

Title: Glossary of artificial intelligence

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This glossary of artificial intelligence is a list of definitions of terms and concepts relevant to the study of artificial intelligence (AI), its subdisciplines, and related fields. Related glossaries include Glossary of computer science , Glossary of robotics , Glossary of machine vision , and Glossary of logic .

Artificial general intelligence

Intelligent agent

Recursive self-improvement

Planning

Computer vision

General game playing

Knowledge representation

Natural language processing

Robotics

AI safety

Machine learning

Symbolic

Deep learning

Bayesian networks

Evolutionary algorithms

Hybrid intelligent systems

Systems integration

Open-source

Bioinformatics

Deepfake

Earth sciences

Finance

Generative AI Art Audio Music

Art

Audio

Music

Government

Healthcare Mental health

Mental health  
Industry  
Software development  
Translation  
Military  
Physics  
Projects  
AI alignment  
Artificial consciousness  
The bitter lesson  
Chinese room  
Friendly AI  
Ethics  
Existential risk  
Turing test  
Uncanny valley  
Timeline  
Progress  
AI winter  
AI boom  
AI bubble  
Glossary

v

t

e

A

Pronounced "A-star".

Also abduction .

Also adaptive network-based fuzzy inference system .

Also artificial emotional intelligence or emotion AI .

Also fuzzy string searching .

Also argumentation system .

Also machine intelligence .

Also simply AI planning .

Also self-driving car , robot car , and driverless car .

B

Also backward reasoning .

Also stochastic Hopfield network with hidden units .

Also propositional satisfiability problem ; abbreviated SATISFIABILITY or SAT .

Also bagging or bootstrapping .

Also self-learning know-how system .

Also exhaustive search or generate and test .

## C

Also smartbot , talkbot , chatterbot , bot , IM bot , interactive agent , conversational interface , or artificial conversational entity .

Also clustering .

Also artificial creativity , mechanical creativity , creative computing , or creative computation .

Also theoretical neuroscience or mathematical neuroscience .

Also algorithmic number theory .

Also statistical computing .

Also conlang .

Also recombination .

## D

Also dataset .

Also enterprise data warehouse ( EDW ).

Also theory of choice .

Also epigenetic robotics .

Also conversational agent ( CA ).

Also dimension reduction .

Also decentralized artificial intelligence .

Also dilution .

## E

Also interface agent .

## F

Also representation learning .

Also first-order predicate calculus or predicate logic .

Also forward reasoning .

Also friendly AI or FAI .

## G

Also graph search .

## H

## I

Also cognitive augmentation , machine augmented intelligence , and enhanced intelligence .

Also virtual assistant or personal digital assistant .

Also logic tree .

## J

Also Clique Tree .

K

L

M

Also mathematical programming .

Also computer audition ( CA ).

Also mechatronic engineering .

Also self-organized system .

N

Also entity identification , entity chunking , and entity extraction .

Also brain–computer interface ( BCI ), neural-control interface ( NCI ), mind-machine interface ( MMI ), direct neural interface ( DNI ), or brain–machine interface ( BMI ).

Also neuromorphic computing .

Also non-deterministic polynomial-time hardness .

O

Also Ockham's razor or Ocham's razor .

Also ontology extraction , ontology generation , or ontology acquisition .

P

Also pathing .

Also first-order logic , predicate logic , and first-order predicate calculus .

Also rationality principle .

Also propositional logic , statement logic , sentential calculus , sentential logic , and zeroth-order logic .

Q

R

Also random decision forest .

S

Also frame network .

Also reasoning engine , rules engine , or simply reasoner .

Also weak supervision .

Also simply SLD resolution .

Also sparse coding or SDL .

T

Also simply the singularity .

Abbreviated H<sup>+</sup> or h<sup>+</sup> .

Also tree search .

U

V

W

Also narrow AI .

X

## References

### Works cited

Abran, Alain; Moore, James W.; Bourque, Pierre; Dupuis, Robert; Tripp, Leonard L. (2004). Guide to the Software Engineering Body of Knowledge . IEEE. ISBN 978-0-7695-2330-9 .

Cardelli, Luca (2004). "Type systems" (PDF) . In Allen B. Tucker (ed.). CRC Handbook of Computer Science and Engineering (2nd ed.). CRC Press. ISBN 978-1584883609 .

Haugeland, John (1985). Artificial Intelligence: The Very Idea . Cambridge, Mass.: MIT Press. ISBN 978-0-262-08153-5 .

Legg, Shane; Hutter, Marcus (15 June 2007). "A Collection of Definitions of Intelligence". arXiv : 0706.3639 [ cs.AI ].

