USD 69.7 billion in 2025 (Source:Global Growth Insights)

Projected Growth It is forecast to grow at a CAGR of ~17.3% (2025-2035), reaching ≈ USD 375.8 billion by 2035.

Source: GlobeNewswire - "Robotics Market Industry Research Report 2025: North America Leading Robotics Revolution, Asia Expected to Surge by 2035" (June 2025) and Precedence Research - "Global Robotics Market Size, Share & Forecast Report, 2025-2035."

Key Driver: The surge in automation across manufacturing (Industry 4.0), logistics, warehousing, and healthcare (surgical robots, rehabilitation robots) is fuelling this growth. The integration of AI to create "intelligent" robots is a key trend.



## Al in Robotics (The Convergence)

This is the core domain of the AI & Robotics program. The value lies in making robots smarter, more autonomous, and adaptable.

Concept: This involves using AI technologies like Computer Vision (for object recognition and navigation), Machine Learning (for adaptive control and learning from data), and NLP (for human-robot interaction) to create next-generation robots.

Application: Autonomous mobile robots in warehouses, surgical robots that can assist surgeons, agricultural robots for precision farming, and drones for delivery and inspection.



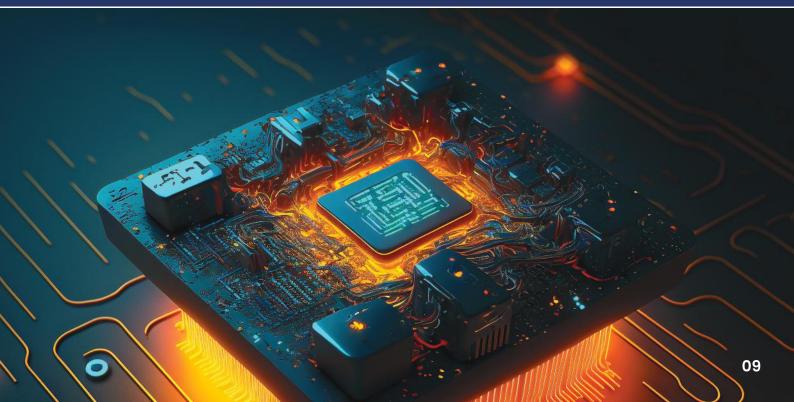
#### Indian Market Context: A Hub for AI & Robotics Talent

India is uniquely positioned to become a global leader in AI and Robotics, not just as a market but as a talent and R&D hub.

Al Market in India: The Al market in India is expected to reach USD 17 billion by 2027, growing at a CAGR of 25-35%. Source: NASSCOM - Al Adoption Index Report and various industry analyses.

Government Initiative: The IndiaAI mission, approved by the Union Cabinet with a budget outlay of ₹10,372 crore, aims to strengthen the AI innovation ecosystem through strategic programs and partnerships between public and private sectors.





## **Centre of Excellence AI & Robotics Department**

- Smart Mobility Partnership with leading AMR Industry: VIRYA AUTOMATION (MAINI Group), Bangalore, India (platinum partner of SiMa-Al of USA & Piaggio Motors of Italy).
- Humanoids & Quadrupeds Collaboration with Global Robotics Leader: UNITREE Corp., China.

## **Industry Partners**

































## What are the Emerging Career Paths that you can Expect?

Here's a breakdown of how different industries are hiring these professionals:

**Industry** 

**Job Roles** 

**Applications & Projects** 

**Hiring Companies** 



Manufacturing & Logistics (Industry 4.0)

I. Predictive Maintenance Engineer / Analyst 2. Data Scientist (loT & Industrial Analytics)

Al: Predictive maintenance, quality control, supply chain optimization.

Robotics: Industrial arms for assembly/packaging, Autonomous Mobile Robots (AMRs) for material movement in warehouses.

Bosch, Siemens, Fanuc, ABB, Flipkart, Amazon, Delhivery



**Automotive** 

1.Robotics Automation **Engineer** 2.Computer Vision Engineer 3.Autonomous Vehicle (AV) Engineer

Al: Driver-assistance systems (ADAS), self-driving car algorithms, connected car data analytics.

