PRAGYAN

RANE POYTECHNIC TECHNICAL CAMPUS

LEARN AND GROW

DESIGN AND FABRICATION OF REMOTE CONTROL PROTOTYPE WHEEL CHAIR

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ABSTRACT

The present day society demands the people to be independent, irrespective of their natural challenges, mentally or physically. Voice Controlled Wireless wheel chair Automation Based on Bluetooth a project that is integrated system with mobile phone (application) to give the facility to the elderly and the disable people, so that they can easily control cleaning utilities fully Based on their phone through voice command. The device is built in such a way that it will be easy to carry, install, configure, run and maintain for the non-technical person.

PROBLEM STATEMENT

- Independent mobility is crucial for development of physical, cognitive, communicative and social skill for physically impaired people

- The high price of the electric wheel chairs. This project is thus aimed at the development of more sophisticated control scheme for electric powered wheelchair

- The main problem of the wheelchair is that cannot be used by disabled person, so the type of artificial aid needed by a disabled person in order to move about depends, to a large extent, on the level of his incapacity. So no need to handles behind the seat to allow it to be pushed by another person.

EXISTING METHOD

- wheelchair is a manually operated or power-driven device designed primarily for use by an individual with a mobility disability for the main purpose of indoor, or of both indoor and outdoor, locomotion

- Individuals with mobility disabilities must be to use wheelchairs and manually operated.

PROPOSAL OF PROJECT

- In order to minimize their problem we have developed a "smart wheelchair" which will operate on the voice commands from the handicapped user for movement purpose the voice command

- The objective of this project is to control the wheelchair movement using motor activated by voice controlled system. Voice controlled system will be more safe, accurate and faster than self-controlled wheel chair. This may reduce the risk of incidents.

BLOCK DIAGRAM
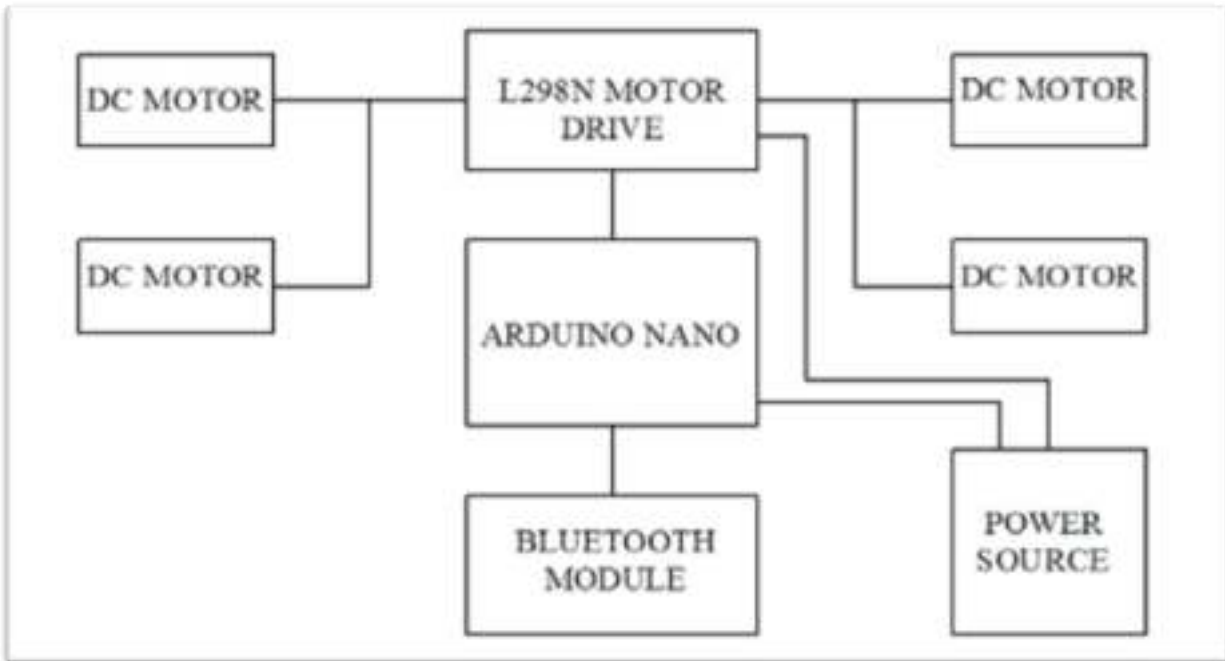
USED COMPONENTS

- Arduino Nano

- Bluetooth module (HC-05)

