Title: Outline of machine learning

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Categories: Category:Computing-related lists, Category:Data mining, Category:Machine learning, Category:Outlines, Category:Outlines of computing and engineering

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Supervised learning

Unsupervised learning

Semi-supervised learning

Self-supervised learning

Reinforcement learning

Meta-learning

Online learning

Batch learning

Curriculum learning

Rule-based learning

Neuro-symbolic AI

Neuromorphic engineering

Quantum machine learning

Classification

Generative modeling

Regression

Clustering

Dimensionality reduction

Density estimation

Anomaly detection

Data cleaning

AutoML

Association rules

Semantic analysis

Structured prediction

Feature engineering

Feature learning

Learning to rank

Grammar induction

Ontology learning

Multimodal learning

Apprenticeship learning

Decision trees

Ensembles Bagging Boosting Random forest

Bagging

Boosting

Random forest

k -NN

Linear regression

Naive Bayes

Artificial neural networks

Logistic regression

Perceptron

Relevance vector machine (RVM)

Support vector machine (SVM)

BIRCH

CURE

Hierarchical

k -means

Fuzzy

Expectation–maximization (EM)

DBSCAN

OPTICS

Mean shift

Factor analysis

CCA

ICA

LDA

NMF

PCA

PGD

t-SNE

SDL

Graphical models Bayes net Conditional random field Hidden Markov

Bayes net

Conditional random field

Hidden Markov

RANSAC

k -NN

Local outlier factor

Isolation forest

Autoencoder

Deep learning

Feedforward neural network

Recurrent neural network LSTM GRU ESN reservoir computing

LSTM

GRU

ESN

reservoir computing

Boltzmann machine Restricted

Restricted

GAN

Diffusion model

SOM

Convolutional neural network U-Net LeNet AlexNet DeepDream

U-Net

LeNet

AlexNet

DeepDream

Neural field Neural radiance field Physics-informed neural networks

Neural radiance field

Physics-informed neural networks

Transformer Vision

Vision

Mamba

Spiking neural network

Memtransistor

Electrochemical RAM (ECRAM)

Q-learning

Policy gradient

SARSA

Temporal difference (TD)

Multi-agent Self-play

Self-play

Active learning

Crowdsourcing

Human-in-the-loop

Mechanistic interpretability

RLHF

Coefficient of determination

Confusion matrix

Learning curve

ROC curve

Kernel machines

Bias–variance tradeoff

Computational learning theory

Empirical risk minimization

Occam learning

PAC learning

Statistical learning

VC theory

Topological deep learning

AAAI

ECML PKDD

NeurIPS

ICML

ICLR

IJCAI

ML

JMLR

Glossary of artificial intelligence

List of datasets for machine-learning research List of datasets in computer vision and image processing

List of datasets in computer vision and image processing

Outline of machine learning

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e

The following outline is provided as an overview of, and topical guide to, machine learning:

Machine learning (ML) is a subfield of artificial intelligence within computer science that evolved from the study of pattern recognition and computational learning theory . In 1959, Arthur Samuel defined machine learning as a "field of study that gives computers the ability to learn without being explicitly programmed". ML involves the study and construction of algorithms that can learn from and make predictions on data . These algorithms operate by building a model from a training set of example observations to make data-driven predictions or decisions expressed as outputs, rather than following strictly static program instructions.

How can machine learning be categorized?

An academic discipline

A branch of science An applied science A subfield of computer science A branch of artificial intelligence A subfield of soft computing Application of statistics

An applied science A subfield of computer science A branch of artificial intelligence A subfield of soft computing Application of statistics

A subfield of computer science A branch of artificial intelligence A subfield of soft computing Application of statistics

A branch of artificial intelligence

A subfield of soft computing

Application of statistics

Paradigms of machine learning

Supervised learning , where the model is trained on labeled data

Unsupervised learning , where the model tries to identify patterns in unlabeled data

Reinforcement learning , where the model learns to make decisions by receiving rewards or penalties.

