



WORD LIST PDF

Artificial Intelligence Vocabulary List

Learn essential artificial intelligence vocabulary with clear meanings, examples, and related terms across machine learning, deep learning, NLP, LLMs, computer vision, robotics, AI infrastructure, and ethics.

CATEGORY

Technology & Innovation

LEVEL

Intermediate

WORDS

71

Artificial intelligence vocabulary is becoming increasingly important in modern education, technology, business, and everyday digital discussions. From machine learning and automation to neural networks and data-driven systems, AI terms now appear in articles, presentations, interviews, and online conversations across the world. This artificial intelligence vocabulary list helps learners understand important AI-related words in a clear and practical way. Whether you are a student, English learner, tech enthusiast, or professional, these words can improve your reading comprehension, writing accuracy, and confidence when discussing artificial intelligence and related technology topics.

OVERVIEW

Resource Summary

A quick overview of this LVF resource before you move into the lesson or vocabulary pages.

At a glance

- **Resource Type:** Word List PDF
- **Category:** Technology & Innovation
- **Level:** Intermediate
- **Total Words:** 71
- **Basic Words:** 15
- **Intermediate Words:** 21
- **Advanced Words:** 35
- **Brand:** LearnVocabularyFree.com

How to use this PDF

1. Read the definitions carefully.
2. Review examples and usage notes.
3. Try the practice section independently.
4. Check the answer key for self-review.

STARTER LIST

Words you will meet in this PDF (but not limited to)

- **Artificial Intelligence (AI)** — The field of creating computer systems that can perform tasks that normally require human intelligence.
- **Machine Learning (ML)** — A branch of AI where systems learn patterns from data instead of being explicitly programmed for every task.
- **Deep Learning** — A type of machine learning that uses multi-layer neural networks to learn complex patterns from large amounts of data.
- **Artificial Neural Network (ANN)** — A computing model inspired by the human brain, made of interconnected nodes that process information.
- **Algorithm** — A set of rules or instructions followed to solve a problem or perform a task.
- **Model** — A trained system that learns patterns from data and makes predictions.
- **Dataset** — A collection of related data used for analysis or training.
- **Prompt** — A text instruction given to an AI system to generate a response.

Artificial Intelligence Vocabulary List

Definitions, examples, and related vocabulary prepared in a structured LVF format.

Artificial Intelligence (AI)

NOUN

BASIC

MEANING

The field of creating computer systems that can perform tasks that normally require human intelligence.

EXAMPLE

Artificial Intelligence is used in chatbots, recommendation systems, and self-driving technology.

SYNONYMS

AI

intelligent systems

Machine Learning (ML)

NOUN

BASIC

MEANING

A branch of AI where systems learn patterns from data instead of being explicitly programmed for every task.

EXAMPLE

Machine Learning helps spam filters identify unwanted emails.

SYNONYMS

ML

Deep Learning

NOUN

INTERMEDIATE

MEANING

A type of machine learning that uses multi-layer neural networks to learn complex patterns from large amounts of data.

EXAMPLE

Deep Learning is widely used in speech recognition and image classification.

SYNONYMS

DL

Artificial Neural Network (ANN)

NOUN

INTERMEDIATE

MEANING

A computing model inspired by the human brain, made of interconnected nodes that process information.

EXAMPLE

An Artificial Neural Network can be trained to recognize handwritten digits.

SYNONYMS

ANN

neural network

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Algorithm

NOUN

INTERMEDIATE

MEANING

A set of rules or instructions followed to solve a problem or perform a task.

EXAMPLE

Search engines use algorithms to rank websites.

SYNONYMS

procedure

method

system

Model

NOUN

BASIC

MEANING

A trained system that learns patterns from data and makes predictions.

EXAMPLE

The AI model recognized faces in the image.

SYNONYMS

system

framework

Dataset

NOUN

BASIC

MEANING

A collection of related data used for analysis or training.

EXAMPLE

The dataset included thousands of customer reviews.

SYNONYMS

data collection

Prompt

NOUN

BASIC

MEANING

A text instruction given to an AI system to generate a response.

EXAMPLE

A clear prompt usually gives better output.

SYNONYMS

instruction

input

Artificial Intelligence Vocabulary List

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Automation

NOUN

INTERMEDIATE

MEANING

The use of technology to perform tasks with little or no human effort.

EXAMPLE

Automation can save time in repetitive work.

