

# [Comp ch. 11](https://assignbuster.com/comp-ch-11/)

conventional AIuses programming that emphasizes statistical analysis to calculate the probability of various outcomes in order to find the best solution

heuristicsused to assist software in reaching conclusions and making recommendations

case-based reasoningAI software maintains a library of problem cases and solutions (relies on retrieve, reuse, revise, retain)

bayesian networkform of conventional AI that uses a graphical model to represent a set of variables and their relationships & dependencies

behavior-based AIform of conventional AI that is popular in programming robots.. it stimulates intelligence by combining many semi-autonomous modules

expert systems (ES)programmed to function like a human expert in a particular field

computational intelligencecreates software that can learn for itself

fuzzy logicreasoning that is approximate rather than precise

fuzzy control systembased on fuzzy logic and used to control machines

evolutionary computationderives intelligence by attempting many solutions and throwing away ones that don't work

genetic algorithmform of evolutionary computation that is used to solve large, complex problems where a number of algorithms or models change and evolve until the best one emerges

neural networkpopular form of computational AI that attempts to simulate the functioning of a human brain (programmed to accomplish task through repetition)

turing test (Alan Turing)method of determining if a machine exhibits human intelligence (a human talks to a human and machine, if it can't tell which is which, it passes the test)

singularitypoint in time that computers exceed humans in intelligence

Blue Brain projectattempt to simulate a human brain at a molecular level in software running on one of the world's fastest super computers, IBM's Blue Gene (worked on a mouse)

strong AImachine w/ intelligence that exceeds human intelligence

roboticsdeveloping mechanical or computer devices to perform tasks that require a high degree of precision or are tedious or hazardous for humans

dull, dirty, dangerousbusinesses use robots for \_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ jobs

DARPA Grand Challengeoffers $2 million for robot that can cross desert on its own

computer visioncombines hardware & AI software that permit computers to capture, store, and interpret visual images & pictures (kinect)

natural language processinguses AI techniques to enable computers to generate and understand natural human languages, such as english

speech recognitionenables a computer to understand and react to spoken statements and commands

Dragon NaturallySpeakingthis is popular and allows users to dictate text as they would naturally speak

pattern recognitionspeech, handwriting, and face recognition

handwriting recognitionuses AI techniques in software that can translate handwritten characters or words into computer-readable data

intelligent agent (digital assistant)consists of programs and a knowledge based used to perform a specific task for a person, process, or another program (Siri)

SitePalgreets visitors as they open a website

artificial creativitybranch of AI that works to program computers to express themselves through art, music, poetry, and other outlets

CRCAfacilitate the invention of new art forms that arise out of the developments of digital technologies

AARONindependently paints large, impressive works of art with a paintbrush and canvas

Cybernetic Poetreads poems by people and creates its own just like it

improviserwrites songs

evolutionaryin artificial intelligence, \_\_\_\_\_ computation is based on a genetic algorithm to solve complex problems

authenticationFacial recognition is used as a(n) \_\_\_\_\_\_\_\_ process to tag photos in Facebook.

machine learningone important characteristic of artificial intelligence is when a device modifies its own behavior based on its ability to learn, also known as \_\_\_\_\_\_\_\_\_.

ability to apply judgement to a problemAI systems typically include all of the following EXCEPT \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Moore's Lawsingularity embraces the idea of \_\_\_\_\_\_\_ and other recent trends in technology.

neural networksAll of the following are AI methodologies that rely on a human to give instructions for problem solving EXCEPT \_\_\_\_\_\_\_\_.

superintelligentthe concept of singularity predicts that computers will be \_\_\_\_\_\_\_.

experta(n) \_\_\_\_\_\_\_ system is software that is knowledgeable in a particular field or area.

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