Applications of machine learning

Applications of machine learning

Bioinformatics

Biomedical informatics

Computer vision

Customer relationship management

Data mining

Earth sciences

Email filtering

Inverted pendulum (balance and equilibrium system)

Natural language processing Named Entity Recognition Automatic summarization Automatic taxonomy construction Dialog system Grammar checker Language recognition Handwriting recognition Optical character recognition Speech recognition Text to Speech Synthesis Speech Emotion Recognition Machine translation Question answering Speech synthesis Text mining Term frequency–inverse document frequency Text simplification

Named Entity Recognition

Automatic summarization

Automatic taxonomy construction

Dialog system

Grammar checker

Language recognition Handwriting recognition Optical character recognition Speech recognition Text to Speech Synthesis Speech Emotion Recognition

Handwriting recognition

Optical character recognition

Speech recognition Text to Speech Synthesis Speech Emotion Recognition

Text to Speech Synthesis

Speech Emotion Recognition

Machine translation

Question answering

Speech synthesis

Text mining Term frequency–inverse document frequency

Term frequency–inverse document frequency

Text simplification

Pattern recognition Facial recognition system Handwriting recognition Image recognition Optical character recognition Speech recognition

Facial recognition system

Handwriting recognition

Image recognition

Optical character recognition

Speech recognition

Recommendation system Collaborative filtering Content-based filtering Hybrid recommender systems

Collaborative filtering

Content-based filtering

Hybrid recommender systems

Search engine Search engine optimization

Search engine optimization

Social engineering

Machine learning hardware

Graphics processing unit

Tensor processing unit

Vision processing unit

Machine learning tools

Comparison of deep learning software

Machine learning frameworks

Proprietary machine learning frameworks

Amazon Machine Learning

Microsoft Azure Machine Learning Studio

DistBelief (replaced by TensorFlow)

Open source machine learning frameworks

Apache Singa

Apache MXNet

Caffe

PyTorch

mlpack

TensorFlow

Torch

CNTK

Accord.Net

Jax

MLJ.jl – A machine learning framework for Julia

Machine learning libraries

Deeplearning4j

Theano

scikit-learn

Keras

Machine learning algorithms

Almeida–Pineda recurrent backpropagation

ALOPEX

Backpropagation

Bootstrap aggregating

CN2 algorithm

Constructing skill trees

Dehaene–Changeux model

Diffusion map

Dominance-based rough set approach

Dynamic time warping

Error-driven learning

Evolutionary multimodal optimization

Expectation–maximization algorithm

FastICA

Forward–backward algorithm

GeneRec

Genetic Algorithm for Rule Set Production

Growing self-organizing map

Hyper basis function network

IDistance

k -nearest neighbors algorithm

Kernel methods for vector output

Kernel principal component analysis

Leabra

Linde–Buzo–Gray algorithm

Local outlier factor

Logic learning machine
LogitBoost
Manifold alignment
Markov chain Monte Carlo (MCMC)
Minimum redundancy feature selection
Mixture of experts
Multiple kernel learning
Non-negative matrix factorization
Online machine learning
Out-of-bag error
Prefrontal cortex basal ganglia working memory
PVLV
Q-learning
Quadratic unconstrained binary optimization
Query-level feature
Quickprop
Radial basis function network
Randomized weighted majority algorithm
Reinforcement learning
Repeated incremental pruning to produce error reduction (RIPPER)
Rprop
Rule-based machine learning
Skill chaining
Sparse PCA
State–action–reward–state–action
Stochastic gradient descent
Structured kNN
T-distributed stochastic neighbor embedding
Temporal difference learning
Wake-sleep algorithm
Weighted majority algorithm (machine learning)
Machine learning methods
Instance-based algorithm
K-nearest neighbors algorithm (KNN)
Learning vector quantization (LVQ)
Self-organizing map (SOM)
Regression analysis
Logistic regression

Ordinary least squares regression (OLSR)

Linear regression

Stepwise regression

Multivariate adaptive regression splines (MARS)

Regularization algorithm Ridge regression Least Absolute Shrinkage and Selection Operator (LASSO) Elastic net Least-angle regression (LARS)

