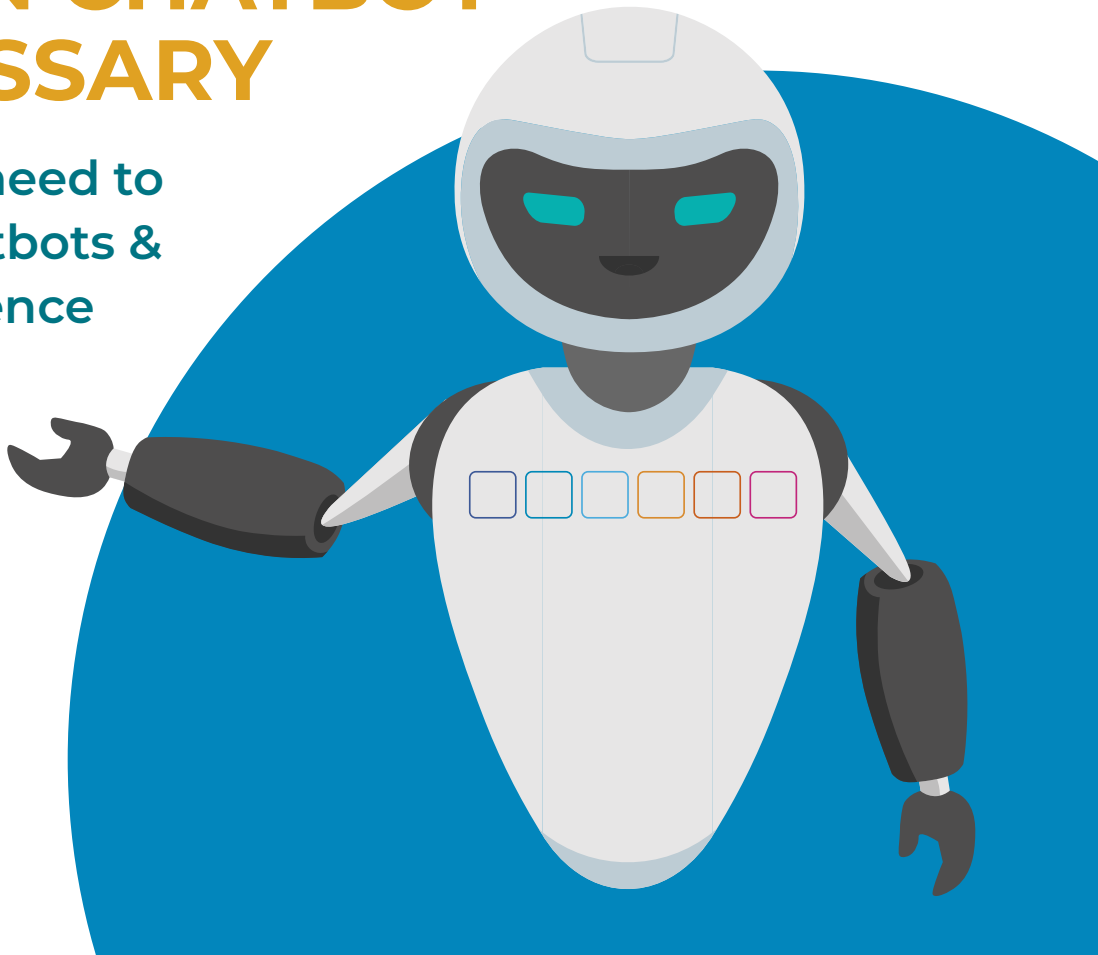
OBI4WAN CHATBOT & AI GLOSSARY

Everything you need to know about chatbots & artificial intelligence



OBI4WAN

INTRO

Artificial Intelligence (AI) is all around us: daily conversations with Google Home; the friendly chatbot that helps you with an order or question. AI is in full swing and the latest technologies are helping organisations move forward and innovate.

Did you know, for example, that chatbots, as virtual employees, can be a valuable addition to a webcare team? And that you can also use Artificial Intelligence for marketing and sales purposes?

Because this is relatively new to most, the meanings of some of the terms and expressions may not be entirely clear to everyone; so we put together this handy Chatbot & AI Glossary for professionals who are dealing with Artificial Intelligence. This comprehensive glossary, which has been carefully compiled by our AI experts, will explain the basic principles of Artificial Intelligence.