Robotics: Robotic assembly lines, painting, and welding.

Tesla, Toyota, Tata Motors, Mercedes-Benz, NVIDIA



1. Medical Imaging Al Engineer 2.Genomics & Bioinformatics AI Specialist 3.Surgical Robotics Engineer

Al: Medical image analysis (MRI, X-Ray), drug discovery, personalized medicine. Robotics: Surgical robots (e.g., Da Vinci), rehabilitation robots, hospital logistics robots.

Intuitive Surgical, Philips, Siemens Healthineers, BioCon



IT/Software & **Product** 

1.Machine Learning Engineer 2. Al Research Scientist 3. NLP Engineer 4.Robotics Software Engineer

Al: Developing Al platforms, cloud Al services (AWS, Azure, GCP), generative Al tools, recommendation engines, chatbots. Robotics: Development of robotics software platforms (e.g., ROS), simulation software.

Microsoft, Google, Amazon, NVIDIA, IBM, Adobe, Uber



**Arospace & Defence** 

C Engineer (Guidance, Navigation, & Control) 2. Swarm Robotics Engineer 3. AI/ML Engineer for ISR (Intelligence, Surveillance, and Reconnaissance) 4. Sensor Fusion Engineer

veillance systems, drone swarm intelligence, threat detection. Robotics: Unmanned Aerial Vehicles UAVs/drones), unmanned ground vehicles (UGVs), exoskeletons.

ISRO, HAL, Boeing, Airbus

Agriculture (Agri-Tech)

1. Agricultural Robotics Engineer

2. Drone Systems Engineer (Agri-Drones)

3. Digital Agriculture / Farm Management Software Engineer

Al: Crop health monitoring, yield prediction, precision farming. Robotics: Autonomous tractors, robotic harvesters, drone-based spraying.

Ninjacart, CropIn, Fasal, TartanSense

### **Internship Opportunities**

Students will have the exclusive opportunity to participate in internships with our industry partners, working directly within the Centre of Excellence in the Dayananda Sagar University, Main Campus, Harohalli, Bengaluru South.

- Students pursuing AI and Robotics Engineering can take up internships with top global recruiters such as Google, NVIDIA, Amazon Robotics, Tesla, and Boston Dynamics, gaining hands-on experience in AI development, computer vision, and autonomous systems.
- These internships allow students to work on real-world projects like self-driving technology, reinforcement learning, and robotic automation, helping them apply theoretical concepts to practical challenges.
- ◆ Organizations such as NASA and ABB offer students unique opportunities to contribute to space robotics and industrial automation, bridging the gap between research and real-world implementation.
- ◆ In India, students can pursue internships with leading companies like TCS, Infosys, GreyOrange, and Addverb Technologies, focusing on smart manufacturing, warehouse automation, and Al-driven logistics solutions.
- Startups such as Genrobotics, Peer Robotics, Systemantics, and Invento Robotics provide students with a dynamic environment to design, test, and program robots for healthcare, industrial, and social applications.

Through these national and international internship opportunities, students can enhance technical expertise, gain industry exposure, and build strong foundations for successful careers in the fields of Al and robotics.

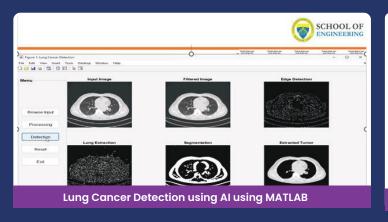


## Industry Tie-Ups and Student Projects

		SPM INDIA LTDKT No,		
Dr. GANGADHAR T G	AI & ML for Active Suspension Unit.	182, GDR Tech vile  Kethaganahalli Village Ramangar District, 30th Km, NH 275, Bidadi, Karnataka 562109	     2024     	200000
Dr. GANGADHAR T G	Design and Development of Differential Pressure (DP) based and flow-based leak test panel along with interface of Embedded system software, Calibration with NABL Accreditation of pressure and flow. Testing along with EMI and environment for industrialization.	SPM INDIA LTDKT No, 182, GDR Tech vile Kethaganahalli Village Ramangar District, 30th Km, NH 275, Bidadi, Karnataka 562109	         2025         	200000
Dr. GANGADHAR T G	Servo Motor for Press & Sleek Servo Motor for Nutrunner application	SPM INDIA LTDKT No, 182, GDR Tech vile Kethaganahalli Village Ramangar District, 30th Km, NH 275, Bidadi, Karnataka 562109	     2025   	   200000 