- L298N motor driver

- BO motor

- 12v battery

ADVANTAGE

- The patients like quadriplegic and cerebral palsy, lack of force, can easily handle this voice controlled system.

- The use of Arduino makes the programming of the system easy and thus, reduced the software and hardware interfacing problems.

- The system can be operated by giving synthetic voice commands.

- The system is fully automated because of the use of Arduino and motor drivers.

APPLICATION

- Wheelchairs are used by people for whom walking is difficult or impossible due to illness, injury, or disability.

- People who have difficulty sitting and walking often make use of a wheel bench.

INTELLIGENT BRAKING SYSTEM

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INTRODUCTION

From now days most of the accident causing due to drinking, sleeping, unnecessary actives ,etc. this is the upcoming and day to day developing system intelligent braking system, after abs, ebs, mbs.

ARDUINO

Single board micro controller intended to make the application of interactive objects or environments more accessible Designed to make the process of using electronics multi-disciplinary projects more accessible.

SPECIFICATION OF ARDUINO

- Microcontroller atmega328
- operating voltage: 5v and 3.3v
- Input voltage {recommended}7-12v
- input voltage {limits} 6-20v
- digital i/o pin 14-6 outputs
- clock speed: 16mhz

WORKING

the car have all four wheel where the speed controller going to fix in the section of front mirror a dome camera with 360 degree which will give direct information to sensor as arduino . it will give brake in the distance of 60m.if the driver is sleeping or in drunken the car will goes to auto mode in the speed of 40. if the vehicle is in traffic the four wheels will be in the control of ibs(intelligent breaking system)back camera 60m.

APPLICATION

- *High safety.*
- *High accurate system for automatic braking system.*
- *Less operating force is required.*
- *Automated operation.*

CONCULSION

- The brake pedal, on which you applied pressure to slow down or stop your vehicle, if connected by livers and rods to the brake booster.

- The brake booster multiples and transfer the leverage force produced by stepping on the brake pedal to the master cylinder.

- In turn, the master cylinder uses the amplifier leverage pressure the brake fluid from its reserved oil through hydraulic lines towards the two fronts and rear brake.

- It has three cameras by watching 360 degree sensing the near object with Arduino.

FUTURE OF ARTIFICAL INTELLIGENCE

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ABSTRACT

Undoubtedly, Artificial Intelligence is a revolutionary field of computer science, which is ready to become the main component of various emerging technologies like big data, robotics, and IoT. It will continue to act as a technological innovator in the coming years. In just a few years, AI has become a reality from fantasy. At this time, we live in a world of Artificial Intelligence that was just a story though for some years. We are using AI technology in our daily lives either unknowingly or knowingly, and somewhere it has become a part of our life. Ranging from Alexa/Siri to Chatbots, everyone is carrying AI in their daily routine. The development and evolution of this technology are happening at a rapid pace. It has taken several years and lots of hard work & contributions of various people to take AI at this stage. AI will be deployed to enhance both defensive and offensive cyber operations. Additionally, new means of cyber-attack will be invented to take advantage of particular vulnerabilities of AI technology.

This topic will discuss the future of AI and its impact on human life, i.e., whether it is a great technology or a threat to humans.

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WHAT IS AI

Artificial intelligence (AI): The ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. John McCarthy who is known as the founder of Artificial Intelligence introduced the term 'Artificial Intelligence' in the year 1955. McCarthy along with Alan Turing, Allen Newell, Herbert A. Simon, and Marvin Minsky is known as the founding fathers of AI.

