veloces
Center for Research and Technology

B.Tech
COMPUTER SCIENCE AND ENGINEERING

ARTIFICIAL
INTELLIGENCE

IMMERSIVE
TECHNOLOGIES

DATA SCIENCE

CYBER
SECURITY

MACHINE
LEARNING

VIDHYADEEP
UNIVERSITY
Holy Flame Of Knowledge

MESSAGE FROM CEO'S DESK

Mr. Shankaran Chettur
CEO

In today's rapidly evolving digital landscape, staying ahead requires continuous learning and upskilling. At Veloces Center for Research & Technology, we are committed to empowering students and professionals with cutting-edge Technology courses designed for the new age. Our programs focus on emerging technologies such as Artificial Intelligence, Immersive Technologies, Cyber Security, Data Science and Machine Learning - equipping learners with the skills needed to thrive in the dynamic tech industry. Join us in embracing the future of IT education and unlocking new career opportunities.

Today, the Veloces Center for Research & Technology is here at Vidhyadeep University, offering B.Tech Computer Science and Engineering programs in AI and emerging technologies

VELOCES CENTER FOR RESEARCH & TECHNOLOGY.

We help create the educational institutions of tomorrow, today.

At Veloces, we help create educational institutions of tomorrow, today. We are committed to revolutionizing the education landscape by providing innovative solutions to universities, colleges, schools, training organizations, corporates, and students alike. As a forward-thinking education solutions provider, the Veloces team is composed of seasoned professionals with a deep understanding of both academia and industry dynamics. Our consultants bring in a wealth of experience in education, technology and business, enabling us to offer holistic solutions that cater to the evolving needs of educational institutions and students.

Veloces offers Industry programs with renowned universities including Curriculum Design and Enhancement, Industry-Academia Collaboration, Technology and Innovation Centers of Excellence, Industry-relevant Credentials and Certifications, Student Development Programs, Course and Content Development, etc.

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YOUR SUCCESS JOURNEY BEGINS AT

veloces
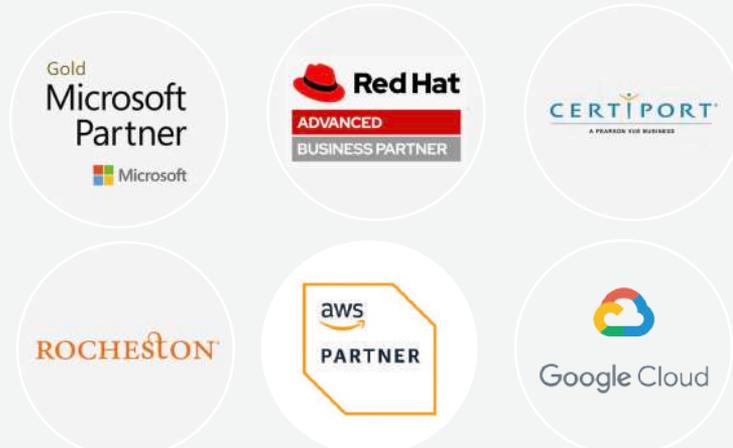Center for Research and Technology

B.Tech programs in Emerging Technologies

Program Highlight

- B.Tech programs at Vidhyadeep offered in Emerging Technologies such as Artificial Intelligence (AI), Data Science, Robotics, Internet of Things (IoT), Cyber Security and Blockchain Technology.

- Global Certifications from Microsoft, Cisco, Red Hat, Unity, Certiport & Rocheston.

- Industry-level training modules by certified industry experts in Artificial Intelligence, Data Science, Robotics, Automation, Drone technology, Internet of Things (IoT), Cyber Security and Blockchain Technology.

- Entrepreneurship Start-up support

- Participation in Global Challenges and Competitions such as Code Without Barriers, AI Odyssey, and AI Hackathons.

Gold
Microsoft Partner
Microsoft

Red Hat
ADVANCED
BUSINESS PARTNER

CERTIPORT
A PEARSON VUE BUSINESS

Our Alliances

ROCHESTON

aws PARTNER

Google Cloud

About VIDUNI

Vidhyadeep University, Anita, Kim, Surat, is a highly valued private University established in 2022 through the Gujarat Act No. 7 of 2022 by the Government of Gujarat and recognized by the University Grants Commission (UGC), New Delhi, India.