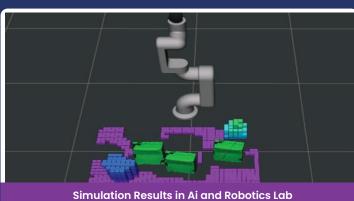


## Projects Built by Students in Al and Robotics





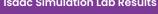














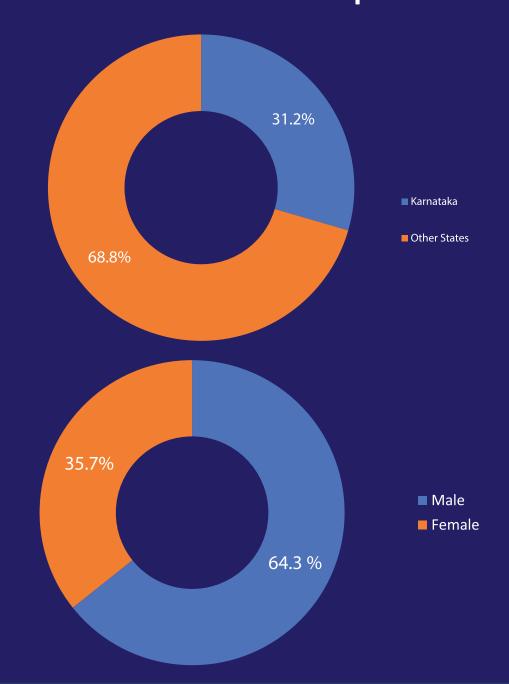
## **Government Funded Projects**

Name of Faculty	Project Title	Funding Agency	Amount	Year of Sanction & Duration	Role (PI/Co-PI)	Status
Dr. Rupam Bhaduri	Integrated Clean Energy Material Acceleration by Al-ML Integration for Solar Photovoltaic and Thermal Energy Harvesters	DST, Ministry of S & T., Govt. of India	30.35 Lakhs	2022-23 (4 years)	PI	Ongoing

The following institutions are attached to the "DST-IIT Kanpur Integrated Clean Energy Material Acceleration Platform on Materials" project

- Indian Institute of Technology (IIT) Kanpur (Lead Institute)
- Indian Institute of Technology (IIT) Madras
- ◆ Dayananda Sagar University (DSU), Bangalore
- International Advanced Research Centre for Powder
- Metallurgy and New Materials (ARCI), Hyderabad
- ◆ Indian Institute of Technology (IIT) Roorkee
- ◆ Indian Institute of Technology (IIT) Guwahati
- Indian Institute of Technology (IIT) Hyderabad
- ◆ CSIR (IICT and NIIST)
- ♦ IIITDM
- ◆ IISER Thiruvananthapuram
- NIT Tiruchirappalli

## DSU B.Tech 2025 – A Glimpse into Our Diverse Student Landscape



# University offers prestigious merit scholarships based on your IIT-JEE Scores

## **Scholarship Highlights**

2025- INR 6.24 Cr. awarded to 780 Students

2024- INR 6.79 Cr. awarded to 905 Students

2023- INR 5.80 Cr. awarded to 806 Students

#### **Placements**

#### **Pre-Placement Training**

Pre-placement training for AI & Robotics Engineering students typically focuses on cognitive and technical skill development. This structured program, running for 8 hours per week, is designed to prepare students for the demands of the professional world by bridging the gap between academic knowledge and industry requirements.