Ridge regression

Least Absolute Shrinkage and Selection Operator (LASSO)

Elastic net

Least-angle regression (LARS)

Classifiers Probabilistic classifier Naive Bayes classifier Binary classifier Linear classifier Hierarchical classifier

Probabilistic classifier Naive Bayes classifier

Naive Bayes classifier

Binary classifier

Linear classifier

Hierarchical classifier

Dimensionality reduction

Dimensionality reduction

Canonical correlation analysis (CCA)

Factor analysis

Feature extraction

Feature selection

Independent component analysis (ICA)

Linear discriminant analysis (LDA)

Multidimensional scaling (MDS)

Non-negative matrix factorization (NMF)

Partial least squares regression (PLSR)

Principal component analysis (PCA)

Principal component regression (PCR)

Projection pursuit

Sammon mapping

t-distributed stochastic neighbor embedding (t-SNE)

Ensemble learning

Ensemble learning

AdaBoost

Boosting

Bootstrap aggregating (also "bagging" or "bootstrapping")

Ensemble averaging

Gradient boosted decision tree (GBDT)

Gradient boosting

Random Forest

Stacked Generalization

Meta-learning

Meta-learning

Inductive bias

Metadata

Reinforcement learning

Reinforcement learning

Q-learning

State–action–reward–state–action (SARSA)

Temporal difference learning (TD)

Learning Automata

Supervised learning

Supervised learning

Averaged one-dependence estimators (AODE)

Artificial neural network

Case-based reasoning

Gaussian process regression

Gene expression programming

Group method of data handling (GMDH)

Inductive logic programming

Instance-based learning

Lazy learning

Learning Automata

Learning Vector Quantization

Logistic Model Tree

Minimum message length (decision trees, decision graphs, etc.) Nearest Neighbor Algorithm
Analogical modeling

Nearest Neighbor Algorithm

Analogical modeling

Probably approximately correct learning (PAC) learning

Ripple down rules , a knowledge acquisition methodology

Symbolic machine learning algorithms

Support vector machines

Random Forests

Ensembles of classifiers Bootstrap aggregating (bagging) Boosting (meta-algorithm)

Bootstrap aggregating (bagging)

Boosting (meta-algorithm)

Ordinal classification

Conditional Random Field

ANOVA

Quadratic classifiers

k-nearest neighbor

Boosting SPRINT

SPRINT

Bayesian networks Naive Bayes

Naive Bayes

Hidden Markov models Hierarchical hidden Markov model

Hierarchical hidden Markov model

Bayesian

Bayesian statistics

Bayesian knowledge base

Naive Bayes

Gaussian Naive Bayes

Multinomial Naive Bayes

Averaged One-Dependence Estimators (AODE)

Bayesian Belief Network (BBN)

Bayesian Network (BN)

Decision tree algorithms

Decision tree algorithm

Decision tree

Classification and regression tree (CART)

Iterative Dichotomiser 3 (ID3)

C4.5 algorithm

C5.0 algorithm

Chi-squared Automatic Interaction Detection (CHAID)

Decision stump

Conditional decision tree

ID3 algorithm

Random forest

SLIQ

Linear classifier

Linear classifier

Fisher's linear discriminant

Linear regression

Logistic regression

Multinomial logistic regression

Naive Bayes classifier

Perceptron

Support vector machine

Unsupervised learning

Unsupervised learning

Expectation-maximization algorithm

Vector Quantization

Generative topographic map

Information bottleneck method

Association rule learning algorithms Apriori algorithm Eclat algorithm

Apriori algorithm

Eclat algorithm

Artificial neural networks

Artificial neural network

Feedforward neural network Extreme learning machine Convolutional neural network

Extreme learning machine

Convolutional neural network

Recurrent neural network Long short-term memory (LSTM)

Long short-term memory (LSTM)