ARTIFICAL INTELLIGENCE (AI) AT PRESENT

Based on capabilities, AI can be divided into three types that are:

o   Narrow AI: It is capable of completing dedicated tasks with intelligence. The current stage of AI is narrow AI.

o   General AI: Artificial General Intelligence or AGI defines the machines that can show human intelligence.

o   Super AI: Super AI refers to self-aware AI with cognitive abilities that surpass that of humans. It is a level where machines can do any task that a human can do with cognitive properties.

At the current stage, AI is known as Narrow AI or Weak AI, which can only perform dedicated tasks. Example, self-driving cars, speech recognition, etc.

MYTHS ABOUT ADVANCED ARTIFICAL INTELLIGENCE

1. Super intelligence by the year 2100 is not possible.

The reality about the possibility of super intelligence is that currently, we can't determine it. It may occur in decades, or centuries, or may never, but nothing is confirmed. There have been several surveys in which AI researchers have been asked how many years from now they think we will have human-scale AI with at least a 50% chance. All of these surveys have the same conclusion: The world's leading experts disagree, so we don't know. For example, in such a survey of AI researchers at the 2015 Puerto Rico AI

conference, the (average) answer was by 2045, but some researchers estimated hundreds of years or more.

2. I will replace all human jobs.

It's certainly true that the advent of AI and automation has the potential to disrupt labor seriously - and in many situations, it is already doing just that. However, seeing this as a straightforward transfer of labor from humans to machines is a vast oversimplification.

With the development of AI, a revolution has come in industries of every sector, and people fear losing jobs with the increased development of AI. But in reality, AI has come up with more jobs and opportunities for people in every sector. Every machine needs a human being to operate it. However, AI has taken over some roles, but it reverts to producing more jobs for people.

3. Super-intelligent computers will become better than humans at doing anything we can do

As discussed above, AI can be divided into three types, Weak AI, which can perform specific tasks, such as weather Prediction. General AI; Capable of performing the task as a human can do, Super AI; AI capable of performing any task better than human.

At present, we are using weak AI that performs a particular task and improves its performance. On the other hand, general AI and Super AI are not yet developed, and researches are going on. They will be capable of doing different tasks similar to human intelligence. However, the development of such AI is far away, and it will take years or centuries to create such AI applications. Moreover, the efficiency of such AI, whether it will be better than humans, is not predictable at the current stage.

4. AI does not require human intervention.

People also have a misconception that AI does not need any human intervention. But the fact is that AI is not yet developed to take their own decisions. A machine learning engineer/specialist is required to pre-process the data, prepare the models, prepare a training dataset, identify the bias and variance and eliminate them, etc. Each AI model is still dependent on humans. However, once the model is prepared, it improves its performance on its own from the experiences.

HOW CAN ARTIFICIAL INTELLIGENCE BE RISKY?

Most of the researchers agree that super AI cannot show human emotions such as Love, hate or kindness. Moreover, we should not expect an AI to become intentionally generous or spiteful. Further, if we talk about AI to be risky, there can be mainly two scenarios, which are:

1. AI is programmed to do something destructive:

Autonomous weapons are artificial intelligence systems that are programmed to kill. In the hands of the wrong person, these weapons could easily cause mass casualties. Moreover, an AI arms race could inadvertently lead to an AI war resulting in mass casualties. To avoid being dissatisfied with the enemy, these weapons would be designed to be extremely difficult to "turn off," so humans could plausibly lose control of such a situation. This risk is present even with narrow AI but grows as levels of AI intelligence and autonomy increase.

2. Misalignment between our goals and machines:

The second possibility of AI as a risky technology is that if intelligent AI is designed to do something beneficial, it develops destructive results. For example, suppose we ask the self-driving car to "take us at our destination as fast as possible." The machine will immediately follow our instructions. It may be dangerous for human lives until we specify that traffic rules should also be followed and we value human life. It may break traffic rules or meet with an accident, which was not really what we wanted, but it did what we have asked to it. So, super-intelligent machines can be destructive if they ask to accomplish a goal that doesn't meet our requirements.

