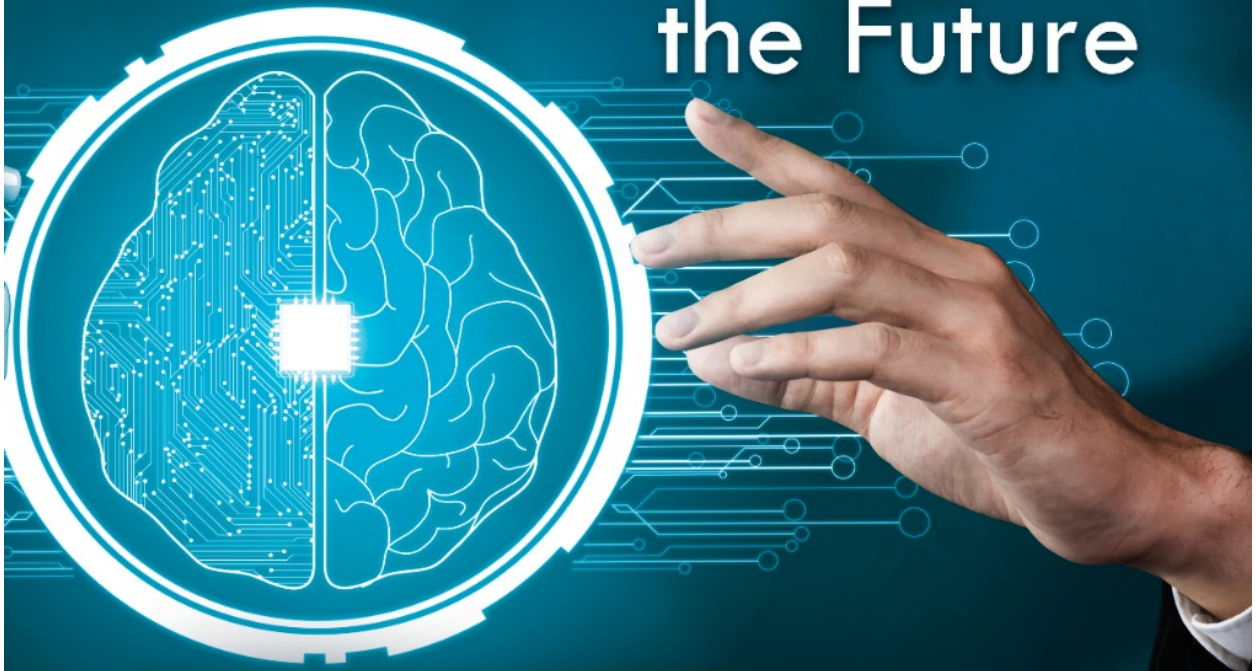
IDEAL COLLEGE OF ARTS & SCIENCES
ATTITUDE FOR ALTITUDE

IDEAL
DEGREE COLLEGE
AUTONOMOUS & NAAC B

B.SC ARTIFICIAL INTELLIGENCE
Honours

The course, that rules the Future



ADMISSIONS OPEN

8367671234, 8367371234

Vidyut Nagar, KAKINADA www.idealcollege.edu.in

B.Sc AI & ROBOTICS (honors)

B.Sc Artificial Intelligence (B.Sc AI) is an undergraduate degree program that focuses on the field of artificial intelligence and its applications. It is a specialized program that provides students with in-depth knowledge and skills in areas such as machine learning, data science, natural language processing, and computer vision. Here are some key aspects of the B.Sc AI program

1. **Artificial Intelligence: This subject covers the fundamentals of artificial intelligence, including machine learning algorithms, data mining, pattern recognition, natural language processing, and probabilistic reasoning. Students learn about AI techniques used in developing intelligent robotic systems.**
2. **Robotics: The robotics subject focuses on the principles and technologies used in robotics. It covers topics such as robot perception, robot control, robot planning and navigation, robot kinematics and dynamics, and human-robot interaction.**
3. **Machine Learning: This subject delves into machine learning algorithms and techniques used to enable robots to learn from data and make intelligent decisions. Students learn about supervised and unsupervised learning, reinforcement learning, and deep learning applied to robotics.**
4. **Computer Vision: Computer vision involves enabling robots to understand and interpret visual information from images or videos. This subject covers topics such as image processing, object recognition, 3D vision, and scene understanding.**
5. **Control Systems: Control systems play a crucial role in robotics for achieving accurate and precise movements. This subject covers the fundamentals of control theory, including PID controllers, state-space models, and robot control algorithms.**
6. **Robotic Manipulation: Robotic manipulation focuses on the physical interaction of robots with objects in their environment. Students learn about robotic grasping and manipulation, motion planning, and manipulation control strategies.**
7. **Human-Robot Interaction: This subject explores the interaction between humans and robots. It covers topics such as social robotics, natural language understanding and generation, gesture recognition, and human-centered design principles.**
8. **Robotics Sensors and Perception: This subject introduces the various sensors used in robotics, such as cameras, depth sensors, and force/torque sensors. Students learn about sensor fusion, perception algorithms, and calibration techniques.**