Logic learning machine

Self-organizing map

Association rule learning

Association rule learning

Apriori algorithm

Eclat algorithm

FP-growth algorithm

Hierarchical clustering

Hierarchical clustering

Single-linkage clustering

Conceptual clustering

Cluster analysis

Cluster analysis

BIRCH

DBSCAN

Expectation–maximization (EM)
Fuzzy clustering
Hierarchical clustering
k -means clustering
k -medians
Mean-shift
OPTICS algorithm
Anomaly detection
Anomaly detection
k -nearest neighbors algorithm (k -NN)
Local outlier factor
Semi-supervised learning
Semi-supervised learning
Active learning
Generative models
Low-density separation
Graph-based methods
Co-training
Transduction
Deep learning
Deep learning
Deep belief networks
Deep Boltzmann machines
Deep Convolutional neural networks
Deep Recurrent neural networks
Hierarchical temporal memory
Generative Adversarial Network Style transfer
Style transfer
Transformer
Stacked Auto-Encoders
Other machine learning methods and problems
Anomaly detection
Association rules
Bias-variance dilemma
Classification Multi-label classification
Multi-label classification
Clustering
Data Pre-processing

Empirical risk minimization

Feature engineering

Feature learning

Learning to rank

Occam learning

Online machine learning

PAC learning

Regression

Reinforcement Learning

Semi-supervised learning

Statistical learning

Structured prediction Graphical models Bayesian network Conditional random field (CRF) Hidden Markov model (HMM)

Graphical models Bayesian network Conditional random field (CRF) Hidden Markov model (HMM)

Bayesian network

Conditional random field (CRF)

Hidden Markov model (HMM)

Unsupervised learning

VC theory

Machine learning research

List of artificial intelligence projects

List of datasets for machine learning research

History of machine learning

History of machine learning

Timeline of machine learning

Machine learning projects

Machine learning projects:

DeepMind

Google Brain

OpenAI

Meta AI

Hugging Face

Machine learning organizations

Machine learning conferences and workshops

Artificial Intelligence and Security (AISec) (co-located workshop with CCS)

Conference on Neural Information Processing Systems (NIPS)

ECML PKDD

International Conference on Machine Learning (ICML)

ML4ALL (Machine Learning For All)

Machine learning publications

Books on machine learning

Mathematics for Machine Learning

Hands-On Machine Learning Scikit-Learn, Keras, and TensorFlow

The Hundred-Page Machine Learning Book

Machine learning journals

Machine Learning

Journal of Machine Learning Research (JMLR)

Neural Computation

Persons influential in machine learning

Alberto Broggi

Andrei Knyazev

Andrew McCallum

Andrew Ng

Anuraag Jain

Armin B. Cremers

Ayanna Howard

Barney Pell

Ben Goertzel

Ben Taskar

Bernhard Schölkopf

Brian D. Ripley

Christopher G. Atkeson

Corinna Cortes

Demis Hassabis

Douglas Lenat

Eric Xing

Ernst Dickmanns

Geoffrey Hinton

Hans-Peter Kriegel

Hartmut Neven

Heikki Mannila

Ian Goodfellow

Jacek M. Zurada

Jaime Carbonell

Jeremy Slovak

Jerome H. Friedman

John D. Lafferty
John Platt
Julie Beth Lovins
Jürgen Schmidhuber
Karl Steinbuch
Katia Sycara
Leo Breiman
Lise Getoor
Luca Maria Gambardella
Léon Bottou
Marcus Hutter
Mehryar Mohri
Michael Collins
Michael I. Jordan
Michael L. Littman
Nando de Freitas
Ofer Dekel
Oren Etzioni
Pedro Domingos
Peter Flach
Pierre Baldi
Pushmeet Kohli
Ray Kurzweil
Rayid Ghani
Ross Quinlan
Salvatore J. Stolfo
Sebastian Thrun
Selmer Bringsjord
Sepp Hochreiter
Shane Legg
Stephen Muggleton
Steve Omohundro
Tom M. Mitchell
Trevor Hastie
Vasant Honavar
Vladimir Vapnik
Yann LeCun
Yasuo Matsuyama