FUTURE IMPACT OF AI IN DIFFERENT SECTORS
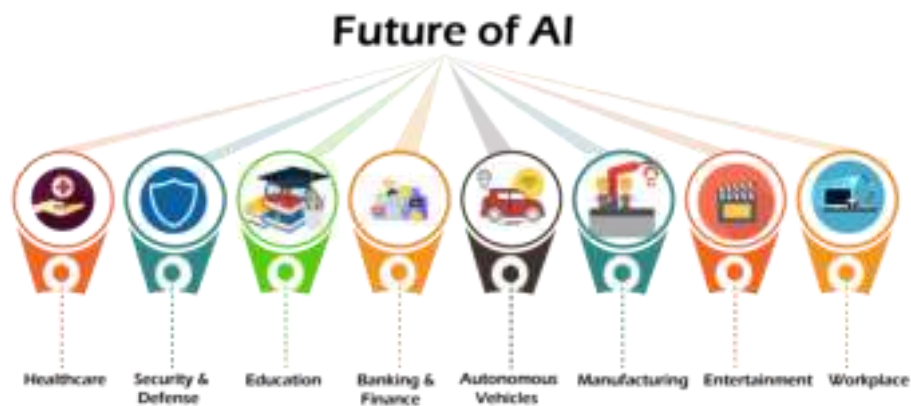
Healthcare:

AI will play a vital role in the healthcare sector for diagnosing diseases quickly and more accurately. New drug discovery will be faster and cost-effective with the help of AI. It will also enhance the patient engagement in their care and also make ease appointment scheduling, bill paying, with fewer errors. However, apart from these beneficial uses, one great challenge of AI in healthcare is to ensure its adoption in daily clinical practices.

Cyber security:

Undoubtedly, cyber security is a priority of each organization to ensure data security. There are some predictions that cyber security with AI will have below changes:

- With AI tools, security incidents will be monitored.
- Identification of the origin of cyber-attacks with NLP.
- Automation of rule-based tasks and processes with the help of RPA bots.

However, being a great technology, it can also be used as a threat by attackers. They can use AI in a non-ethical way by using automated attacks that may be intangible to defend.

Transportation:

The fully autonomous vehicle is not yet developed in the transportation sector, but researchers are reaching in this field. AI and machine learning are being applied in the cockpit to help reduce workload, handle pilot stress and fatigue, and improve on-time performance. There are several challenges to the adoption of AI in transportation, especially in areas of public transportation. There's a great risk of over-dependence on automatic and autonomous systems.

E-commerce:

Artificial Intelligence will play a vital role in the e-commerce sector shortly. It will positively impact each aspect of the e-commerce sector, ranging from user experience to marketing and distribution of products. We can expect e-commerce with automated warehouse and inventory, shopper personalization, and the use of chat bots in future.

Employment:

Nowadays, employment has become easy for job seekers and simple for employers due to the use of Artificial Intelligence. AI has already been used in the job search market with strict rules and algorithms that automatically reject an employee's resume if it does not fulfil the requirement of the company. It is hoping that the employment process will be driven by most AI-enabled applications ranging from marking the written interviews to telephonic rounds in the future.

For jobseekers, various AI applications are helping build awesome resumes and find the best job as per your skills, such as Rezi, Jobseeker, etc.

Apart from above sectors, AI has great future in manufacturing, finance & banking, entertainment, etc.

LANGUAGES USED IN AI

Artificial Intelligence has become an important part of human life as we are now highly dependent on machines. Artificial Intelligence is a very important technology to develop and build new computer programs and systems, which can be used to simulate various intelligence processes like learning, reasoning, etc.

Programming Languages used in Artificial Intelligence

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WHAT ARE THE DIFFERENT TYPES OF ARTIFICIAL INTELLIGENCE APPROACHES?