Enjoy!

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A

Algorithm
An algorithm is a mathematical formula that works in the background to ensure that websites can respond efficiently to your, and their own needs. An example of this is the results that come up on Google based on your search history and preferences. It's a list of steps or a set of instructions that programmers give to computers and software systems to solve problems or get something done. When an algorithm processes information, it must read that data from an input source, write it to an output device, and save it for future use.

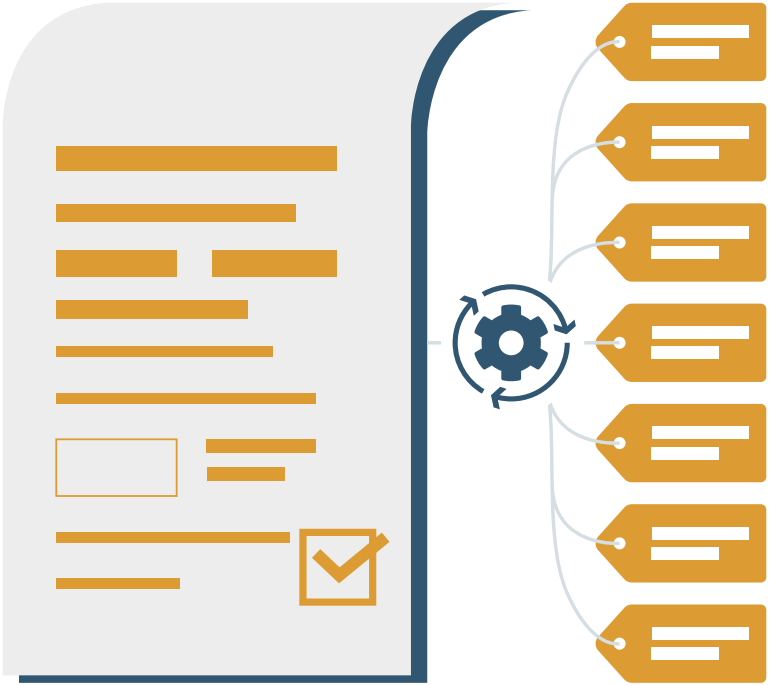
Artificial intelligence
Artificial Intelligence (AI) describes the ability of a machine to learn by solving problems. AI uses machine learning elements, such as pattern recognition and recommendations based on results. AI can also go a step further by improving problem-solving abilities over time. AI is designed to make our lives easier; so much so that you sometimes won't even realise that you're dealing with AI.

Automated optimisation
Automated optimisation is when you receive recommendations based on the customers' personal preferences, which have been obtained through machine learning. It can help to increase your conversion. An example: someone books a trip to Ibiza every year in the same month; via automated optimisation you could then make an offer, at the right time, with the same destination.

A

Automated content tagging

Content tagging tools help to improve SEO optimisation and metadata. Driven by machine learning, content tagging automatically suggests relevant tags when you create new content. This helps other machines to easily find and use them to make new offers and personalise customer experiences.



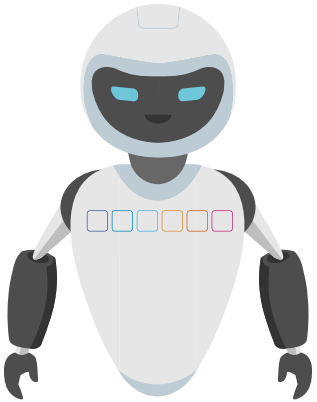
C

Chatbot

There are many different types of bots, but chatbots are the most well known. They're able to receive, translate and interpret human language and then respond accordingly. This is accomplished through a combination of natural language processing (NLP) and machine learning. As a virtual employee, chatbots can also help webcare teams with answering customer questions. Chatbots can be used for answering simple questions or doing routine jobs; and can sometimes also resolve customer questions, from A to Z, themselves.

Computer vision

Computer vision is part of deep learning. It's about using images for analysing and understanding information; to identify objects, recognise them in video for example, or to segment images into groups.