Yoshua Bengio

Zoubin Ghahramani

See also

Outline of artificial intelligence Outline of computer vision

Outline of computer vision

Outline of robotics

Accuracy paradox

Action model learning

Activation function

Activity recognition

ADALINE

Adaptive neuro fuzzy inference system

Adaptive resonance theory

Additive smoothing

Adjusted mutual information

AIVA

AIXI

AlchemyAPI

AlexNet

Algorithm selection

Algorithmic inference

Algorithmic learning theory

AlphaGo

AlphaGo Zero

Alternating decision tree

Apprenticeship learning

Causal Markov condition

Competitive learning

Concept learning

Decision tree learning

Differentiable programming

Distribution learning theory

Eager learning

End-to-end reinforcement learning

Error tolerance (PAC learning)

Explanation-based learning

Feature

GloVe

Hyperparameter
Inferential theory of learning
Learning automata
Learning classifier system
Learning rule
Learning with errors
M-Theory (learning framework)
Machine learning control
Machine learning in bioinformatics
Margin
Markov chain geostatistics
Markov chain Monte Carlo (MCMC)
Markov information source
Markov logic network
Markov model
Markov random field
Markovian discrimination
Maximum-entropy Markov model
Multi-armed bandit
Multi-task learning
Multilinear subspace learning
Multimodal learning
Multiple instance learning
Multiple-instance learning
Never-Ending Language Learning
Offline learning
Parity learning
Population-based incremental learning
Predictive learning
Preference learning
Proactive learning
Proximal gradient methods for learning
Semantic analysis
Similarity learning
Sparse dictionary learning
Stability (learning theory)
Statistical learning theory
Statistical relational learning

Tanagra

Transfer learning

Variable-order Markov model

Version space learning

Waffles

Weka

Loss function Loss functions for classification Mean squared error (MSE) Mean squared prediction error (MSPE) Taguchi loss function

Loss functions for classification

Mean squared error (MSE)

Mean squared prediction error (MSPE)

Taguchi loss function

Low-energy adaptive clustering hierarchy

Other

Anne O'Tate

Ant colony optimization algorithms

Anthony Levandowski

Anti-unification (computer science)

Apache Flume

Apache Giraph

Apache Mahout

Apache SINGA

Apache Spark

Apache SystemML

Aphelion (software)

Arabic Speech Corpus

Archetypal analysis

Arthur Zimek

Artificial ants

Artificial bee colony algorithm

Artificial development

Artificial immune system

Astrostatistics

Averaged one-dependence estimators

Bag-of-words model

Balanced clustering

Ball tree

Base rate

Bat algorithm
Baum–Welch algorithm
Bayesian hierarchical modeling
Bayesian interpretation of kernel regularization
Bayesian optimization
Bayesian structural time series
Bees algorithm
Behavioral clustering
Bernoulli scheme
Bias–variance tradeoff
Biclustering
BigML
Binary classification
Bing Predicts
Bio-inspired computing
Biogeography-based optimization
Biplot
Bondy's theorem
Bongard problem
Bradley–Terry model
BrownBoost
Brown clustering
Burst error
CBCL (MIT)
CIML community portal
CMA-ES
CURE data clustering algorithm
Cache language model
Calibration (statistics)
Canonical correspondence analysis
Canopy clustering algorithm
Cascading classifiers
Category utility
CellCognition
Cellular evolutionary algorithm
Chi-square automatic interaction detection
Chromosome (genetic algorithm)
Classifier chains

Cleverbot
Clonal selection algorithm
Cluster-weighted modeling
Clustering high-dimensional data
Clustering illusion
CoBoosting
Cobweb (clustering)
Cognitive computer
Cognitive robotics
Collostructional analysis
Common-method variance
Complete-linkage clustering
Computer-automated design
Concept class
Concept drift
Conference on Artificial General Intelligence
Conference on Knowledge Discovery and Data Mining
Confirmatory factor analysis
Confusion matrix
Congruence coefficient
Connect (computer system)
Consensus clustering
Constrained clustering
Constrained conditional model
Constructive cooperative coevolution
Correlation clustering
Correspondence analysis
Cortica
Coupled pattern learner
Cross-entropy method
Cross-validation (statistics)
Crossover (genetic algorithm)
Cuckoo search
Cultural algorithm
Cultural consensus theory
Curse of dimensionality
DADiSP
DARPA LAGR Program