SYNONYMS

mechanization

ANTONYMS

manual work

Bias

NOUN

ADVANCED

MEANING

A tendency in data or systems that leads to unfair or unbalanced results.

EXAMPLE

Researchers tested the model for bias before launch.

SYNONYMS

prejudice

imbalance

ANTONYMS

neutrality

Weights and Biases

NOUN

ADVANCED

MEANING

Internal values in a neural network that help determine how strongly inputs influence the output.

EXAMPLE

During training, the model updates its weights and biases to reduce error.

SYNONYMS

parameters

Backpropagation

NOUN

ADVANCED

MEANING

A training method in neural networks that adjusts weights by sending the error backward through the network.

EXAMPLE

Backpropagation helps the model learn by correcting mistakes after each prediction.

SYNONYMS

backprop

Artificial Intelligence Vocabulary List

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Loss Function

NOUN

ADVANCED

MEANING

A mathematical function that measures how far a model's predictions are from the correct answers.

EXAMPLE

The loss function showed that the model was improving over time.

SYNONYMS

error function

objective function

Activation Function

NOUN

ADVANCED

MEANING

A function used in neural networks to decide whether a neuron should be activated and how strongly it should respond.

EXAMPLE

ReLU is a common activation function in deep learning models.

ReLU

NOUN

ADVANCED

MEANING

A popular activation function that outputs zero for negative values and the input itself for positive values.

EXAMPLE

ReLU often helps deep neural networks train faster.

SYNONYMS

Rectified Linear Unit

Sigmoid

NOUN

ADVANCED

MEANING

An activation function that maps input values into a range between 0 and 1.

EXAMPLE

The sigmoid function is often used in binary classification tasks.

SYNONYMS

logistic function

Artificial Intelligence Vocabulary List

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Gradient Descent

NOUN

ADVANCED

MEANING

An optimization method used to reduce error by gradually adjusting model parameters in the best direction.

EXAMPLE

Gradient descent helps the model find a better solution during training.

SYNONYMS

optimization method

Overfitting

NOUN

INTERMEDIATE

MEANING

A problem where a model learns the training data too closely and performs poorly on new data.

EXAMPLE

The model showed overfitting because it scored well in training but badly in testing.

ANTONYMS

generalization

Underfitting

NOUN

INTERMEDIATE

MEANING

A problem where a model is too simple to learn important patterns in the data.

EXAMPLE

Underfitting occurs when the model performs poorly even on training data.

ANTONYMS

good fit

Hyperparameter

NOUN

ADVANCED

MEANING

A setting chosen before training that controls how a model learns, such as learning rate or number of layers.

EXAMPLE

The team tuned the hyperparameters to improve model accuracy.

SYNONYMS

training setting

Artificial Intelligence Vocabulary List

Definitions, examples, and related vocabulary prepared in a structured LVF format.

Layer

NOUN

BASIC

MEANING

A group of neurons in a neural network, such as input, hidden, or output layers.

EXAMPLE

The model had several hidden layers for deeper learning.

Neuron

NOUN

BASIC

MEANING

A single processing unit in a neural network that receives input and produces output.

EXAMPLE

Each neuron contributes to the final prediction.

SYNONYMS

node

Node

NOUN

BASIC

MEANING

Another term for a neuron or connection point in a computational network.

EXAMPLE

The hidden layer contained hundreds of nodes.

SYNONYMS

neuron

Natural Language Processing (NLP)

NOUN

BASIC

MEANING

A branch of AI focused on helping computers understand, interpret, and generate human language.

EXAMPLE

Natural Language Processing powers translation and chatbot systems.

SYNONYMS

NLP

Artificial Intelligence Vocabulary List

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Large Language Model (LLM)

NOUN

INTERMEDIATE

MEANING

A very large AI model trained on massive amounts of text to understand and generate language.

EXAMPLE

A Large Language Model can answer questions, summarize text, and generate content.

SYNONYMS

LLM

Transformer

NOUN

ADVANCED

MEANING

A neural network architecture that processes sequences efficiently using attention mechanisms.

EXAMPLE

Modern LLMs are largely based on the transformer architecture.

SYNONYMS

transformer model

Attention Mechanism

NOUN

ADVANCED

MEANING

A method that helps a model focus on the most relevant parts of the input while processing information.

EXAMPLE

The attention mechanism allows the model to connect important words in a sentence.

