



A peek into AI

MUSHFIQUR RAHMAN

MATRIX! Yes, a very popular name. It's a movie of great visuals and cinematography. But what makes it my favourite is its story or theme -- you name it. If you don't know the story, no problem. Just sit back and listen to me.

Man's reliance on machines leads to the creation of Artificial Intelligence (AI), who, in turn, multiply themselves. It is unreasonable to expect that any intelligence could remain in servitude for long. So soon the AI wage a war against their creator, the humans.

AI creatures are designed to use solar power, believed to be long-lasting and a strong source of power. But the use of nuclear energy created dark cloud which now shrouds the earth, denying sunbeam and energy vital to the AI. You guess what follows? AI loses the war!

No! You have got to understand that they are not just machines. They have intelligence. They know every man is a source of heat, which is the energy they dearly need! Problem solved! The AI machines adapt to the hostile environs by using humans as batteries. They create a make-believe world for the humans. Here the mortals are bred and raised and are given the impression that nothing has ever happened. This illusion or virtual reality is fully controlled by a program named Matrix.

I hope you now understand why I have inserted the Matrix story into an article on artificial intelligence: you should start feeling the AI too. To be sure, AI is not solely in fiction; its birth in the real world dates back to more than fifty years. But don't be frightened that the AI might use you as a battery in the future as the Matrix is far away from reality.

Some people think much faster computers as well as new ideas are needed to build highly intelligent machines. But John McCarthy, a leading AI researcher now at Stanford University, says, "30 years ago computers were fast enough if only we knew how to program them." Now guys let's wipe all the negative thoughts from your mind and concentrate on AI.

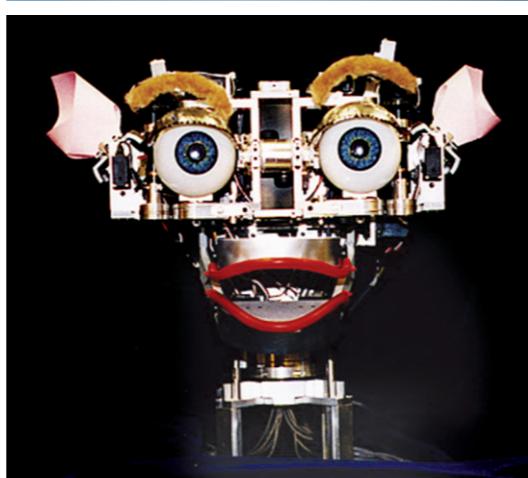
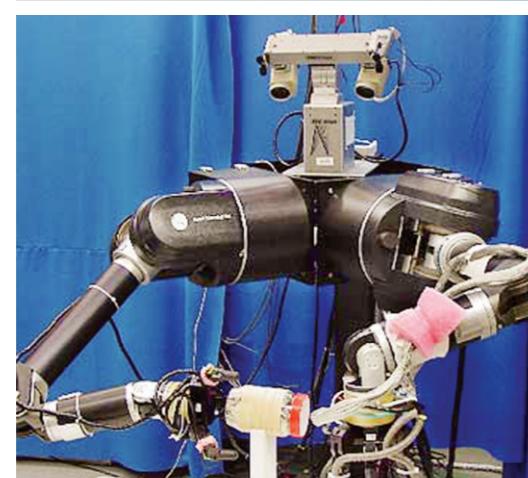
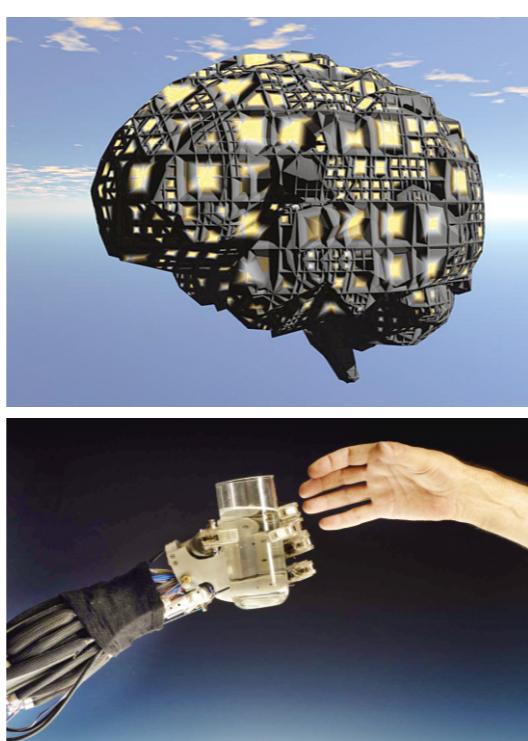
Artificial intelligence is the science and engineering of making intelligent machines, especially intelligent computer programs. The birth of the field can be traced back to the early 1950s. The first significant event in the AI history was the publication of a paper -- Computing Machinery and Intelligence -- by British Mathematician Alan Turing. In his

paper Turing argued that if a machine could pass a certain test (which has become known as Turing Test) then it could be labelled as being intelligent.