Darkforest
Dartmouth workshop
DarwinTunes
Data Mining Extensions
Data exploration
Data pre-processing
Data stream clustering
Dataiku
Davies–Bouldin index
Decision boundary
Decision list
Decision tree model
Deductive classifier
DeepArt
DeepDream
Deep Web Technologies
Defining length
Dendrogram
Dependability state model
Detailed balance
Determining the number of clusters in a data set
Detrended correspondence analysis
Developmental robotics
Diffbot
Differential evolution
Discrete phase-type distribution
Discriminative model
Dissociated press
Distributed R
Dlib
Document classification
Documenting Hate
Domain adaptation
Doubly stochastic model
Dual-phase evolution
Dunn index
Dynamic Bayesian network
Dynamic Markov compression

Dynamic topic model
Dynamic unobserved effects model
EDLUT
ELKI
Edge recombination operator
Effective fitness
Elastic map
Elastic matching
Elbow method (clustering)
Emergent (software)
Encog
Entropy rate
Erkki Oja
Eurisko
European Conference on Artificial Intelligence
Evaluation of binary classifiers
Evolution strategy
Evolution window
Evolutionary Algorithm for Landmark Detection
Evolutionary algorithm
Evolutionary art
Evolutionary music
Evolutionary programming
Evolvability (computer science)
Evolved antenna
Evolver (software)
Evolving classification function
Expectation propagation
Exploratory factor analysis
F1 score
FLAME clustering
Factor analysis of mixed data
Factor graph
Factor regression model
Factored language model
Farthest-first traversal
Fast-and-frugal trees
Feature Selection Toolbox

Feature hashing
Feature scaling
Feature vector
Firefly algorithm
First-difference estimator
First-order inductive learner
Fish School Search
Fisher kernel
Fitness approximation
Fitness function
Fitness proportionate selection
Fluentd
Folding@home
Formal concept analysis
Forward algorithm
Fowlkes–Mallows index
Frederick Jelinek
Frrole
Functional principal component analysis
GATTO
GLIMMER
Gary Bryce Fogel
Gaussian adaptation
Gaussian process
Gaussian process emulator
Gene prediction
General Architecture for Text Engineering
Generalization error
Generalized canonical correlation
Generalized filtering
Generalized iterative scaling
Generalized multidimensional scaling
Generative adversarial network
Generative model
Genetic algorithm
Genetic algorithm scheduling
Genetic algorithms in economics
Genetic fuzzy systems

Genetic memory (computer science)
Genetic operator
Genetic programming
Genetic representation
Geographical cluster
Gesture Description Language
Geworkbench
Glossary of artificial intelligence
Glottochronology
Golem (ILP)
Google matrix
Grafting (decision trees)
Gramian matrix
Grammatical evolution
Granular computing
GraphLab
Graph kernel
Gremlin (programming language)
Growth function
HUMANT (HUManoid ANT) algorithm
Hammersley–Clifford theorem
Harmony search
Hebbian theory
Hidden Markov random field
Hidden semi-Markov model
Hierarchical hidden Markov model
Higher-order factor analysis
Highway network
Hinge loss
Holland's schema theorem
Hopkins statistic
Hoshen–Kopelman algorithm
Huber loss
IRCF360
Ian Goodfellow
Ilastik
Ilya Sutskever
Immunocomputing

Imperialist competitive algorithm
Inauthentic text
Incremental decision tree
Induction of regular languages
Inductive bias
Inductive probability
Inductive programming
Influence diagram
Information Harvesting
Information gain in decision trees
Information gain ratio
Inheritance (genetic algorithm)
Instance selection
Intel RealSense
Interacting particle system
Interactive machine translation
International Joint Conference on Artificial Intelligence
International Meeting on Computational Intelligence Methods for Bioinformatics and Biostatistics
International Semantic Web Conference
Iris flower data set
Island algorithm
Isotropic position
Item response theory
Iterative Viterbi decoding
JOONE
Jabberwacky
Jaccard index
Jackknife variance estimates for random forest
Java Grammatical Evolution
Joseph Nechvatal
Jubatus
Julia (programming language)
Junction tree algorithm
k -SVD
k -means++
k -medians clustering
k -medoids
KNIME