Mitchell, Melanie (1996). An Introduction to Genetic Algorithms . Cambridge, MA: MIT Press. ISBN 9780585030944 .

Nilsson, Nils (1998). Artificial Intelligence: A New Synthesis . Morgan Kaufmann. ISBN 978-1-55860-467-4 . Archived from the original on 26 July 2020 . Retrieved 18 November 2019 .

Pierce, Benjamin C. (2002). Types and Programming Languages . MIT Press. ISBN 978-0-262-16209-8 .

Poole, David ; Mackworth, Alan ; Goebel, Randy (1998). Computational Intelligence: A Logical Approach . New York: Oxford University Press. ISBN 978-0-19-510270-3 . Archived from the original on 26 July 2020 . Retrieved 22 August 2020 .

Russell, Stuart J. ; Norvig, Peter (2003), Artificial Intelligence: A Modern Approach (2nd ed.), Upper Saddle River, New Jersey: Prentice Hall, ISBN 0-13-790395-2

Turing, Alan (October 1950). "Computing Machinery and Intelligence" . Mind . 59 (236): 433– 460. doi : 10.1093/mind/LIX.236.433 . ISSN 1460-2113 . JSTOR 2251299 . S2CID 14636783 .

## Notes

v

t

e

Differentiable programming

Information geometry

Statistical manifold

Automatic differentiation

Neuromorphic computing

Pattern recognition

Ricci calculus

Computational learning theory

Inductive bias

IPU

TPU

VPU

Memristor

SpiNNaker

TensorFlow

PyTorch

Keras

scikit-learn

Theano

JAX

Flux.jl

MindSpore

Portals Computer programming Technology

Computer programming

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t

e

Computer programming

DevOps

Empirical software engineering

Experimental software engineering

Formal methods

Requirements engineering

Search-based software engineering

Site reliability engineering

Social software engineering

Software deployment

Software design

Software maintenance

Software testing

Systems analysis

Abstraction

CI/CD

Compatibility Backward compatibility Compatibility layer Compatibility mode Forward compatibility  
Software incompatibility

Backward compatibility

Compatibility layer

Compatibility mode

Forward compatibility

Software incompatibility  
Component-based software engineering  
Data modeling  
Enterprise architecture  
Functional specification  
Modeling language  
Programming paradigm  
Software  
Software archaeology  
Software architecture  
Software configuration management  
Software development process/methodology  
Software quality  
Software quality assurance  
Software system  
Software verification and validation  
Structured analysis Essential analysis  
Essential analysis  
Agile  
Aspect-oriented  
Object orientation  
Ontology  
SDLC  
Service orientation  
Agile  
EUP  
Executable UML  
Incremental model  
Iterative model  
Prototype model  
RAD  
Scrum  
Spiral model  
UP  
V-model  
Waterfall model  
XP  
Model-driven engineering

Round-trip engineering

CMMI

Data model

ER model

Function model

Information model

Metamodeling

Object model

SPICE

Systems model

View model

IDEF

SysML

UML

USL

Computer engineering

Computer science

Information science

Project management

Risk management

Systems engineering

Category

Commons

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e

Printed circuit board

Peripheral

Integrated circuit

Very-large-scale integration

System on a chip (SoC)

Energy consumption (green computing)

Electronic design automation

Hardware acceleration

Processor

Size / Form

Computer architecture

Computational complexity



Dependability  
Embedded system  
Real-time computing  
Cyber-physical system  
Fault tolerance  
Wireless sensor network  
Network architecture  
Network protocol  
Network components  
Network scheduler  
Network performance evaluation  
Network service  
Interpreter  
Middleware  
Virtual machine  
Operating system  
Software quality  
Programming paradigm  
Programming language  
Compiler  
Domain-specific language  
Modeling language  
Software framework  
Integrated development environment  
Software configuration management  
Software library  
Software repository  
Control variable  
Software development process  
Requirements analysis  
Software design  
Software construction  
Software deployment  
Software engineering  
Software maintenance  
Programming team  
Open-source model  
Model of computation Stochastic

Stochastic  
Formal language  
Automata theory  
Computability theory  
Computational complexity theory  
Logic  
Semantics  
Algorithm design  
Analysis of algorithms  
Algorithmic efficiency  
Randomized algorithm  
Computational geometry  
Discrete mathematics  
Probability  
Statistics  
Mathematical software  
Information theory  
Mathematical analysis  
Numerical analysis  
Theoretical computer science  
Database management system  
Information storage systems  
Enterprise information system  
Social information systems  
Geographic information system  
Decision support system  
Process control system  
Multimedia information system  
Data mining  
Digital library  
Computing platform  
Digital marketing  
World Wide Web  
Information retrieval  
Cryptography  
Formal methods  
Security hacker  
Security services