Vidhyadeep University is a place, where tranquility acquires a new dimension and where modern architecture blends with traditional values to heighten the spirit of continuous learning. It is committed to inclusion and innovation in education through philanthropy and pioneering initiatives.

Higher education is broadly defined as one of the key drivers of growth, performance, prosperity, and competitiveness. Vidhyadeep University offering higher education provides students with an opportunity to succeed in today's global economy. They understand the responsibility of modern universities to provide their students with various programs, preparing them for different economic sectors and helping them to stay and progress in the labour market for the long term.

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BE THE TECHNOCRAFT OF TOMORROW!

Advantages of learning at **VIDHYADEEP**

LUSH GREEN CAMPUS

24X7 STUDENT SUPPORT

ENRICHED LIBRARY

TRAINING & PLACEMENTS

ENTIRE CAMPUS ITC ENABLED

IN-CAMPUS HOSTEL FACILITY

HIGHLY EQUIPPED SPORTS FACILITY

IN-CAMPUS CANTEEN/MESS CAFETERIA

PERSONALITY ENHANCEMENT

IN-CAMPUS HOSPITAL WITH PANCHKARMA & PHYSIOTHERAPY

TRANSPORT FACILITY

CORE FEATURES OF VIDHYADEEP SCHOOL OF ENGINEERING

- Innoventive Engineering
- Distinguished Faculty
- Hi-Tech Labs
- Industry Collaboration
- Start-Up Culture
- Global Immersion

Transport Facility Available From
Surat | Bharuch | Mandvi | Ankleshwar

VIDHYADEEP CAMPUS LIFE

B.Tech
IN ARTIFICIAL INTELLIGENCE (AI) AND DATA SCIENCE

WITH SPECIALISATION IN VIRTUAL AND AUGMENTED REALITY

ARTIFICIAL INTELLIGENCE

IMMERSIVE TECHNOLOGIES

MACHINE LEARNING

DATA SCIENCE

CYBER SECURITY

WHY CHOOSE B.Tech IN ARTIFICIAL INTELLIGENCE & DATA SCIENCE AS A CAREER?

- **Rapid Industry Growth:** The global AI market is projected to exceed $1.81 trillion by 2030, with a compound annual growth rate (CAGR) of **37.3%** between 2023 and 2030

2030

2023   **$1.81 trillion**

- Lucrative Salaries: In India, the average salary for a Data Scientist is approximately ₹**10 lakh per annum,** which is significantly higher than the average salary of many other engineering graduates.

₹10 lakh

Per annum

- **Cross-Industry Applications:** AI and Data Science are revolutionizing sectors like healthcare, finance, e-commerce, and entertainment, offering graduates opportunities to drive innovation across various domains

  *Source: universalai.in & gngroup.org

Why Choose B.Tech in Artificial Intelligence and Data Science @Vidhyadeep?

- Global Certifications from Microsoft, Certiport and Unity Technologies.

- Workshops, Masterclasses and Seminars by Visiting Experts from the Industry.

- Hi-Tech Classrooms & Lab facilities.

- Industry Visits and Study Tours.

- Research & Industry internships in Top Technology & AR-VR Companies.

- Capstone, Entrepreneurship & Start-up projects mentored by Industry experts.

B.Tech IN ARTIFICIAL INTELLIGENCE & DATA SCIENCE VIRTUAL & AUGMENTED REALITY

COURSE OVERVIEW

Artificial Intelligence, Data Science and Virtual & Augmented Reality are some of the most sought-after emerging technologies recognized by the All India Council for Technical Education (AICTE). Leading global tech companies are continuously innovating in this space, creating a high demand for skilled AI Engineers, Data Scientist and AI-XR Developers. The 4-year B.Tech in Artificial Intelligence and Data Science (Virtual & Augmented Reality) at Vidhyadeep University is designed for students eager to master Artificial Intelligence, Data Science and AR-VR development technologies to build a successful career in this dynamic and rapidly growing industry. Join us and be a part of the future of AI and Immersive Technologies!