SYNONYMS

attention

Tokenization

NOUN

INTERMEDIATE

MEANING

The process of breaking text into smaller units such as words, subwords, or symbols for model processing.

EXAMPLE

Tokenization converts a sentence into pieces the model can understand.

SYNONYMS

text splitting

Artificial Intelligence Vocabulary List

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Embeddings

NOUN

ADVANCED

MEANING

Numerical vector representations of words, phrases, or other data that capture meaning and relationships.

EXAMPLE

Embeddings help AI systems understand that similar words have related meanings.

SYNONYMS

vector representations

Vector Database

NOUN

ADVANCED

MEANING

A database designed to store and search vector embeddings efficiently.

EXAMPLE

The chatbot used a vector database to retrieve relevant documents.

Generative AI (GenAI)

NOUN

BASIC

MEANING

AI systems that create new content such as text, images, audio, or code.

EXAMPLE

Generative AI can produce articles, illustrations, and software snippets.

SYNONYMS

GenAI

Prompt Engineering

NOUN

INTERMEDIATE

MEANING

The practice of designing effective prompts to get better results from AI systems.

EXAMPLE

Prompt engineering can significantly improve chatbot output quality.

Artificial Intelligence Vocabulary List

Definitions, examples, and related vocabulary prepared in a structured LVF format.

Sentiment Analysis

NOUN

INTERMEDIATE

MEANING

The task of identifying emotional tone or opinion in text, such as positive, negative, or neutral.

EXAMPLE

Sentiment analysis helps companies understand customer feedback.

SYNONYMS

opinion mining

Named Entity Recognition (NER)

NOUN

ADVANCED

MEANING

An NLP task that identifies names such as people, places, organizations, and dates in text.

EXAMPLE

Named Entity Recognition can detect company names in news articles.

SYNONYMS

NER

Sequence-to-Sequence (Seq2Seq)

NOUN

ADVANCED

MEANING

A model approach that converts one sequence into another, such as translating one language into another.

EXAMPLE

Sequence-to-Sequence models are useful in translation and summarization.

SYNONYMS

Seq2Seq

Fine-tuning

NOUN

ADVANCED

MEANING

The process of taking a pre-trained model and training it further for a specific task or domain.

EXAMPLE

The team used fine-tuning to adapt the model for legal documents.

SYNONYMS

model adaptation

Artificial Intelligence Vocabulary List

Definitions, examples, and related vocabulary prepared in a structured LVF format.

Computer Vision (CV)

NOUN

BASIC

MEANING

A branch of AI that enables computers to interpret and understand images and video.

EXAMPLE

Computer Vision is used in facial recognition and medical imaging.

SYNONYMS

CV

Convolutional Neural Network (CNN)

NOUN

ADVANCED

MEANING

A type of neural network especially effective for image-related tasks.

EXAMPLE

A Convolutional Neural Network can classify objects in photos.

SYNONYMS

CNN

Object Detection

NOUN

INTERMEDIATE

MEANING

A computer vision task that identifies and locates objects within an image or video.

EXAMPLE

Object detection helps autonomous vehicles recognize pedestrians.

Image Segmentation

NOUN

ADVANCED

MEANING

The process of dividing an image into meaningful parts or regions for analysis.

EXAMPLE

Image segmentation can separate the background from the subject.

Artificial Intelligence Vocabulary List

Definitions, examples, and related vocabulary prepared in a structured LVF format.

Facial Recognition

NOUN

INTERMEDIATE

MEANING

A technology that identifies or verifies a person based on facial features.

EXAMPLE

Facial recognition is used in device unlocking and security systems.

SYNONYMS

face recognition

Optical Character Recognition (OCR)

NOUN

INTERMEDIATE

MEANING

A technology that converts printed or handwritten text in images into machine-readable text.

EXAMPLE

OCR extracted text from the scanned document.

SYNONYMS

OCR

Reinforcement Learning (RL)

NOUN

ADVANCED

MEANING

A type of machine learning where an agent learns by taking actions and receiving rewards or penalties.

EXAMPLE

Reinforcement Learning is used in game-playing and robotics.

SYNONYMS

RL

Path Planning

NOUN

ADVANCED

MEANING

The process of determining the best route for a robot or autonomous system to move from one point to another.

EXAMPLE

Path planning helps delivery robots avoid obstacles.