Intrusion detection system  
Hardware security  
Network security  
Information security  
Application security  
Interaction design  
Augmented reality  
Virtual reality  
Social computing  
Ubiquitous computing  
Visualization  
Accessibility  
Human–computer interaction  
Mobile computing  
Concurrent computing  
Parallel computing  
Distributed computing  
Multithreading  
Multiprocessing  
Natural language processing  
Knowledge representation and reasoning  
Computer vision  
Automated planning and scheduling  
Search methodology  
Control method  
Philosophy of artificial intelligence  
Distributed artificial intelligence  
Supervised learning  
Unsupervised learning  
Reinforcement learning  
Multi-task learning  
Cross-validation  
Animation  
Rendering  
Photograph manipulation  
Graphics processing unit  
Image compression  
Solid modeling

Quantum computing  
E-commerce  
Enterprise software  
Computational mathematics  
Computational physics  
Computational chemistry  
Computational biology  
Computational social science  
Computational engineering  
Differentiable computing  
Computational healthcare  
Digital art  
Electronic publishing  
Cyberwarfare  
Electronic voting  
Video games  
Word processing  
Operations research  
Educational technology  
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Evolutionary algorithm  
Evolutionary data mining  
Evolutionary multimodal optimization  
Human-based evolutionary computation  
Interactive evolutionary computation  
Cellular evolutionary algorithm  
Covariance Matrix Adaptation Evolution Strategy (CMA-ES)  
Cultural algorithm  
Differential evolution  
Evolutionary programming  
Genetic algorithm  
Genetic programming

Gene expression programming  
Evolution strategy  
Natural evolution strategy  
Neuroevolution  
Learning classifier system  
Swarm intelligence  
Ant colony optimization  
Bees algorithm  
Cuckoo search  
Particle swarm optimization  
Bacterial Colony Optimization  
Firefly algorithm  
Harmony search  
Gaussian adaptation  
Memetic algorithm  
Artificial development  
Artificial intelligence  
Artificial life  
Digital organism  
Evolutionary robotics  
Fitness function  
Fitness landscape  
Fitness approximation  
Genetic operators  
Interactive evolutionary computation  
No free lunch in search and optimization  
Machine learning  
Mating pool  
Premature convergence  
Program synthesis  
ACM  
IEEE  
ACM SIGEVO  
IEEE CIS  
CEC  
GECCO  
PPSN  
EvoStar

FOGA

Evolutionary Computation (journal)

IEEE Trans Evol Comput

ACM Trans Evol Learning Optim

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Ambient intelligence Internet of things

Internet of things

Artificial intelligence Applications of artificial intelligence Machine translation Machine vision Mobile translation Progress in artificial intelligence Semantic Web Speech recognition

Applications of artificial intelligence

Machine translation

Machine vision

Mobile translation

Progress in artificial intelligence

Semantic Web

Speech recognition

Atomtronics

Carbon nanotube field-effect transistor

Cybermethodology

Augmented reality

Fourth-generation optical discs 3D optical data storage Holographic data storage

3D optical data storage

Holographic data storage

GPGPU

Memory CBRAM ECRAM FRAM Millipede MRAM NRAM PRAM Racetrack memory RRAM SONOS UltraRAM

CBRAM

ECRAM

FRAM

Millipede

MRAM

NRAM

PRAM

Racetrack memory

RRAM

SONOS

UltraRAM

Optical computing  
RFID Chipless RFID  
Chipless RFID  
Software-defined radio  
Three-dimensional integrated circuit  
Automation  
Collingridge dilemma  
Differential technological development  
Disruptive innovation  
Ephemerization  
Ethics AI Bioethics Cyberethics Neuroethics Robot ethics  
AI  
Bioethics  
Cyberethics  
Neuroethics  
Robot ethics  
Exploratory engineering  
Proactionary principle  
Technological change Technological unemployment  
Technological unemployment  
Technological convergence  
Technological evolution  
Technological paradigm  
Technology forecasting Accelerating change Future-oriented technology analysis Horizon scanning  
Moore's law Technological singularity Technology scouting  
Accelerating change  
Future-oriented technology analysis  
Horizon scanning  
Moore's law  
Technological singularity  
Technology scouting  
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Technology readiness level  
Technology roadmap  
Transhumanism  
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Anthropomorphic Humanoid Android Cyborg Gynoid

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Android

Cyborg

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Companion

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Animatronic Audio-Animatronics

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Industrial

Articulated arm

arm

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BEAM robotics

Soft robotics



Biorobotics  
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aerial  
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