COURSE CURRICULUM & STRUCTURE

SEMESTER 1

- Engineering Mathematics-I
- Fundamentals of Physics
- Basics of Electronics and Electrical Engineering
- Programming Using Python
- Python Programming Lab
- Physics Lab
- Basics of Electrical and Electronics lab
- Digital IT Workshop
- Communication Skills
- Co-curricular Activities

SEMESTER 2

- Engineering Mathematics-II
- Digital Logic and Computer Organization
- Basics of Engineering Drawing
- Indian Knowledge System
- Digital Logic Lab
- Basics of Engineering Drawing Lab
- Communication Skills II
- Co-curricular Activities II

SEMESTER 3

- Discrete Mathematics
- Fundamentals of Data Structures
- Object-Oriented Programming (OOP)
- Computer Graphics
- Operating Systems
- Data Structures Laboratory
- OOP and Computer Graphics Laboratory
- Operating Systems Laboratory
- Mini Project-I
- Business Presentation Skills

SEMESTER 4

- Statistical Data Science using R
- Data Structures and Algorithms
- Software Engineering
- Elective-I (a) Web Programming (b) Internet of Things
- Cyber Laws
- R Programming Lab
- Data Structures and Algorithms Lab
- Elective-I Lab
- Mini Project-II

SEMESTER 5

- Database Management System
- Computer Networks and Security
- Artificial Intelligence
- Finite Language and Automata Theory
- Cloud Computing
- Database Management System Lab
- Computer Networks and Security Lab
- Artificial Intelligence Lab
- Cloud Computing Lab
- Seminar and Technical Communication Lab
- Minor Course (Introduction to AR-VR / Unity Lab)

SEMESTER 6

- Data Science
- Cyber Security and Cryptography
- Artificial Neural Network
- Elective-II (a) Robotics and Automation (b) Data Visualization
- Data Science Lab
- Cyber Security and Cryptography Lab
- Elective-II Lab
- Internship
- Mini Project-III
- Minor Course-II (VR Development / VR with Unreal Engine Lab)

SEMESTER 7

- Blockchain and Cryptocurrency
- Machine Learning
- Elective-III (a) Quantum AI (b) Enterprise Software Management
- Generative AI
- Computational Thinking
- Machine Learning Lab
- Generative AI Lab
- Project Stage-I
- Minor Course-III (Advanced XR and Immersive design / XR Design Lab)

SEMESTER 8

- Research Methodology
- Project Stage-II
- Elective-IV (a) Deep Learning (b) IT Audit
- Capstone Project (Minor)

CAREER PATHS & OPPORTUNITIES IN AI, DATA SCIENCE & AR-VR INDUSTRIES

A CAREER IN AI & IMMERSIVE TECHNOLOGIES IS GOING TO ELEVATE & ENHANCE YOUR FUTURE

The Emerging Technology industry sector of AI, Data Science and Virtual & Augmented Reality offers exciting career paths post-completion of the 4-year B.Tech program.

JOB PROFILES

- AI Engineer
- Data Scientist
- AI-XR Developer
- Data Visualization Specialist
- ML Researcher
- NLP Specialist
- VR/AR Developer
- VR/AR Designer
- XR Systems R&D Specialist
- XR Technical Architect
- XR Systems Technology Engineer

INDUSTRY SECTORS

Tech:
Google, Meta, NVIDIA, Unity.

Healthcare:
AI diagnostics, VR surgical training.

Gaming:
PlayStation, Oculus, Epic Games.

Automotive:
Tesla (AI), Mercedes-Benz AG (Game Engines in Smart Cars),
BMW (AR-assisted manufacturing).

Defence:
VR simulations, AI-driven drones.

B.Tech

IN COMPUTER SCIENCE AND ENGINEERING

WITH SPECIALISATION IN INTERNET OF THINGS (IOT) AND CYBER SECURITY INCLUDING BLOCK CHAIN TECHNOLOGY

ARTIFICIAL INTELLIGENCE

IMMERSIVE TECHNOLOGIES

MACHINE LEARNING

DATA SCIENCE

CYBER SECURITY

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Why Choose B.Tech in Computer Science and Engineering (Internet of Things and Cyber Security including Block Chain Technology) as a Career?

- Expanding IoT Market: The global IoT market is experiencing substantial growth, with projections indicating a rise from USD 250.72 billion in 2019 to USD 1,463.19 billion by 2027, reflecting a compound annual growth rate (CAGR) of 24.9%.

USD 250.72	USD 1,463.19
2019	2027

- Rising Demand for Cyber Security Professionals: As cyber threats become more sophisticated, the need for skilled cyber security experts is intensifying. The worldwide cybersecurity market is anticipated to expand from $172.32 billion in 2023 to $424.97 billion by 2030, creating abundant job opportunities in this sector.

