

Title: IBM Watsonx

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Categories: Category:2023 in artificial intelligence, Category:2023 software, Category:Data mining and machine learning software, Category:IBM cloud services, Category:IBM products

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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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Watsonx is a platform by IBM for building and managing artificial intelligence (AI) applications for business use. [2] Announced on May 9, 2023, the platform provides software tools and infrastructure for companies to work with both IBM's own AI models and models from third-party sources. [1] [3]

The platform consists of three main components: watsonx.ai , a studio for training, validating, and deploying AI models; watsonx.data , a system for storing and managing data used by the models; and watsonx.governance , a toolkit to ensure AI applications are compliant with company policies and regulations. [4] A key feature is its ability to be trained on a company's private data to perform specialized tasks, a process known as fine-tuning . IBM states that this client-specific data is not used to train its own models. [5] Like the Watson computer, it is named after Thomas J. Watson ,

IBM's founder. [1]

History

Watsonx was revealed on May 9, 2023, at the annual Think conference of IBM as a platform that includes multiple services. [6] [7] Just like Watson AI computer with the similar name, Watsonx was named after Thomas J. Watson , IBM's founder and first CEO. [1]

On February 13, 2024, Anaconda partnered with IBM to embed its open-source Python packages into Watsonx. [8]

Watsonx is currently used at ESPN 's Fantasy Football App for managing players' performance. [9] It is also used by Italian telecommunications company Wind Tre . [10] Watsonx was used to generate editorial content around nominees during the 66th Annual Grammy Awards . [11]

2025 Wimbledon tapped into the power of generative AI, producing new digital experiences on the Wimbledon app and website using IBM watsonx. [12]

IBM watsonx has also been used in the banking sector to enhance fraud detection and Anti-Money Laundering (AML) systems by integrating with IBM Safer Payments, enabling improved detection and prevention strategies. [13]

Services

watsonx.ai

Watsonx.ai is a platform that allows AI developers to leverage a wide range of LLMs under IBM's own Granite series and others such as Facebook 's LLaMA-2 , free and open-source model Mistral and many others present in Hugging Face community for a diverse set of AI development tasks. [14] [15] These models come pre-trained and are designed to excel in various Natural Language Processing (NLP) applications, encompassing question answering, content generation, summarization, text classification, and data extraction. The platform allows fine-tuning with its Tuning Studio , allowing those models to learn the data provided by customers. [4]

watsonx.data

Watsonx.data is a platform designed to assist clients in addressing issues related to data volume, complexity, cost, and governance as they scale their AI workloads. [16] This platform facilitates seamless data access, whether the data is stored in the cloud or on-premises, through a single entry point, offering simple use for users who may not possess technical expertise. This approach prioritizes data security and compliance. [4]

watsonx.governance

Watsonx.governance is a platform that utilizes IBM's AI governance capabilities to support organizations in implementing comprehensive AI lifecycle governance. [17] This helps them manage risks and maintain compliance with evolving AI and industry regulations. The platform allows organizations to reduce AI bias by overseeing their AI initiatives, leveraging software automation to enhance risk mitigation, regulatory compliance, and ethical considerations. [4]