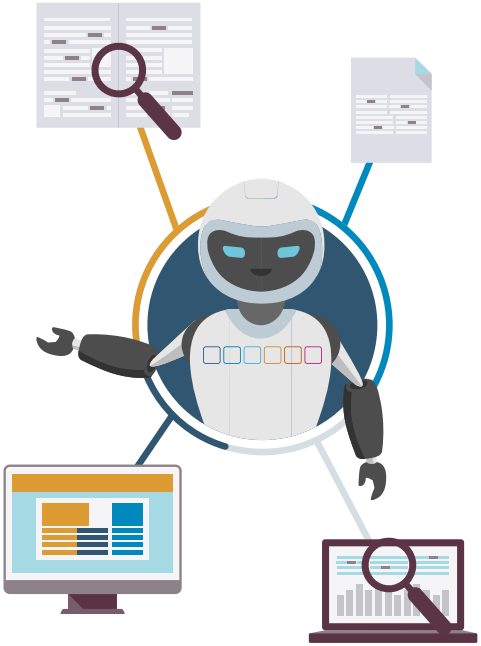
Contextual intelligence

Contextual intelligence describes the ability to discover the most likely needs and intentions of customers or website visitors, and to then use these insights in order to be truly relevant. Integrated machine learning capabilities in tools are becoming increasingly important for contextual intelligence, since they take care of the collection and processing of data, the use of insights and patterns, and making predictions.

D

Data exploration

By data exploration we mean the process of collecting relevant data from various sources. Data exploration is often the first step in data analysis when you're, for example, just beginning to use chatbots in your organisation. Without this step, your chatbots may struggle to stay accurate over time.



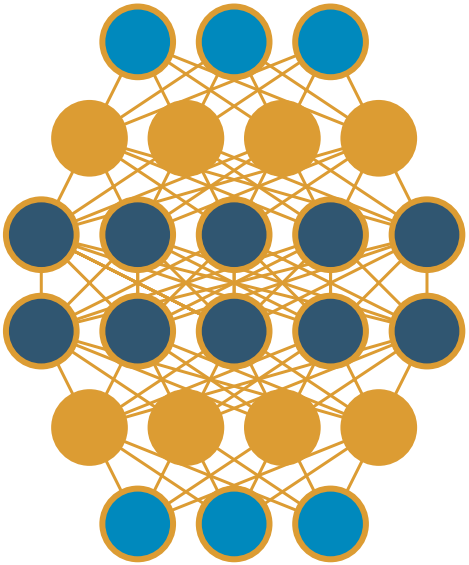
Decision model

A decision model assesses the relationships between the elements of a decision and then recommends one or more possible actions to be taken based on this. The model can then predict what should happen if a certain action is taken. Machine learning is widely used to determine the best next step, or steps, in a certain situation.

D

Deep fake

Deep fake is a set of AI-based technologies that are used to produce or change content (often videos), making it represent something that hasn't actually happened. Deep fake is a combination of the term deep learning and fake.



Deep learning

Deep learning is part of machine learning. Deep learning is a methodology of a deep neural network that has proven to work really well. It is called deep learning because the neural networks (the building blocks of an artificial brain) consist of many layers and each layer has a different function. When recognising images, for example, the first layers are for recognising lines and edges. The later layers recognise more complex things, such as an eye or a nose. With deep learning you literally go deeper than what is only visible on the surface.