$172.32 billion	$424.97 billion
2023	2030

- Government and Industry Initiatives: The Indian government and private sector are investing significantly in digital infrastructure and security, further amplifying the demand for skilled professionals in IoT, cyber security, and blockchain technologies.

- Diverse Career Opportunities: Graduates with this specialization can pursue roles such as IoT Developer, Cyber Security Analyst, Blockchain Developer, Security Engineer, and Data Analyst. These positions are in demand across sectors like technology, finance, healthcare, and manufacturing.

*Source: PIEMR, McKinsey

Why Choose B.Tech in Computer Science and Engineering (Internet of Things and Cyber Security including Blockchain Technology) @ Vidhyadeep?

- Global Certifications from Microsoft, Certiport, Cisco, Red Hat & Rocheston.

- Workshops, Masterclasses and Seminars by Visiting Experts from the Industry.

- Hi-Tech Classrooms & Lab facilities.

- Industry Visits, Technology Conferences and Study Tours.

- Research & Industry internships in Top Technology Companies.

- Capstone, Entrepreneurship & Start-up projects mentored by Industry experts

B.Tech COMPUTER SCIENCE AND ENGINEERING
INTERNET OF THINGS AND CYBER SECURITY INCLUDING BLOCKCHAIN TECHNOLOGY

COURSE OVERVIEW

Internet of Things (IoT), Cyber Security, and Blockchain Technology are some of the most sought-after emerging technologies recognized by the All-India Council for Technical Education (AICTE). Leading global tech companies are continuously innovating in this space, creating a high demand for skilled IoT Solutions Architect, Cyber Security Engineers and Blockchain Developer. The 4-year B.Tech in Computer Science and Engineering (Internet of Things and Cyber Security including Blockchain Technology) at Vidhyadeep University is designed for students eager to master IoT, Cyber Security, and Blockchain Technology and place them at the forefront of technological innovation, equipping them with the skills to excel in a rapidly evolving digital landscape.

COURSE CURRICULUM & STRUCTURE

SEMESTER 1

- Engineering Mathematics-I
- Fundamentals of Physics
- Basics of Electronics and Electrical Engineering
- Programming Using Python
- Python Programming Lab
- Physics Lab
- Basics of Electrical and Electronics lab
- Digital IT Workshop
- Communication Skills
- Co-curricular Activities

SEMESTER 2

- Engineering Mathematics-II
- Digital Logic and Computer Organization
- Basics of Engineering Drawing
- Indian Knowledge System
- Digital Logic Lab
- Basics of Engineering Drawing Lab
- Communication Skills II
- Co-curricular Activities II

SEMESTER 3

- Discrete Mathematics
- Data Structures and Algorithms
- Object-Oriented Programming (OOP)
- Computer Graphics
- Operating Systems
- Data Structures and Algorithms Lab
- OOP and Computer Graphics Laboratory
- Operating Systems Laboratory
- Mini Project-I
- Business Presentation Skills

SEMESTER 4

- Statistical Data Science using R
- Introduction to Blockchain
- Software Engineering
- Internet of Things
- Cyber Laws
- R Programming Lab
- IoT Lab
- Web Programming Lab
- Mini Project-II

SEMESTER 5

- Database Management System
- Computer Networks and Security
- Artificial Intelligence
- Finite Language and Automata Theory
- Cloud Computing
- Database Management System Lab
- Computer Networks and Security Lab
- Artificial Intelligence Lab
- Cloud Computing Lab
- Seminar

SEMESTER 6

- Data Science
- Cyber Security and Cryptography
- Advanced Blockchain Architectures
- Elective-II (a) Robotics and Automation (b) Data Visualization
- Data Science Lab
- Cyber Security and Cryptography Lab
- Elective-II Lab
- Internship
- Mini Project-III

SEMESTER 7

- Blockchain and Cryptocurrency
- Machine Learning
- Elective-III : (a) Quantum AI, (b) Enterprise Software Management
- Generative AI
- Computational Thinking
- Machine Learning Lab
- Generative AI Lab
- Project Stage-I

SEMESTER 8

- Research Methodology
- Project Stage-II
- Elective-IV (a) Deep Learning (b) IT Audit

CAREER PATHS & OPPORTUNITIES IN THE INTERNET OF THINGS (IOT), CYBER SECURITY & BLOCKCHAIN INDUSTRY

A CAREER IN THE INTERNET OF THINGS (IOT), CYBER SECURITY, AND BLOCKCHAIN TECHNOLOGY IS GOING TO ELEVATE & ENHANCE YOUR FUTURE