#### **Cognitive Skill Development**

Cognitive training sessions are geared towards sharpening a student's problem-solving, critical thinking, and logical reasoning abilities. Activities may include case studies, puzzles, and group discussions centred on real-world engineering challenges. This part of the training helps students learn to approach complex problems systematically and develop innovative solutions, which are crucial for roles in research and development.



Unitree humanoid demo in Lecture Hall discussing the cognitive workflow in decision making

#### **Technical Skill Development**

The technical component of the training is highly practical and hands-on. It focuses on mastering tools, programming languages, and concepts specific to AI and Robotics.

#### Key areas covered often include

- ◆ Programming Languages: Proficiency in languages like Python and C++ is essential. Training covers advanced libraries and frameworks used in machine learning (e.g., TensorFlow, PyTorch) and robotics (e.g., ROS Robot Operating System).
- ◆ Data Science Fundamentals: Students are trained in data analysis, data manipulation, and understanding various algorithms for machine learning.
- ◆ Robotics Applications: This includes practical sessions on **robot kinematics, control systems,** and computer vision, often using simulator environments or physical robot kits.

This dual-focus approach ensures that students are not only technically proficient but also possess the analytical and problem-solving skills necessary to excel in the competitive fields of Al and Robotics.

17

## B.Tech Placement Record (2024-25)

450+

COMPANIES VISITED

10L

**AVERAGE** PACKAGE (LPA) 56L

**HIGHEST** PACKAGE (LPA)

#### Top Recruiters (National & International)

Some of the top recruiters for AI and Robotics engineers operate on both a national and international scale, with a strong presence in countries leading the tech industry. They range from major tech giants to specialized startups and staffing agencies.

#### **International Recruiters**







































#### **National Recruiters**













































# Foreign university collaboration for student exchange and internship opportunities\*

UNIVERSITY	COUNTRY
University of South Carolina Aiken	USA
The University of Wisconsin-Madison	USA
Northeastern University	USA
German Varisty, Aachen	Germany
Steinbeis University	Germany
RWTH Aachen University	Germany
Indo Eurosynchronisation Pvt Ltd	Germany
Samara National Research University	Russia
The University of Brescia	Italy
Limkokwing University of Creative Technology	Malaysia
James Cook University	Australia
Ming Chi University of Technology	Taiwan
Amazon College International	Srilanka
Worcester Polytechnic Institute	USA
Western Connecticut State University	USA
The University of Huddersfield	England
TUM Asia Pte Ltd	Singapore
THE UNIVERSITY OF WOLVERHAMPTON	UK
Southern Connecticut State University	USA
DSTI - School of Engineering	France
The University of Liverpool	UK
The University of Worcester	UK
Illinois Tech	USA
Dniprovsky State Technical University	Ukraine
Visayas State University	Philippines
Nelson Marlborough Institute of Technology	New Zealand
New Jersey Institute of Technology	New Jercy
INTI International University	Malayasia
Relaince College	Malayasia
Hasanuddin University	Indonesia
LeTourneau University	USA
MIET, Moscow	Russia
Daffodil University	Bangladesh
University of Liberal Arts ULAB	Bangladesh
Multimedia University (MMU)	Malaysia
Mangosuthu University of Technology MUT	South Africa
University of Lay Adventists of Kigali (UNILAK)	Rwanda
Atyrau University	Kazakhstan
MENDEL UNIVERSITY IN BRNO	Czechia
Ernst Abbe University of Applied Sciences Jena	Germany
King Ceasor University	Uganda
Algebra University	Crotia
University of Evansville	USA
Nizhyn Mykola Gogol University	Ukraine
Dmytro Motornyi Tavria State Agrotechnological University	Ukraine
Széchenyi István University	Hungary
Southern Federal University	Russia
Uni La Salle Polytechnic Institute	France