See also

IBM Watson

Generative AI

Large language model

ChatGPT

References

External links

Official webpage

Official introductory video for watsonx AI Prompt Lab

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History World War II

World War II

Mergers and acquisitions PC business acquisition by Lenovo

PC business acquisition by Lenovo

Mainframe IBM Z

IBM Z

Power microprocessors

Power Systems

Storage FlashSystem DS8000

FlashSystem

DS8000

Quantum Q System One Q System Two Eagle Osprey Heron Condor

Q System One

Q System Two

Eagle

Osprey

Heron

Condor

Blue Gene

Cell microprocessors

PowerPC

Midrange computer

Personal Computer

Selectric

ThinkPad

Carbon Design System

Cloud Cloudant

Cloudant

Cognos Analytics

Connections

Criminal Reduction Utilising Statistical History

Fortran

ILOG

Information Management Software

Lotus Software

Mainframe operating systems
Mashup Center
Planning Analytics
PureQuery
Quantum Platform Qiskit OpenQASM
Qiskit
OpenQASM
Rational Software
SPSS
Tivoli Software Service Automation Manager
Service Automation Manager
Watson
Watsonx Granite
Granite
WebSphere
Apptio
Center for The Business of Government
Consulting Promontory
Promontory
Kenexa
International subsidiaries India
India
Press
Red Hat
Research
AdStar
AIM alliance Kaleida Labs Taligent
Kaleida Labs
Taligent
Ambra Computer
Cognos
EduQuest
Kyndryl
Lexmark
Merative
Microelectronics
Product Center
Science Research Associates

Service Bureau

The Weather Company (Weather Underground)

Towers 1250 René-Lévesque , Montreal, QC One Atlantic Center , Atlanta, GA

1250 René-Lévesque , Montreal, QC

One Atlantic Center , Atlanta, GA

Software Labs Rome Software Lab Toronto Software Lab

Rome Software Lab

Toronto Software Lab

IBM Buildings Chicago Honolulu New York Seattle

Chicago

Honolulu

New York

Seattle

Facilities Thomas J. Watson Research Center Hakozaki Facility Yamato Facility

Thomas J. Watson Research Center

Hakozaki Facility

Yamato Facility

Cambridge Scientific Center

IBM Hursley

Canada Head Office Building

IBM Rochester

Academy of Technology

Deep Thunder Develothon

Develothon

Fellow

The Great Mind Challenge

Linux Technology Center

SkillsBuild

Smarter Planet

Virtual Universe Community

World Community Grid

Think conference

Automated teller machine

Cynefin framework

DRAM

Electronic keypunch

Floppy disk

Hard disk drive

Magnetic stripe card
Relational model
Sabre airline reservation system
Scanning tunneling microscope
Financial swaps
Universal Product Code
Big Blue
Commercial Processing Workload
Customer engineer
Globally integrated enterprise
e-business
Think slogan
Thomas J. Watson (1914–1956)
Thomas Watson Jr. (1956–1971)
T. Vincent Learson (1971–1973)
Frank T. Cary (1973–1981)
John R. Opel (1981–1985)
John Fellows Akers (1985–1993)
Louis V. Gerstner Jr. (1993–2002)
Samuel J. Palmisano (2002–2011)
Ginni Rometty (2012–2020)
Arvind Krishna (since 2020)
Thomas Buberl
David Farr
Alex Gorsky
Michelle J. Howard
Arvind Krishna
Andrew Liveris
Martha E. Pollack
Joseph R. Swedish
Peter R. Voser
A Boy and His Atom
Big Blue sports teams American football Rugby union
American football
Rugby union
Common Public License / IBM Public License Wallace v. International Business Machines Corp.
Wallace v. International Business Machines Corp.
Deep Blue

Deep Thought

Dynamic infrastructure

GlobalFoundries

GUIDE International

IBM and the Holocaust

International chess tournament

Lucifer cipher

Mathematica

IBM Plex

SHARE computing

ScicomP

Unions

Commons

Category

Navigational boxes FOSS Midrange computers Operating systems Personal computers
System/360 System/370 Typewriters Vacuum tube computers

FOSS

Midrange computers

Operating systems

Personal computers

System/360

System/370

Typewriters

Vacuum tube computers

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History timeline

timeline

Companies

Projects

Parameter Hyperparameter

Hyperparameter

Loss functions

Regression Bias–variance tradeoff Double descent Overfitting

Bias–variance tradeoff

Double descent

Overfitting

Clustering
Gradient descent SGD Quasi-Newton method Conjugate gradient method
SGD
Quasi-Newton method
Conjugate gradient method
Backpropagation
Attention
Convolution
Normalization Batchnorm
Batchnorm
Activation Softmax Sigmoid Rectifier
Softmax
Sigmoid
Rectifier
Gating
Weight initialization
Regularization
Datasets Augmentation
Augmentation
Prompt engineering
Reinforcement learning Q-learning SARSA Imitation Policy gradient
Q-learning
SARSA
Imitation
Policy gradient
Diffusion
Latent diffusion model
Autoregression
Adversary
RAG
Uncanny valley
RLHF
Self-supervised learning
Reflection
Recursive self-improvement
Hallucination
Word embedding
Vibe coding