The Emerging Technology industry sector of Internet of Things (iot), Cyber Security, and Blockchain Technology offers exciting career paths post-completion of the 4-year B.Tech program

JOB PROFILES

- IoT Developer
- IoT Solutions Architect
- IoT Security Specialist
- Smart City Consultant
- Embedded Systems Engineer
- Ethical Hacker
- SOC Analyst
- Cyber security Architect
- Cyber Forensic Expert
- Blockchain Developer
- Blockchain Architect
- Cryptocurrency Analyst
- Smart Contract Developer

INDUSTRY SECTORS

Tech Giants:
Cisco (IoT), Palo Alto Networks (Cybersecurity), Coinbase (Blockchain).

Finance:
JPMorgan (Blockchain), Mastercard (Cybersecurity).

Government:
Smart city projects, national cybersecurity agencies.

Healthcare:
Secure IoT medical devices (e.g., pacemakers).

Why Choose B.Tech in Robotics and Artificial Intelligence as a Career?

- **Rapid Industry Growth:** The global AI market is projected to exceed $1.81 trillion by 2030, with a compound annual growth rate (CAGR) of 37.3% between 2023 and 2030. AI in Robotics: 45% of robots will be AI-driven by 2025.

  $1.81 trillion
  2030

- **Rapidly Growing Job Market:** The demand for AI professionals in India is experiencing significant growth. For instance, a report highlighted a 32% surge in AI job postings, reflecting the increasing need for skilled individuals in this domain.

  32%

- **Government and Corporate Investments:** India is emerging as a key player in the global AI landscape, with substantial investments from both the government and private sector. Initiatives like the $1.25 billion "IndiaAI Mission" and significant investments by companies such as Microsoft, which plans to invest $3 billion to expand AI and cloud capacity in India, highlight the country's commitment to fostering AI development.
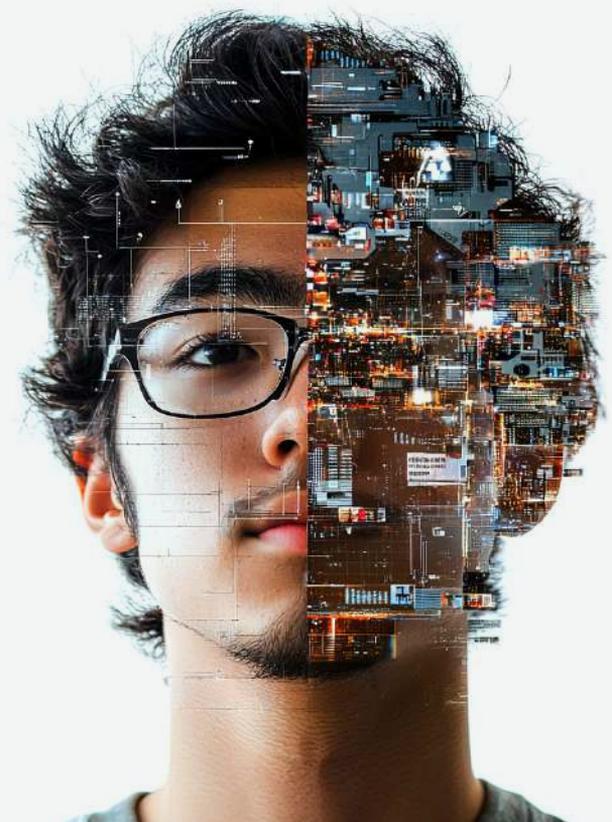
  $3 billion

- **Industry Demand Outpacing Supply:** Despite the growing reliance on AI and Data Science, there is a notable shortage of skilled professionals in India. Reports indicate that thousands of positions remain unfilled due to this talent gap, underscoring the need for specialized education in this field.

  *Source: Universal AI, McKinsey, DNA India, gngroup.org & Reuters

Why Choose B.Tech in Robotics and Artificial Intelligence (AI) @ Vidhyadeep

- Global Certifications from Microsoft, Certiport and Red Hat Technologies.

- Workshops, Masterclasses and Seminars by Visiting Experts from the Industry.

- Hi-Tech Classrooms & Lab facilities.

- Industry Visits, Technology Conferences and Study Tours.

- Research & Industry internships in Top Technology & Robotics Companies.

- Capstone, Entrepreneurship & Start-up projects mentored by Industry experts.