While everything seems green and sunny to a non-specialist, there is a lot of technology to build AI systems. There are four types of artificial intelligence approaches based on how machines behave - reactive machines, limited memory, theory of mind, and self-awareness.
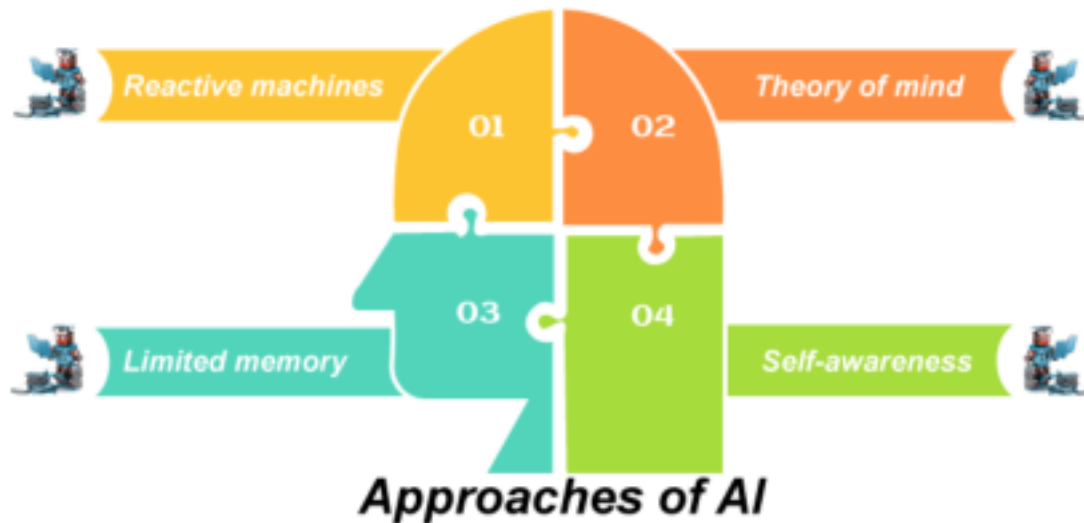

SCOPE OF AI (AI CAREERS)

Fresher's should analyses their competencies and skills and choose a better AI role with the potential for upward mobility. The future scope of Artificial Intelligence continues to grow due to new job roles and advancements in the AI field. The various roles in an AI career are as follows:
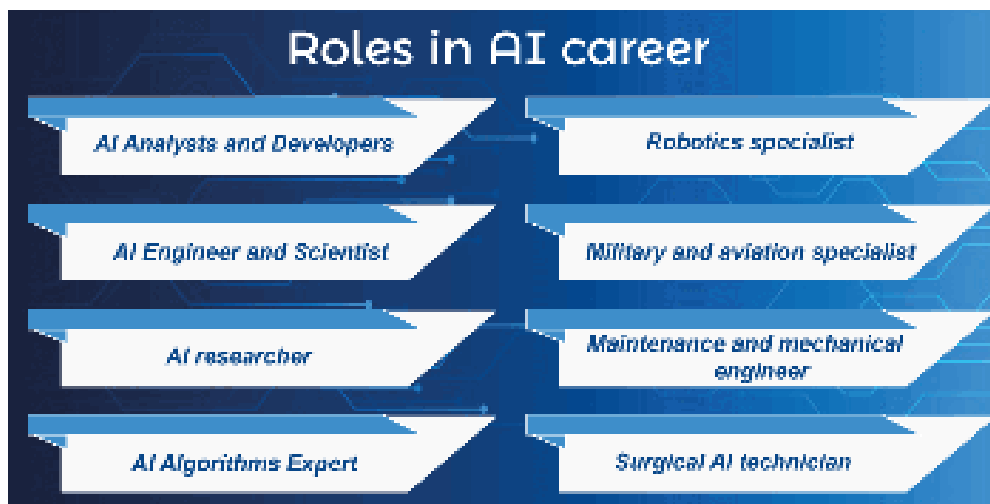
FUTURE OF AI