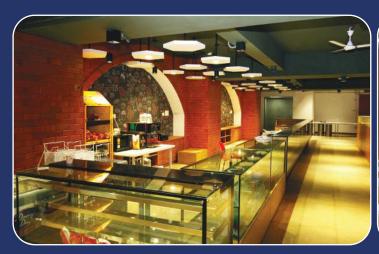
## Infrastructure and Facilities

















# Sports Facilities















## Library







#### **About Library**

The Library, established alongside DSI and expanded with Dayananda Sagar Institutions (1969), Dayananda Sagar College of Engineering (1979), and Dayananda Sagar University (2014), was envisioned by the founder, Late Sri R. Dayananda Sagar, as a world-class knowledge hub. Built systematically, it accommodates 560 users and houses an extensive collection of books, CDs, DVDs, periodicals, and digital resources. Serving undergraduates, postgraduates, research scholars, and faculty, the Library reflects the University's academic excellence and is managed by a team of skilled and dedicated professionals.

#### **School of Engineering Collections**

Titles	6385
Volumes	21305
Book Bank	433
Bound Volumes	139
Book CD's	643
Periodical CD's	17
Educational Video's	47
National & International Print Journals	60
News Papers	10
Magazines	15
E-Books	12579
The state of the s	



## **DSU Main Campus Hostel**







#### **About Hostel**

Our hostel, located within the heart of the DSU main campus, offers a perfect blend of comfort, safety, and convenience. Designed to meet the needs of today's students, our state-of-the-art facilities ensure that you have everything you need for a successful and fulfilling college experience. With a secure environment and a focus on student well-being, our hostel provides the ideal space for both academic focus and relaxation. Whether it's modern amenities, dedicated support for your studies, or a community that fosters growth, our hostel is your home away from home—helping you thrive every step of the way!