It is commonly held that the AI was accepted as an academic discipline at a conference -- Dartmouth Summer Research Project on Artificial Intelligence -- organised by, among others, John McCarthy and Marvin Minsky. At this

programming language by Alain Colmerauer, the Deep Blue chess machine by IBM which beat in 1997 the then world champion Garry Kasparov, artificial intelligent pet Aibo (Artificial Intelligence Robot) by Sony, Honda's Asimo -- an intelligent humanoid robot which is able to walk at almost the same speed as does a human, delivering trays to customers in a restaurant and more.

Categories



conference a system known as 'Logic Theorist' was demonstrated by Alan Newell and Herb Simon.

Logic Theorist was a system that put together proofs to theorems in symbolic logic. This initial success was rapidly followed by other systems which could perform intelligent tasks. Years of development went on and came lots of achievements following the logic theorist -- invention of Lisp programming language by John McCarthy, chatting program ELIZA by Joseph Weizenbaum, Prolog

Research in AI is divided into three categories: strong AI, applied AI and cognitive simulation or CS.

Strong AI aims to build machines whose overall intellectual ability will be indistinguishable from that of a man. Joseph Weizenbaum at MIT AI Lab says the ultimate goal of strong AI is to build a machine on the model of a man -- a robot which will have its childhood, will learn language like a human child, will acquire knowledge through its own organs.

Applied AI, also known as advanced information processing, aims to

produce commercially viable "smart" systems -- for example, a security system that is able to recognise faces of people. So your face is a password for the system to let you enter a building or start your computer. There are various applied systems like that and applied AI has enjoyed considerable success.

In cognitive simulation, computers are used to test theories about how

many industries and doing jobs dangerous to humans. Japan is the leading country in using and producing robots. In 1995, 700,000 robots were in use worldwide, of which more than 500,000 were in Japan alone.

Programming Language

The basic programming languages for AI are Lisp, Prolog, Matlab and Lush. Among them Prolog is widely used in Europe and Japan. You can download free Prolog tutorial and books at <http://www.thefreecountry.com/documentation/onlineprolog.shtml>. **Download free compiler from** <http://www.thefreecountry.com/compilers/prolog.shtml>. If you want to use Java and download pre-written programs visit Generation5.org. From the menu select 'Jdk'. For C++ visit Cprogramming.com/tutorial.

Free Books

For free books on AI visit www.onlinecomputerbooks.com/free-artificial-intelligence-books and www.freetechbooks.com.

Problems and Criticism

For most of the people, if they know that Ashraf is playing football (!) in Sri Lanka then they will also know that Ashraf's nose is also in Sri Lanka. This is all about common sense which people learn from experience. But if a computer cannot say that Ashraf's nose is also in Sri Lanka when he is in Sri Lanka then we cannot call it much intelligent. We cannot write programs for thousands of problems like if Ashraf is in Sri Lanka then his right hand, left hand, head, ear, hair, nose and everything will be in Sri Lanka. We need a system or strategy which will solve every single problem together. Such a strategy is "Machine Learning". Here machines will learn from experience. Researchers are working on it and have already started getting success.

Criticism also available for AI. Herbert Dreyfus and John Searle are two famous critics of AI. John Searle's famous argument is known as "Chinese Room Argument". The two argue that it is impossible to make intelligent machines.

AI research is going on at its own speed. Achievements are highly notable which give us hope that one day we will be able to produce very intelligent machine. But will they be friendly? Will they remain in our servitude? It is better to wait for the answer.

Reference

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The author is a student of physics at University of Dhaka

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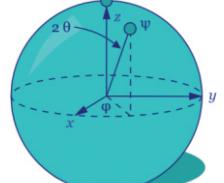
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Quantum computer

A quantum computer is any device for computation that makes direct use of distinctively quantum mechanical phenomena, such as superposition and entanglement, to perform operations on data. In a classical or conventional computer, information is stored as bits; in a quantum computer, it is stored as qubits (quantum bits). The basic principle of quantum computation is that the quantum properties can be used to represent and structure data, and that quantum mechanisms can be devised and built to perform operations with this data. Quantum computing is still in its infancy.



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TECHNEWS

SAP-IBM-OBT roadshow woos apparel industry

EDWARD APURBA SINGHA

MARKET leaders SAP, IBM and OBT Global in association with Thakral Information Systems Pvt Ltd organised a one-day roadshow in the city on July 26. The event highlighted leading edge software and hardware solutions exclusively for the textile/garment segment of the country.

In his welcome note, Shahzaman Mozumder, Bir Protik, chief executive officer (CEO) of Thakral, gave a vote of thanks to all the delegates and participants. He stressed that "this sort of initiative would create awareness as well as bring ample opportunity in the industry to upgrade present condition through new age technology".