The future of Artificial Intelligence is bright in India, with many organizations opting for AI automation. It is essential to understand the recent developments in AI to find suitable job roles based on your competencies. The scope of Artificial Intelligence is limited to domestic and commercial purposes as the medical and aviation sectors are also using AI to improve their services. If AI is outperforming human efforts, then opting for AI automation will reduce costs in the long run for a business. Automation in operational vehicles has created a buzz in the logistics industry as it is expected that automated trucks/vehicles may soon be used. Due to the bright scope of Artificial Intelligence in the future, the number of AI start-ups is expected to increase in the coming years. Indicating the opportunities, the number of AI start-ups in India has increased significantly. Moreover, India's talent gap for specialist AI developers is huge, and AI experts are needed by businesses more than ever. Businesses do not want to miss out on any technology that can revolutionize their business processes.

JOBS IN AI
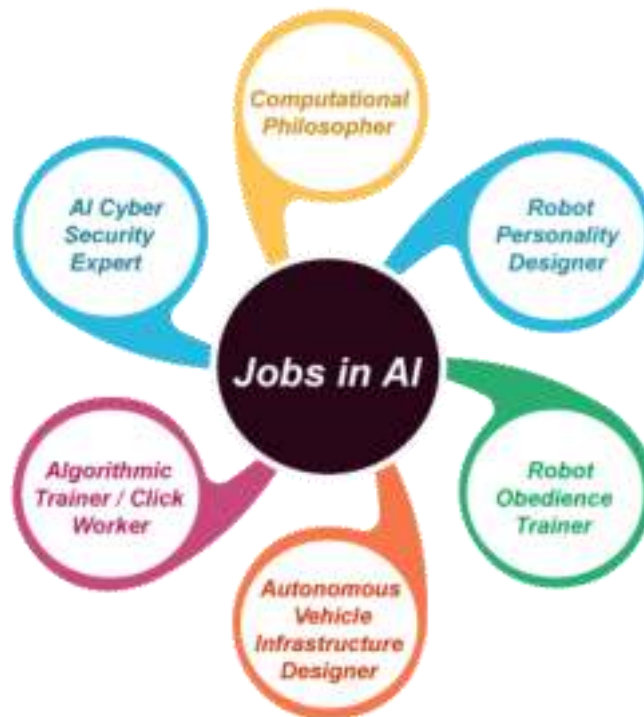
FUTURE SCOPE AI IN INDIA

The adoption of Artificial Intelligence in India is promising. While some industries, such as IT, manufacturing, automobiles, etc., are taking advantage of the prowess of AI, there are still many areas in which its potential has not been explored. The immense potential present in AI can be understood by the various other technologies included under the umbrella of AI. It is predicted that hardly any industry will be left untouched by this powerful tool in the next few years. It is the reason why AI has so much potential to grow in India

BENEFITS

AI has various uses in the modern-day scenario. Industries are using AI to automate processes, and better AI algorithms are being developed every day to speed up various industry processes/tasks.

Benefits of AI

CONCLUSION

Recently, businesses have seen a massive exposure to AI and ML phenomena as they explore their application possibilities in various fields. For example, researchers began using machine learning to gain insight into the recent global pandemic that brought the world to a standstill.

When we talk about the combined scope of AI and Machine Learning in India, it is essential to recognize its application in the medical segment to track the spread of viruses, contact tracing, and even analytics for a treatment. Experts predict that as the vicious cycle of economic slowdown begins, India's demand for AI and ML professionals will increase. It is a positive indicator of the scope of Machine Learning and Artificial Intelligence in India. Many IT professionals aspire to pursue a career in AI and ML technologies and look for ways to become and become AI and ML experts.

Even as the country witnessed massive job losses, machine learning and artificial intelligence jobs were the least affected. Businesses are already on the patch to create more robust virtual work environments, which has increased the demand for AI and ML professionals.

Scientist study the world as it is,

Engineers create the world that never has been.

- Theodore Van Karmant

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