Machine learning In-context learning

In-context learning

Artificial neural network Deep learning

Deep learning

Language model Large language model NMT

Large language model

NMT

Reasoning language model

Model Context Protocol

Intelligent agent

Artificial human companion

Humanity's Last Exam

Artificial general intelligence (AGI)

AlexNet

WaveNet

Human image synthesis

HWR

OCR

Computer vision

Speech synthesis 15.ai ElevenLabs

15.ai

ElevenLabs

Speech recognition Whisper

Whisper

Facial recognition

AlphaFold

Text-to-image models Aurora DALL-E Firefly Flux Ideogram Imagen Midjourney Recraft Stable Diffusion

Aurora

DALL-E

Firefly

Flux

Ideogram

Imagen

Midjourney

Recraft

Stable Diffusion

Text-to-video models Dream Machine Runway Gen Hailuo AI Kling Sora Veo

Dream Machine

Runway Gen

Hailuo AI

Kling

Sora

Veo

Music generation Riffusion Suno AI Udio

Riffusion

Suno AI

Udio

Word2vec

Seq2seq

GloVe

BERT

T5

Llama

Chinchilla AI

PaLM

GPT 1 2 3 J ChatGPT 4 4o o1 o3 4.5 4.1 o4-mini 5

1

2

3

J

ChatGPT

4

4o

o1

o3

4.5

4.1

o4-mini

5

Claude

Gemini Gemini (language model) Gemma

Gemini (language model)

Gemma

Grok

LaMDA

BLOOM
DBRX
Project Debater
IBM Watson
IBM Watsonx
Granite
PanGu-Σ
DeepSeek
Qwen
AlphaGo
AlphaZero
OpenAI Five
Self-driving car
MuZero
Action selection AutoGPT
AutoGPT
Robot control
Alan Turing
Warren Sturgis McCulloch
Walter Pitts
John von Neumann
Claude Shannon
Shun'ichi Amari
Kunihiko Fukushima
Takeo Kanade
Marvin Minsky
John McCarthy
Nathaniel Rochester
Allen Newell
Cliff Shaw
Herbert A. Simon
Oliver Selfridge
Frank Rosenblatt
Bernard Widrow
Joseph Weizenbaum
Seymour Papert
Seppo Linnainmaa
Paul Werbos

Geoffrey Hinton
John Hopfield
Jürgen Schmidhuber
Yann LeCun
Yoshua Bengio
Lotfi A. Zadeh
Stephen Grossberg
Alex Graves
James Goodnight
Andrew Ng
Fei-Fei Li
Alex Krizhevsky
Ilya Sutskever
Oriol Vinyals
Quoc V. Le
Ian Goodfellow
Demis Hassabis
David Silver
Andrej Karpathy
Ashish Vaswani
Noam Shazeer
Aidan Gomez
John Schulman
Mustafa Suleyman
Jan Leike
Daniel Kokotajlo
François Chollet
Neural Turing machine
Differentiable neural computer
Transformer Vision transformer (ViT)
Vision transformer (ViT)
Recurrent neural network (RNN)
Long short-term memory (LSTM)
Gated recurrent unit (GRU)
Echo state network
Multilayer perceptron (MLP)
Convolutional neural network (CNN)
Residual neural network (RNN)

Highway network

Mamba

Autoencoder

Variational autoencoder (VAE)

Generative adversarial network (GAN)

Graph neural network (GNN)

Category