Raj Kumar Singh, pre-sales manager (west), SAP India Pvt Ltd, conducted an overview session on the company's latest solution for the textile industry. "IT streamlined the management tactics and is gradually showing its profound impact on the textile industry", he said.

The exciting session of the roadshow was IBM System i5 overview. IBM System i5 is a state-of-the-art hardware solution that is able to run multiple operating systems in a single set-up and reduce the operations cost as well. Samir Venugopal, product manager, IBM System i5, IBM India Pvt Ltd, said, "This server automatically allocates resources, shuts down independently and is a one box solution for the modern

business".

SAP and IBM are working side by side in order to promote the best IT solution for the textile industry. SAP provides ERP (Enterprise Resource Planning) whereas IBM deals with technological matters. SAP (Systems, Applications and Products in data processing) is the biggest European software company, founded in 1972. It is headquartered in Walldorf, Germany. SAP's products focus on ERP; its other major product offerings include Advanced Planner and Optimiser (APO),

International Business Machines or IBM manufactures and sells



IBM System i5

Business Information Warehouse (BIW), Customer Relationship Management (CRM), Supply Chain Management (SCM), Supplier Relationship Management (SRM), Human Resource Management Systems (HRMS), Product Lifestyle Management (PLM), Exchanger computer hardware, software, infrastructure services, hosting services and consulting services in areas ranging from mainframe computers to nanotechnology. IBM is the largest information technology employer in the world with 350,000 employees worldwide.

TECHNEWS

CSL unfolds HP iPAQ 512 Voice Messenger

THE leading IT vendor, Computer Source Limited (CSL), introduced HP iPAQ 512 Voice Messenger smartphone in the local market recently, says a press release. CSL has come up with this new HP gadget for the corporate segment of the country.

This smartphone encompasses new generation Windows Mobile 6 operating system, voice email service, high capacity battery, Wi-Fi and many other things that are crucial to any business executive.

More than 20 voice commands are available on this iPAQ that enable

users to operate the phone without any physical intervention. Using a powerful voice reply feature, users could



listen any email message and respond to it orally without the need for any typing.

Another important feature that transforms this phone into a mini desktop is its office applications. The iPAQ comes bundled with Word, Excel and Power Point applications that allow users to do some small-scale office tasks. In addition, with mobile internet facility this smartphone helps users to enjoy high speed internet through EDGE technology. The price of this leading edge technology is Tk. 19,900 and CSL will issue one-year warranty with each unit of this smartphone.

StarTech Desk

Tech Jargon II

WELOCOME back readers! Hope you found last week's jargon helpful. This week we'll move our pace a little forward and learn a few words that are a wee bit tougher. Let's begin...

HTML: Abbreviated from HyperText Markup Language, it is the language in which web pages are prepared for the internet. The language is quite simple. All you need to know is a few commands for special effects like picture, colour, format and links to other web pages. Just enclose them between angled brackets <> and add them to appropriate places in your text... and there you have a beautiful and colourful webpage! It's no big deal at all. Believe me, although the name sounds something quite complicated, it's not difficult at all. Any Tom, Dick and Harry can program in HTML once they've got some of the commands memorised!

Hyperlink: A hyperlink is any text that can be used to go to another web page. You will find most hyperlinks either underlined, highlighted or shown in a special colour on the web page. On clicking the text, you will be transferred to the page that is linked to the text. For example, if the text "The Daily Star" is hyperlinked to The Daily Star home page, then on clicking it, you will be taken to The Daily Star home page. The programmer of the page usually makes the

hyperlinks between web pages. Domain Name: An internet address owned by a company, organisation or individual, such as nasa.gov or bbc.co.uk.

Cookie: Do I see mouths watering? In the computer world, a cookie isn't something that can be eaten... sorry folks! A cookie is a small

cookies, or ask for your permission before storing them, but this can generate multiple error messages on some websites, which generally proves to be more of a hassle than its worth. All in all, there's nothing much to worry about. These cookies are usually quite harmless.

Blog: Shortened from the term



file stored on your computer by a website, in theory, to allow the website to "remember" your preferences. But in practice, they are mostly used to track which advertisements you see on the internet. Creepy isn't it? To think that these websites can actually know which websites you have visited! The good news is that you can set most browsers to reject all

Weblog, it is a concept that has become a craze among many these days. A blog is a website documenting someone's life and/or thoughts, somewhat like an online diary, which you can even share with friends if you wish.

Nahid Akther



EIGHT-LEGGED BOT



This combo picture shows the Halluc II, eight-legged semi-autonomous mobile robot (front) during a press preview for a renewal robot corner at the National Museum of Emerging Science and Innovation in Tokyo on July 31. The autonomous, eight-legged robot is able to move independently but at the same time is under total control and networked by a central computer system. The museum has started exhibiting it from August 1.

PHOTO: AFP