#### **Facilities**



24/7 Assistance



24/7 Handyman



24/7 Concierge



Face recognition & Biometric



24/7 Handyman



24/7 Handyman



Wi-Fi



Vending Mechines



RO Drinking Water



CCTV Monitoring



Study Zones



**Business Center** 







F & B Partners



Retail Cafeteria



Gym Room



Meditation Room



Theatre



Scenic natural views



Sports Facilities



Cupboard with a locker



Parking



Music Room



Yoga Room



Indoor Game Rooms



Discussion Rooms



Parcel Service

7+

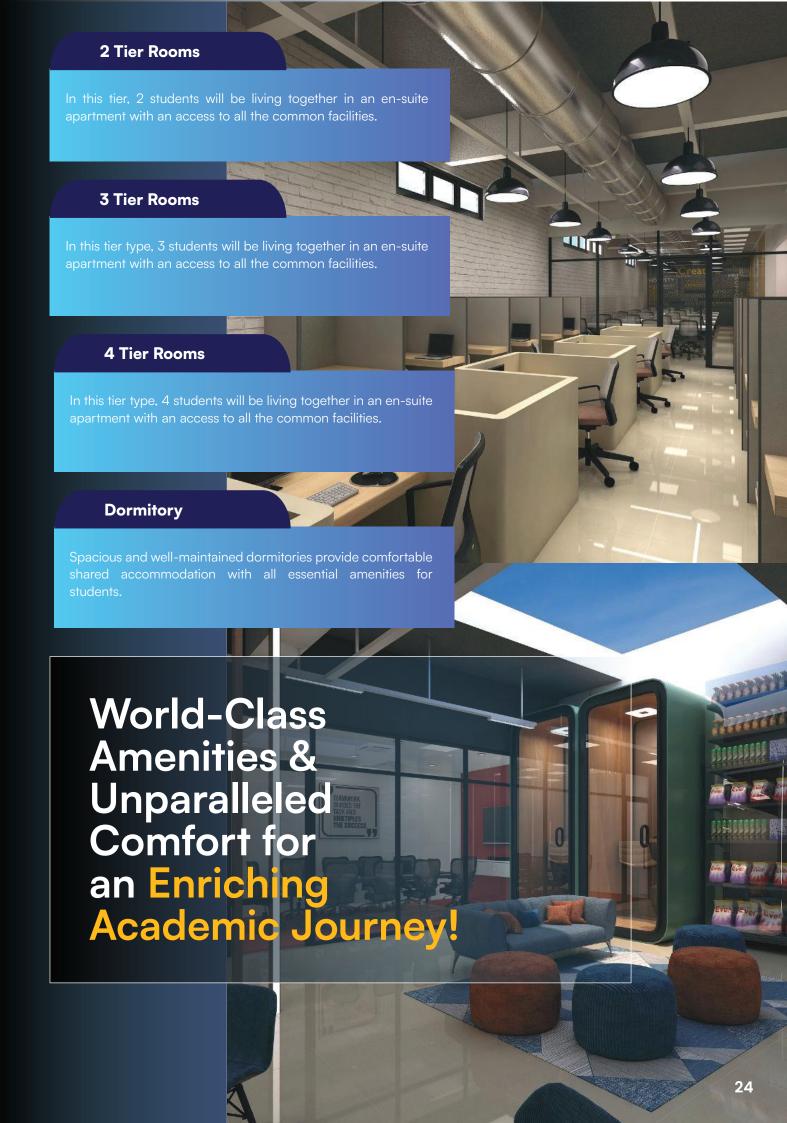
BUILDINGS

5000+

STUDENTS ACCOMMODATION

100%

SATISFACTION



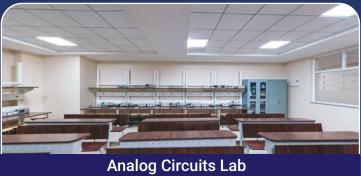
## Labs





Digital Circuit Lab









Electronic Lab



Composites Lab

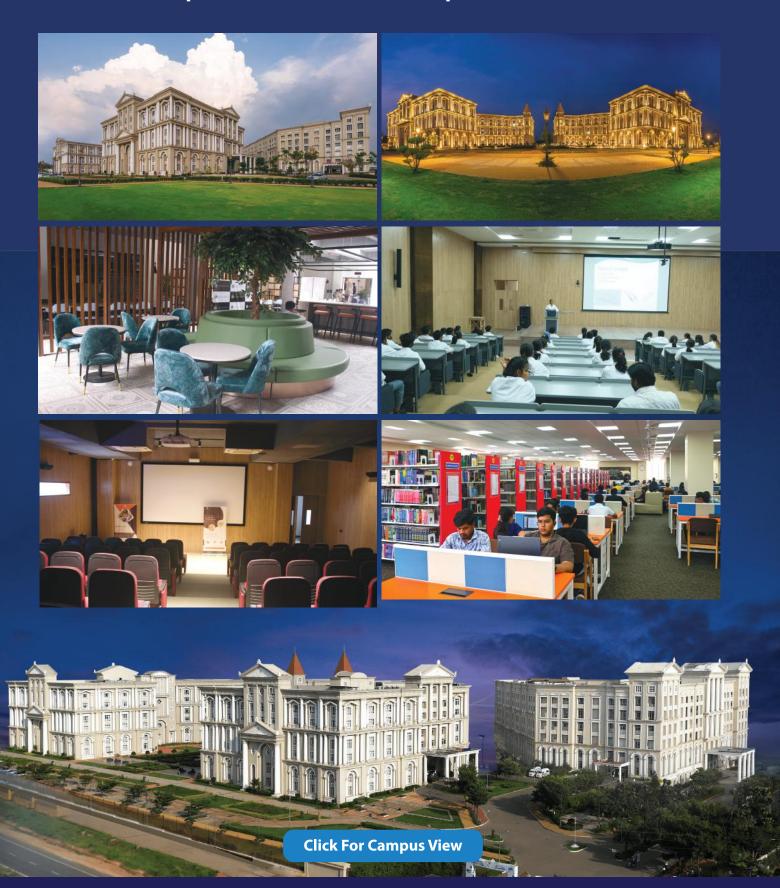


Physics Lab



**Tutorial Room** 

## Glimpse of DSU Main Campus at Harohalli



DSU Main Campus : Devarakaggalahalli, Harohalli, Kanakapura Road, Bengaluru South – 562112

Admissions Helpline Nos: **Q** 080 4646 1800 **Q** +91 636 688 5507

