Title: DBRX

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Categories: Category:2024 in artificial intelligence, Category:2024 software, Category:Generative pre-trained transformers, Category:Large language models

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DBRX is a large language model (LLM) developed by Mosaic under its parent company Databricks , released on March 27, 2024 under the Databricks Open Model License. [3] [4] [5] It is a mixture-of-experts transformer model, with 132 billion parameters in total. 36 billion parameters (4 out of 16 experts) are active for each token. [6] The released model comes in either a base foundation model version or an instruction-tuned variant. [7]

At the time of its release, DBRX outperformed other prominent open-source models such as Meta 's LLaMA 2 , Mistral AI's Mixtral , and xAI 's Grok , in several benchmarks ranging from language understanding, programming ability and mathematics. [6] [8] [9]

It was trained for 2.5 months [9] on 3,072 Nvidia H100s connected by 3.2 terabytes per second bandwidth (InfiniBand), for a training cost of US$10M USD. [3]

References

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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