KXEN Inc.
k q -flats
Kaggle
Kalman filter
Katz's back-off model
Kernel adaptive filter
Kernel density estimation
Kernel eigenvoice
Kernel embedding of distributions
Kernel method
Kernel perceptron
Kernel random forest
Kinect
Klaus-Robert Müller
Kneser–Ney smoothing
Knowledge Vault
Knowledge integration
LIBSVM
LPBoost
Labeled data
LanguageWare
Language identification in the limit
Language model
Large margin nearest neighbor
Latent Dirichlet allocation
Latent class model
Latent semantic analysis
Latent variable
Latent variable model
Lattice Miner
Layered hidden Markov model
Learnable function class
Least squares support vector machine
Leslie P. Kaelbling
Linear genetic programming
Linear predictor function
Linear separability
Lingyun Gu

Linkurious
Lior Ron (business executive)
List of genetic algorithm applications
List of metaphor-based metaheuristics
List of text mining software
Local case-control sampling
Local independence
Local tangent space alignment
Locality-sensitive hashing
Log-linear model
Logistic model tree
Low-rank approximation
Low-rank matrix approximations
MATLAB
MIMIC (immunology)
MXNet
Mallet (software project)
Manifold regularization
Margin-infused relaxed algorithm
Margin classifier
Mark V. Shaney
Massive Online Analysis
Matrix regularization
Matthews correlation coefficient
Mean shift
Mean squared error
Mean squared prediction error
Measurement invariance
Medoid
MeeMix
Melomics
Memetic algorithm
Meta-optimization
Mexican International Conference on Artificial Intelligence
Michael Kearns (computer scientist)
MinHash
Mixture model
Mlpy

Models of DNA evolution
Moral graph
Mountain car problem
Movidius
Multi-armed bandit
Multi-label classification
Multi expression programming
Multiclass classification
Multidimensional analysis
Multifactor dimensionality reduction
Multilinear principal component analysis
Multiple correspondence analysis
Multiple discriminant analysis
Multiple factor analysis
Multiple sequence alignment
Multiplicative weight update method
Multispectral pattern recognition
Mutation (genetic algorithm)
N-gram
NOMINATE (scaling method)
Native-language identification
Natural Language Toolkit
Natural evolution strategy
Nearest-neighbor chain algorithm
Nearest centroid classifier
Nearest neighbor search
Neighbor joining
Nest Labs
NetMiner
NetOwl
Neural Designer
Neural Engineering Object
Neural modeling fields
Neural network software
NeuroSolutions
Neuroevolution
Neuroph
Niki.ai

Noisy channel model
Noisy text analytics
Nonlinear dimensionality reduction
Novelty detection
Nuisance variable
One-class classification
Onnx
OpenNLP
Optimal discriminant analysis
Oracle Data Mining
Orange (software)
Ordination (statistics)
Overfitting
PROGOL
PSIPRED
Pachinko allocation
PageRank
Parallel metaheuristic
Parity benchmark
Part-of-speech tagging
Particle swarm optimization
Path dependence
Pattern language (formal languages)
Peltarion Synapse
Perplexity
Persian Speech Corpus
Pietro Perona
Pipeline Pilot
Piranha (software)
Pitman–Yor process
Plate notation
Polynomial kernel
Pop music automation
Population process
Portable Format for Analytics
Predictive Model Markup Language
Predictive state representation
Preference regression