JOB OPPORTUNITIES

1. **Robotics Engineer: As a robotics engineer, you would design, develop, and maintain robotic systems. You could work on projects involving industrial robots, autonomous drones, healthcare robotics, or assistive robots.**
2. **AI Engineer: In this role, you would focus on applying artificial intelligence techniques to solve complex problems. You might develop AI algorithms, work on machine learning models, or create intelligent systems that can make autonomous decisions.**
3. **Machine Learning Engineer: Machine learning engineers build and implement machine learning algorithms and models. They work on data preprocessing, feature selection, model training, and evaluation to enable intelligent systems.**
4. **Autonomous Vehicle Engineer: With the rise of autonomous vehicles, there is a growing demand for engineers who can develop algorithms and systems for self-driving cars and other autonomous vehicles.**
5. **Data Scientist: Data scientists analyze large datasets, extract insights, and build predictive models using AI and machine learning techniques. They work with diverse data sources to solve complex problems and inform decision-making processes.**
6. **Research Scientist: B.Sc AI & Robotics graduates can pursue research careers, contributing to the advancement of AI and robotics technologies. They may work in academic institutions, research labs, or industrial R&D departments.**
7. **Robotics Software Developer: As a robotics software developer, you would focus on programming and developing software solutions for robotic systems. This could involve writing code for robot control, navigation, perception, and human-robot interaction.**
8. **AI Consultant: AI consultants provide expertise and guidance to organizations seeking to leverage AI and robotics technologies. They assess business requirements, recommend suitable AI solutions, and assist in implementation and integration.**
9. **Industrial Automation Specialist: B.Sc AI & Robotics graduates can work in industries that heavily rely on automation, such as manufacturing, logistics, and supply chain. They help optimize processes, implement robotic systems, and enhance efficiency.**

MASTER’S ELIGIBILITY

After completing a B.Sc AI & Robotics degree, there are several master's degree options that are eligible and relevant for further specialization in the field. Here are some common master's degrees that B.Sc AI & Robotics graduates can pursue:

1. **M.Sc in Artificial Intelligence: This program focuses specifically on advanced topics in artificial intelligence, including machine learning, deep learning, natural language processing, computer vision, and robotics. It allows students to delve deeper into AI techniques and applications.**
2. **M.Tech in Robotics: An M.Tech program in Robotics offers advanced technical knowledge and skills in the field of robotics. Students can specialize in areas such as robotic perception, robot control systems, human-robot interaction, autonomous systems, and robot learning.**
3. **M.Tech in Artificial Intelligence and Machine Learning: This program provides a comprehensive understanding of AI and machine learning algorithms, with a focus on their application in various domains. Students learn about advanced topics such as reinforcement learning, deep neural networks, and AI ethics.**
4. **M.Tech in Automation and Robotics: This program combines the principles of automation and robotics, covering topics such as industrial automation, control systems, robot manipulators, autonomous systems, and robotic vision.**
5. **M.Sc in Computer Science with a specialization in AI and Robotics: This program offers a broader foundation in computer science while allowing students to specialize in AI and robotics. It covers computer science fundamentals, algorithms, data structures, as well as advanced topics in AI and robotics.**
6. **M.Sc in Data Science: Data science is closely related to AI and robotics, as it involves extracting insights from data and developing predictive models. This program focuses on data analysis, machine learning, data visualization, and big data technologies.**
7. **M.Sc in Robotics and Automation: This program specifically focuses on the field of robotics and automation, covering topics such as robot design, control systems, sensor integration, and robot programming.**
8. **M.Sc in Cognitive Science: Cognitive science explores the interdisciplinary study of the mind, intelligence, and cognition. This program incorporates elements of AI and robotics, along with psychology, neuroscience, linguistics, and philosophy.**
9. **M.Sc in Human-Robot Interaction: This program focuses on the interaction between humans and robots, covering topics such as social robotics, user experience design, human-centered design principles, and ethical considerations in human-robot interaction.**