B.Tech ROBOTICS & ARTIFICIAL INTELLIGENCE

COURSE OVERVIEW

Robotics, Artificial Intelligence and Automation Technology are some of the most sought-after emerging technologies recognized by the All-India Council for Technical Education (AICTE). Leading global tech companies are continuously innovating in this space, creating a high demand for skilled AI Engineers, Robotics Engineers and AI-Drone Developers. The 4-year B.Tech in Robotics and Artificial Intelligence at Vidhyadeep University is designed for students eager to master Artificial Intelligence, Robotics and Drone Technology to build a successful career in this dynamic and rapidly growing industry. Join us and be a part of the future of AI, Automation, and Robotics Engineering Technology!

COURSE CURRICULUM & STRUCTURE

SEMESTER 1

- Engineering Mathematics-I
- Fundamentals of Physics
- Basics of Electronics and Electrical Engineering
- Programming Using Python
- Python Programming Lab
- Physics Lab
- Basics of Electrical and Electronics lab
- Digital IT Workshop
- Communication Skills
- Co-curricular Activities

SEMESTER 2

- Engineering Mathematics-II
- Digital Logic and Computer Organization
- Basics of Engineering Drawing
- Indian Knowledge System
- Digital Logic Lab
- Basics of Engineering Drawing Lab
- Communication Skills II
- Co-curricular Activities II

SEMESTER 3

- Discrete Mathematics
- Data Structures and Algorithms
- Object-Oriented Programming (OOP)
- Introduction to Robotics
- Data Structures and Algorithms Lab
- OOP and Computer Graphics Laboratory
- Robotics Simulation Lab
- Mini Project-I
- Technical Communication

SEMESTER 4

- Probability and Statistics for AI
- Artificial Intelligence Fundamentals
- Sensors and Actuators for Robotics
- Computer Vision
- AI Programming Lab
- Robotics Hardware Lab
- Elective-I (IoT for Robotics / Embedded Systems)
- Mini Project-II

SEMESTER 5

- Machine Learning
- Robot Dynamics and Control
- Neural Networks and Deep Learning
- Human-Robot Interaction
- ML/DL Lab
- Robot Control Lab
- Seminar

SEMESTER 6

- Reinforcement Learning
- Autonomous Systems
- Elective-II (a) Swarm Robotics
           (b) AI Ethics and Safety
- Autonomous Navigation Lab
- Elective-II Lab
- Internship
- Mini Project-III

SEMESTER 7

- Edge AI for Robotics
- Mechatronics
- Elective-III (a) Quantum Machine Learning
           (b) Industrial Robotics
- Edge AI Lab
- Project Stage-I

SEMESTER 8

- Research Methodology
- Project Stage-II
- Elective-IV (a) Deep Learning (b) IT Audit
- Capstone Project (Minor)

CAREER PATHS & OPPORTUNITIES IN ROBOTICS & ARTIFICIAL INTELLIGENCE (AI)

A CAREER IN AI, AUTOMATION & ROBOTICS IS GOING TO ELEVATE AND ENHANCE YOUR FUTURE

The Emerging Technology industry sector of AI, Automation and Robotics offers exciting career paths post-completion of the 4-year B.Tech program

JOB PROFILES

- Robotics Engineer
- AI-Robotics Developer / Researcher
- Control Systems Specialist
- Drone Technologist
- Computer Vision Engineer
- Industrial Automation Engineer
- Autonomous System Architect
- Smart Device Developer
- IoT Solutions lead

INDUSTRY SECTORS

Tech & Manufacturing:
Tesla, Boston Dynamics, Fanuc, ABB.

Healthcare:
Surgical robots (Da Vinci), prosthetics and rehabilitation tech.

Defence & Space:
Drones (General Atomics), NASA Mars rovers.

Agriculture:
Harvesting robots, AI-driven tractors.

Logistics:
Warehouse bots (Amazon Kiva), delivery drones.

POTENTIAL RECRUITERS

Join Veloces Center for Research & Technology's prestigious programs to gain cutting-edge knowledge, hands-on experience, and industry-relevant skills. Build a strong foundation for a successful career and become a future leader in technology and innovation.

Shape the future - start your journey with us today!

Delhi

Chandigarh

Ahmedabad

Surat

Kolkata

Mumbai
Pune

Coimbatore   Chennai

Bangalore

Kochi   Palakkad

FOR FURTHER QUERIES

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