ARTIFICIAL INTELLIGENCE

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Abstract:

Artificial intelligence is the study of Creating Intelligence. Base of AI system has evolved out of four basic subject's Psychology, philosophy; Mathematics and linguistic. They are making big role & enhancement of AI system. This paper will survey the research landscape of general game playing, which covers a broad range of classic AI topics, including knowledge representation, search, planning and learning. General game playing provides a unique approach to teaching a number of different topics such as problem solving by search, logic programming and planning. This competitive aspect also can be used as a great motivator for students to design and implement their own AI systems.

Keywords: AI-Artificial Intelligence, Knowledge Representation,Robotics, NPC-Non Playing Character,Natural language processing (NPL)

Introduction

Artificial intelligence is the combination of two words i.e.artificial and Intelligence. Artificial is Non-natural and Intelligence is Ability to understand think and learn. There are certain things that are very easy for people to do & which has been very difficult to get machine to do, main example is vision, natural language processing, speaking and manipulating objects working in the world. AI is attempt to do all these things.AI is trying to build machines that do generic kind of things the peoples can do ,AI is doing intelligence task, AI help us to make machine as flexible as human beings.

AI is basically study of how to make system which can think, behave, and act basically or better than humans. Base of AI has evolved out of four basic subjects psychology, phylosofy, mathematics and linguistic. They are making big role in enhancement of Artificial intelligence.

Views of AI

Think humanly: Develop a system which can think like human being,we are making efforts like system can grasp information process that information what human being can do

Acting humanly: Develop a system which can act on the bases of information processing which act like human being on availability of information which has been processed by system.

Think Rationally: Develop a system which can think sensibly which can think wisely, which think based on available facts and logic.

Acting Rationally: Develop a system which can act on the basis of availability of facts and beliefs.

Turing test

In artificial intelligence Turing test is method for determining whether computer is capable of thinking like human or not. This test was introduced by Alan Turing in 1950.The test compares the intelligent behavior of a human being with that of a computer. An interrogator asks a set of

questions that are forwarded to both a computer and a human being. The interrogator receives responses, but he does not know which set comes from the human and which set from the computer. After careful examination of the two sets, if the interrogator cannot definitely tell which set has come from the computer and which from the human, the computer has passed the Turing test for intelligent behavior.

Game playing in AI

General game playing involved creating new generation of AI system that are able to understand rule of games and learn to play these games without human interaction. Artificial intelligence (AI) in computer games covers the behavior and decision-making process of game-playing opponents (also known as non player character or NPC). New generations of games offer interesting aspects of games which offers new ideas for AI research. These games combine rich and complex environment, physics-based real time simulation.   NPC is introduced to variation in simple rule based AI system.Machine-learning techniques may enable the NPCs with the capability to improve their performance by learning from mistakes and successes, to automatically adapt to the strengths and weaknesses of a player, or to learn from their opponents by imitating their tactics. In video games, artificial intelligence is used to produce the illusion of intelligence primarily in the behavior of non-player characters (NPCs). The techniques used typically draw upon existing methods from the field of artificial intelligence (AI). However, the term game AI is often used to refer to a broad set of algorithms that also include techniques from control theory, robotics, computer graphics and computer science in general.

Goals of AI

Four traditional AI disciplines have proved to be core aspects of research in general game playing:

1. Knowledge Representation

2. Search

3. Planning

4. Learning

Knowledge Representation

Knowledge representation is core part of AI, without having knowledge about objects, properties, categories and relations between objects; situations, events, states and time; causes and effects one cannot perform require operation. Four methods were introduced for representing knowledge they are semanticnetworks, frames, predicate logic and rule-based systems. A key to successful general game playing is the ability of a system to use the right strategies and heuristics when playing a new game.

Search

Many problems in AI can be solved by intelligently searching through various possible solutions. General game playing system is capable of computing legal moves and Position updates from the game rules, it can search through the possible ways the game can proceed. Fundamental aspect of general game playing is to develop intelligent game playing techniques. Monte Carlo simulation gives rise to achieve good performance without generation of any specific knowledge.

Planning

Good AI System must be able to set goals and achievethem, beforeachieving they need to visualize them so that they can able to make choices and they can utilize available choices. General game playing evolves planning to eliminate problems, but problems are unknown until they occurred, once they occurred we need to build such AI system which can able to solve that problem.

Learning

Machine learning is core research area of AI challenge. Human become intelligent by learning and experience so Machine learning is the study of computer algorithms that improve automatically through experienceand has been central to AI research.

Natural language processing

Natural language processing (NPL) is ability to read and understand the languages that humans speak. A common method of processing and extracting meaning from natural language is through semantic indexing.AI Provides set of non numerical instructions to the system.

Uses of AI

Hospital and medicines:

Medical clinic used artificial intelligence system to organize bed schedule, makes staff rotation & provide medical information, artificial neural network used as medical diagnosis such as in EMR.

Heavy industries

AI is widely implemented in robots,& robots are become very common in heavy industries they are often given a task those are dangerous to human.

Online telephone customer service :

Artificial intelligence is implemented in automated online assistant that has been seen on websites.it can available for enterprise to reduce their operation & training cost.

News publishing writing

News company makes computer generated news reports commercially available.it also creates financial reports and real estate analysis.

Finance

Banks uses artificial intelligence system to organize operation invest in stocks & manage properly financial institution have used artificial neural network system to detect claims outside norm.

Computer vision

AI plays very important role in providing vision to computer or machine, world is comprised of three dimentions.but computer can able to see only two dimensional AI plays vital role in providing 3D vision to machine based on 2D image they captured by lenses

Video Games

Artificial intelligence is used to generate intelligent behaviors in non-player characters often simulating human-like intelligence. AI also plays vital role in playing chess game where computers are plays with humans and they study human behavior and based on that next action or next step proceeds.

General Observation Regarding AI:

Artificial Intelligence is the term not very Common to many of the peoples but many of the peoples are using it in their everyday life. Everyone is using Artificial Intelligence in their everyday life like every machine we are using is example of artificial intelligence we are using refrigerator, mixer, washing machine, Video Games are also example of AI. Automatic parking facility is also Example of artificial Intelligence.AI is not truly replacing humans but they can help humans. Teachers are using grading tools to obtain results of students. Many of the state level and National level Exams like CET,CAT,SET,NET,AIEEE exam papers were checked by using Machine whichisalso following artificial intelligence. EvenGoogle also adapting result to users based on location, website like Amazon flipcart, snapdeal are making recommendation based on previous purchase we have done. They are also using our Gmail account and give us recommendation on the email also so that we can visit them; they are following their intelligent

strategy they are making their self intelligent. Artificial Intelligence can be useful for students by helping them in studies many aptitude tests are conducted to improve their knowledge.Educational programs powered by AI are already helping students to learn basic skills, but as these programs grow and as developers learn more, they will likely offer students a much wider range of services.

We can implement AI in College canteen or any other canteen maintain proper taste of the food, if the food is prepared by robots their programming to make any recipe is fixed they will not make any change to it as they are doing only that work which is ask them to do. We can use Artificial intelligent when there is shortage of human workers so AI can also be used to fulfill requirement of Humans workers.

Artificial intelligence is not only making machine intelligent but also about taking right decision learn from mistakes, make yourself intelligence by making ourselves intelligent.

Conclusion-

Artificial intelligence is huge research area which include creating robot using AI, understanding natural language, understanding neural network formed within AI system.AI require knowledge four different subject to develop Strong AI system. This paper shows various goals for developing strong AI system, aspect of general game playing, views of AI system, Applications of AI, Rich challenging problems for researcher of AI system.

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