

Mech Tech



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About Department

The Mechanical engineering is one of the core engineering departments, which has potential to accommodate all efficient engineers. The Mechanical engineers serve all other branches of engineering directly or indirectly. The Mechanical engineers can find their place in Automobile engineering sector, Electrical Engineering sector, IT sector, manufacturing industries, design industries, Military, Naval and Air force, defiance research organizations, material research organizations etc. The Mechanical Engineering department of the college has been established in the year 2011 with an intake of 60 students.

In the following year the intake of the department was increased to 120. The department has fourteen well equipped laboratories and 34 highly qualified and experienced teaching faculty members. There are six professors; eight associate professors and the rest are assistant professors. Eleven faculty members are doctorates. The remaining faculty members are all M. Tech degree holders and seven of them are pursuing Ph.D. Many of the faculty members have publications in reputed International and National journals.

Department Vision

To impart the knowledge of mechanical engineering with global perspectives for graduates to serve the industry in particular and the society at large through quality education and research.

Department Mission

1. To enable graduates to be technically strong, ethically sound with good communication skills by innovative teaching methods.
2. To provide world class education to mould the students, so that they possess good leadership qualities and professional skills.
3. To create a conducive environment and facilities to improve overall personality development of the students.
4. To enable graduates to be technically strong, ethically sound with good communication skills by innovative teaching methods.
5. To provide world class education to mould the students, so that they possess good leadership qualities and professional skills.
6. To create a conducive environment and facilities to improve overall personality development of the students.
7. To create an awareness of the social responsibilities of an engineer.
8. To bond strong relationship with industries to upgrade the knowledge of the students through exposure for cutting edge technologies

ARTICLE ON TYPES OF ROBOTS



B.S.M. Naga Sai Naidu

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From carefully harvesting crops to assembling automobiles and delivering medications, robotics solutions are enhancing productivity, improving safety, and enabling greater flexibility in a variety of industries. Innovative organizations are finding forward-thinking robotics applications that help them deliver tangible results. Intel works closely with manufacturers, system integrators, and end customers to help ensure robots deliver powerful, human-centric outcomes.

Common Types of Robots

As robotics manufacturers continue to deliver innovations across capabilities, price, and form factor, robotics solutions are being implemented in an ever-increasing number of industries and applications. Advancements in processing power and AI capabilities mean that we can now use robots to fulfill critical purposes in a plethora of ways.

While robotics applications vary greatly—giving directions, stocking shelves, welding metal in dangerous environments, and much more—today’s robots can generally be grouped into six categories.

Autonomous Mobile Robots (AMRs)

AMRs move throughout the world and make decisions in near real-time as they go. Technologies such as sensors and cameras help them ingest information about their surroundings. Onboard processing equipment helps them analyze it and make an informed decision—whether that’s moving to avoid an oncoming worker, picking precisely the right parcel, or selecting an appropriate surface to disinfect. They’re mobile solutions that require limited human input to do their job. Learn more about AMRs.

Automated Guided Vehicles (AGVs)

While AMRs traverse environments freely, AGVs rely on tracks or predefined paths and often require operator oversight. These are commonly used to deliver materials and move items in controlled environments such as warehouses and factory floors.

Articulated Robots

Articulated robots (also known as robotic arms) are meant to emulate the functions of a human arm. Typically, these can feature anywhere from two to 10 rotary joints. Each additional joint or axis allows for a greater degree of motion—making these ideal for arc welding, material handling, machine tending, and packaging. Learn more about articulated robots and robotic arms.

Humanoids

While many mobile humanoid robots may technically fall under the domain of an AMR, the term is used to identify robots that perform human-centric functions and often take human-like forms. They use many of the same technology components as AMRs to sense, plan, and act as they carry out tasks such as providing directions or offering concierge services.

Cobots

Cobots are designed to function alongside or directly with humans. While most other types of robots perform their tasks independently, or in strictly isolated work areas, cobots can share spaces with workers to help them accomplish more. They’re often used to eliminate manual, dangerous, or strenuous tasks from day-to-day workflows. In some cases, cobots can operate by responding to and learning from human movements.

Hybrids

The various types of robots are often combined to create hybrid solutions that are capable of more complex tasks. For example, an AMR might be combined with a robotic arm to create a robot for handling packages inside of a warehouse. As more functionality is combined into single solutions, compute capabilities are also consolidated.

Fixed Vs. Nonfixed Location Robots

Robots can also be broadly categorized in to two groups: those that move around their environment and those that do not.

Mobile	Stationary
<ul style="list-style-type: none"> • AMRs • AGVs • Humanoids • Hybrids 	<ul style="list-style-type: none"> • Articulated robots <ul style="list-style-type: none"> • Cobots

How Robots Are Used Across Industries

Businesses and government agencies use robotics in a variety of ways. All five of the common robot types are deployed to enhance outcomes and reduce the burden on employees so they can focus on the most-valuable and most-critical tasks.

Industrial

The manufacturing industry has long been at the forefront of using various types of robots to achieve business results. AMRs, AGVs, articulated robots, and cobots are all deployed on factory floors and in warehouses to help expedite processes, drive efficiency, and promote safety—often in conjunction with programmable logic controllers. They’re used across a variety of applications, including welding, assembly, materials transportation, and warehouse security.

Farming and Agriculture

AMRs are helping farmers harvest their crops more quickly and efficiently—and they’re using impressive intelligence capabilities to do it. Agricultural robots can assess ripeness, move any branches or leaves out of the way, and pick the crop precisely and delicately to avoid causing any harm to the product.

Healthcare

Various types of robots are used in the healthcare industry to enhance the patient experience. AMRs are used to deliver medication, disinfect surfaces, or provide mobile telepresence functionality. Cobots are also used to assist medical professionals during rehabilitation or to help nurses better serve their patients.

Logistics

Robotics help logistics and shipping companies to deliver goods quickly and efficiently. They use AMRs and AGVs as warehouse robots that help them process items, expedite operations, and increase accuracy. They also employ AMRs to take shipments the last mile and ensure safe delivery to customers.

Retail and Hospitality

Robotics can be used to enhance the customer or guest experience in a variety of ways. Retail and hospitality companies are using robotics to automate inventory processes, provide concierge or way-finding services, clean various environments, and assist customers with their luggage or valet parking.

Smart Cities

Robotics help create smarter and safer cities. Humanoid robots offer way-finding and information services. AMRs are used to deliver goods and conduct routine security patrols. Robotics also help expedite building construction, conduct site surveys, and collect building modelling information.

Intel's Impact on Robotics

Across industries, Intel plays an integral role in empowering robots to sense, plan, and act accordingly.

Our processor, FPGA and VPU solutions are used in many types of robots to provide the essential compute capabilities they need for intelligent, automated operation.