Premature convergence
Principal geodesic analysis
Prior knowledge for pattern recognition
Prisma (app)
Probabilistic Action Cores
Probabilistic context-free grammar
Probabilistic latent semantic analysis
Probabilistic soft logic
Probability matching
Probit model
Product of experts
Programming with Big Data in R
Proper generalized decomposition
Pruning (decision trees)
Pushpak Bhattacharyya
Q methodology
Qloo
Quality control and genetic algorithms
Quantum Artificial Intelligence Lab
Queueing theory
Quick, Draw!
R (programming language)
Rada Mihalcea
Rademacher complexity
Radial basis function kernel
Rand index
Random indexing
Random projection
Random subspace method
Ranking SVM
RapidMiner
Rattle GUI
Raymond Cattell
Reasoning system
Regularization perspectives on support vector machines
Relational data mining
Relationship square
Relevance vector machine

Relief (feature selection)
Renjin
Repertory grid
Representer theorem
Reward-based selection
Richard Zemel
Right to explanation
RoboEarth
Robust principal component analysis
RuleML Symposium
Rule induction
Rules extraction system family
SAS (software)
SNNS
SPSS Modeler
SUBCLU
Sample complexity
Sample exclusion dimension
Santa Fe Trail problem
Savi Technology
Schema (genetic algorithms)
Search-based software engineering
Selection (genetic algorithm)
Self-Service Semantic Suite
Semantic folding
Semantic mapping (statistics)
Semidefinite embedding
Sense Networks
Sensorium Project
Sequence labeling
Sequential minimal optimization
Shattered set
Shogun (toolbox)
Silhouette (clustering)
SimHash
SimRank
Similarity measure
Simple matching coefficient

Simultaneous localization and mapping
Sinkov statistic
Sliced inverse regression
Snakes and Ladders
Soft independent modelling of class analogies
Soft output Viterbi algorithm
Solomonoff's theory of inductive inference
SolveIT Software
Spectral clustering
Spike-and-slab variable selection
Statistical machine translation
Statistical parsing
Statistical semantics
Stefano Soatto
Stephen Wolfram
Stochastic block model
Stochastic cellular automaton
Stochastic diffusion search
Stochastic grammar
Stochastic matrix
Stochastic universal sampling
Stress majorization
String kernel
Structural equation modeling
Structural risk minimization
Structured sparsity regularization
Structured support vector machine
Subclass reachability
Sufficient dimension reduction
Sukhotin's algorithm
Sum of absolute differences
Sum of absolute transformed differences
Swarm intelligence
Switching Kalman filter
Symbolic regression
Synchronous context-free grammar
Syntactic pattern recognition
TD-Gammon

TIMIT
Teaching dimension
Teuvo Kohonen
Textual case-based reasoning
Theory of conjoint measurement
Thomas G. Dietterich
Thurstonian model
Topic model
Tournament selection
Training, test, and validation sets
Transiogram
Trax Image Recognition
Trigram tagger
Truncation selection
Tucker decomposition
UIMA
UPGMA
Ugly duckling theorem
Uncertain data
Uniform convergence in probability
Unique negative dimension
Universal portfolio algorithm
User behavior analytics
VC dimension
VIGRA
Validation set
Vapnik–Chervonenkis theory
Variable-order Bayesian network
Variable kernel density estimation
Variable rules analysis
Variational message passing
Varimax rotation
Vector quantization
Vicarious (company)
Viterbi algorithm
Vowpal Wabbit
WACA clustering algorithm
WPGMA

Ward's method

Weasel program

Whitening transformation

Winnow (algorithm)

Win–stay, lose–switch

Witness set

Wolfram Language

Wolfram Mathematica

Writer invariant

Xgboost

Yooreeka

Zeroth (software)

Further reading

Trevor Hastie , Robert Tibshirani and Jerome H. Friedman (2001). The Elements of Statistical Learning , Springer. ISBN 0-387-95284-5 .

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References

External links

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Texts from Wikisource

Textbooks from Wikibooks

Resources from Wikiversity

Data Science: Data to Insights from MIT (machine learning)

Popular online course by Andrew Ng , at Coursera . It uses GNU Octave . The course is a free version of Stanford University 's actual course taught by Ng, see.stanford.edu/Course/CS229 available for free].

mloss is an academic database of open-source machine learning software.

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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

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