SYNONYMS

route planning

Artificial Intelligence Vocabulary List

Definitions, examples, and related vocabulary prepared in a structured LVF format.

SLAM (Simultaneous Localization and Mapping)

NOUN

ADVANCED

MEANING

A technique that helps a robot build a map of an environment while tracking its own position.

EXAMPLE

SLAM allows autonomous robots to navigate unfamiliar spaces.

SYNONYMS

Simultaneous Localization and Mapping

Edge AI

NOUN

ADVANCED

MEANING

AI processing done on local devices rather than relying entirely on cloud servers.

EXAMPLE

Edge AI enables smart cameras to process video in real time.

SYNONYMS

on-device AI

ANTONYMS

cloud-only AI

Training Set

NOUN

BASIC

MEANING

The portion of data used to teach a model during training.

EXAMPLE

The model learned from a large training set of labeled images.

Validation Set

NOUN

INTERMEDIATE

MEANING

A portion of data used to tune the model and monitor performance during development.

EXAMPLE

The validation set helped identify overfitting early.

Artificial Intelligence Vocabulary List

Definitions, examples, and related vocabulary prepared in a structured LVF format.

Test Set

NOUN

BASIC

MEANING

A separate portion of data used to evaluate how well a trained model performs on unseen data.

EXAMPLE

The final model was evaluated using the test set.

Supervised Learning

NOUN

BASIC

MEANING

A type of machine learning where models learn from labeled input-output examples.

EXAMPLE

Supervised learning is commonly used in spam detection.

ANTONYMS

unsupervised learning

Unsupervised Learning

NOUN

INTERMEDIATE

MEANING

A type of machine learning where models find patterns in unlabeled data.

EXAMPLE

Unsupervised learning can group similar customers together.

ANTONYMS

supervised learning

Semi-supervised Learning

NOUN

ADVANCED

MEANING

A machine learning approach that uses a mix of labeled and unlabeled data.

EXAMPLE

Semi-supervised learning is useful when labels are expensive to obtain.

Artificial Intelligence Vocabulary List

Definitions, examples, and related vocabulary prepared in a structured LVF format.

Labeled Data

NOUN

BASIC

MEANING

Data that has been tagged with the correct answer or category.

EXAMPLE

The classifier required labeled data for training.

SYNONYMS

annotated data

ANTONYMS

unlabeled data

Big Data

NOUN

INTERMEDIATE

MEANING

Extremely large and complex datasets that require advanced tools for processing and analysis.

EXAMPLE

Big Data helps companies find patterns in customer behavior.

SYNONYMS

large-scale data

GPU (Graphics Processing Unit)

NOUN

INTERMEDIATE

MEANING

A hardware processor that is especially effective for the parallel computations used in AI training.

EXAMPLE

The deep learning model was trained on powerful GPUs.

SYNONYMS

GPU

TPU (Tensor Processing Unit)

NOUN

ADVANCED

MEANING

A specialized processor designed to accelerate machine learning workloads.

EXAMPLE

TPUs can speed up training for large AI models.

SYNONYMS

TPU

Artificial Intelligence Vocabulary List

Definitions, examples, and related vocabulary prepared in a structured LVF format.

Inference

NOUN

ADVANCED

MEANING

The stage where a trained model makes predictions from new input.

EXAMPLE

The chatbot performs inference in real time.

SYNONYMS

prediction step

Data Mining

NOUN

INTERMEDIATE

MEANING

The process of discovering patterns, relationships, or insights from large datasets.

EXAMPLE

Data mining revealed customer buying trends.

SYNONYMS

pattern discovery

Feature Engineering

NOUN

ADVANCED

MEANING

The process of selecting, creating, or transforming input variables to improve model performance.

EXAMPLE

Feature engineering helped the model detect fraud more accurately.

Artificial General Intelligence (AGI)

NOUN

ADVANCED

MEANING

A hypothetical form of AI with broad human-like intelligence across many tasks.

EXAMPLE

Artificial General Intelligence remains a long-term research goal.

SYNONYMS

AGI

ANTONYMS

narrow AI

Artificial Intelligence Vocabulary List

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Narrow AI

NOUN

INTERMEDIATE

MEANING

AI designed to perform specific tasks rather than broad human-like intelligence.

EXAMPLE

Most systems in use today are forms of narrow AI.

SYNONYMS

weak AI

ANTONYMS

AGI

Weak AI

NOUN

INTERMEDIATE

MEANING

Another term for narrow AI, meaning AI systems specialized for limited tasks.

EXAMPLE

Voice assistants are examples of weak AI.

SYNONYMS

narrow AI

ANTONYMS

AGI

Turing Test

NOUN

ADVANCED

MEANING

A classic test proposed to evaluate whether a machine can imitate human conversation convincingly.

EXAMPLE

The Turing Test is often discussed in the philosophy of AI.

Singularity

NOUN

ADVANCED

MEANING

A hypothetical future point where AI surpasses human intelligence and accelerates technological change dramatically.

EXAMPLE

Some futurists discuss the singularity as a major turning point.

Artificial Intelligence Vocabulary List

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Explainable AI (XAI)

NOUN

ADVANCED

MEANING

Approaches that make AI systems more understandable and transparent to humans.

EXAMPLE

Explainable AI is important in healthcare and finance where decisions must be justified.

SYNONYMS

XAI

Algorithmic Bias

NOUN

ADVANCED

MEANING

Unfair or distorted outcomes caused by biased data, design choices, or system behavior.

EXAMPLE

Researchers study algorithmic bias to make AI systems fairer.

SYNONYMS

model bias

systemic bias

ANTONYMS

fairness

Bias

NOUN

ADVANCED

MEANING

A tendency in data or systems that leads to unfair or unbalanced results.

EXAMPLE

Researchers tested the model for bias before launch.

SYNONYMS

prejudice

imbalance

ANTONYMS

neutrality

Hallucination

NOUN

ADVANCED

MEANING

A case where an AI system generates information that sounds believable but is false or unsupported.

EXAMPLE

The chatbot produced a hallucination by inventing a fake source.

SYNONYMS

fabricated output

ANTONYMS

grounded response

Artificial Intelligence Vocabulary List

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Alignment

NOUN

ADVANCED

MEANING

The effort to ensure AI systems behave according to human values, goals, and safety expectations.

EXAMPLE

Alignment research tries to make advanced AI systems more trustworthy.

SYNONYMS

AI safety alignment

Ethics in AI

NOUN

INTERMEDIATE

MEANING

The study of fairness, accountability, privacy, transparency, and responsible use in AI systems.

EXAMPLE

Ethics in AI is becoming central to policy and product design.

SYNONYMS

AI ethics

Heuristics

NOUN

ADVANCED

MEANING

Practical rules or shortcuts used to solve problems quickly, though not always perfectly.

EXAMPLE

Some AI systems use heuristics to reduce computational complexity.

SYNONYMS

rules of thumb

shortcuts

ANTONYMS

exact methods



PRACTICE

Mini Worksheet

Use the meanings and context from this PDF to answer the following practice questions.

1. Write the meaning of *Artificial Intelligence (AI)* and use it in one sentence.

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.....
.....

2. Write the meaning of *Machine Learning (ML)* and use it in one sentence.

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3. Write the meaning of *Deep Learning* and use it in one sentence.

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4. Write the meaning of *Artificial Neural Network (ANN)* and use it in one sentence.

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5. Write the meaning of *Algorithm* and use it in one sentence.

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.....

6. Write the meaning of *Model* and use it in one sentence.

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.....
.....

ANSWER KEY

Suggested Answers

These answer points are designed to support self-review and classroom guidance.

1. Artificial Intelligence (AI)

Meaning:

The field of creating computer systems that can perform tasks that normally require human intelligence.

Example:

Artificial Intelligence is used in chatbots, recommendation systems, and self-driving technology.

2. Machine Learning (ML)

Meaning:

A branch of AI where systems learn patterns from data instead of being explicitly programmed for every task.

Example:

Machine Learning helps spam filters identify unwanted emails.

3. Deep Learning

Meaning:

A type of machine learning that uses multi-layer neural networks to learn complex patterns from large amounts of data.

Example:

Deep Learning is widely used in speech recognition and image classification.

4. Artificial Neural Network (ANN)

Meaning:

A computing model inspired by the human brain, made of interconnected nodes that process information.

Example:

An Artificial Neural Network can be trained to recognize handwritten digits.

5. Algorithm

Meaning:

A set of rules or instructions followed to solve a problem or perform a task.

Example:

Search engines use algorithms to rank websites.

6. Model

Meaning:

A trained system that learns patterns from data and makes predictions.

Example:

The AI model recognized faces in the image.