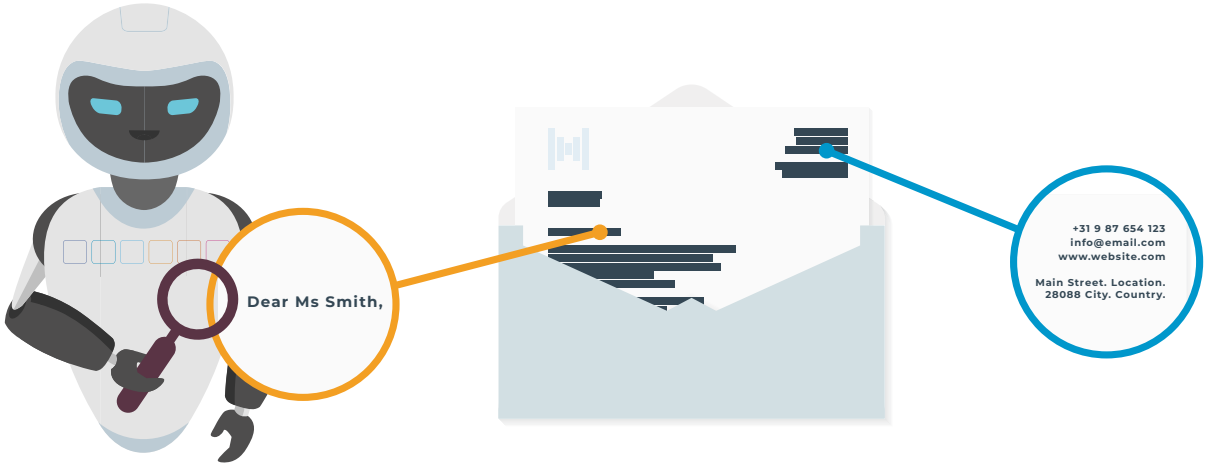
E

Expert system
An expert system is an AI system that uses knowledge and human expertise to solve problems.

H

Handwriting
Handwriting is an AI application that uses machine learning to recognise and classify parts in text; for example, names, companies or addresses. This helps organisations to find relevant information from a specific sector or branch.

Heuristics
In heuristic programming, programs are self-learning and improve through experience. Heuristics are widely used in combination with expert systems.



I

Inductive reasoning
Inductive reasoning makes broad generalisations based on specific observations. It is a logical process in which several principles, which are usually either true or false, are combined into a conclusion. Inductive reasoning is often used when making predictions, which makes it the opposite of deductive reasoning, because with deductive reasoning, you start with a general proposition or hypothesis to come to a logical conclusion.

Inference engine
Inference engines are useful if you work with many different types of information to, for example, increase business intelligence. An inference engine can be used to extract certain facts or customer information from a knowledge base. Consider, for example, the purchase of products or the recognition of transactions in order to then derive certain logical conclusions from this.

L

Logic programming
Logic Programming is a method that computer scientists use to try to make machines reason. Logical programming uses logic to represent knowledge and uses inferences to manipulate knowledge. Rules are written as logical clauses. For example: A is true if H1, H2 and H3 are true.

M

Machine-optimized relationships
This is an application in which customer relationships are continually being improved and optimised over time through smart algorithms. So instead of optimising a website page or e-mail, you optimise machine optimised relationships (“ML”) in order to optimise the added value for the customer.

Machine learning
Machine learning (ML) gives systems the ability to automatically learn from data and improve over time, without additional programming. The more data your ML systems feed, the more accurate their determinations and predictions become. Machine learning helps to discover patterns and then project these patterns into the future and determine what is likely to happen. Along with making recommendations, ML systems can implement these automatically (automation).

N

Natural language processing
This is an area that focuses on understanding human text and speech. Chatbots also make smart use of natural language processing (NLP) and are “trained” in understanding and recognising human language. Natural language processing is an application of deep learning.

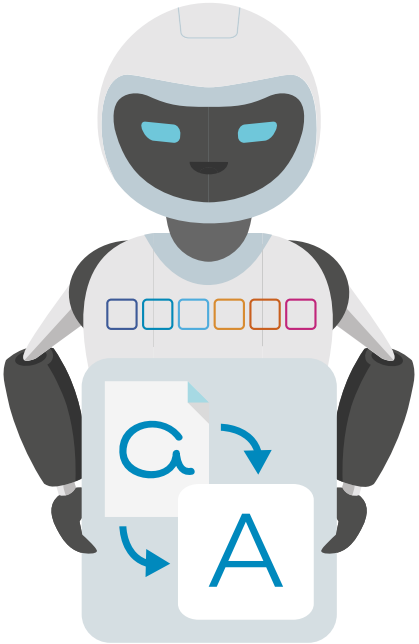
Natural language generation
A subfield of natural language processing, which helps machines to speak with the right words in the right order. Major steps have recently been made thanks to machine learning.

Neural networks
Neural networks are algorithms and data structures designed to enable machines to classify and predict outcomes based on a set of information. The neural network is the same as the analogous structure of the brain. Brains consist of nodes (brain cells), connections and weights. Neural networks are usually very complicated - as are our brains - and require a lot of computing power to train.

O

Optical character recognition

Optical character recognition (OCR) is an application where printed or handwritten text is changed into machine-readable text, which is incredibly useful, because it means that text then becomes searchable, findable and - with the help of other AI algorithms - understandable, without anyone even having to be around.



P

Path analysis
Path analysis is an automated way to observe, analyse and understand any customer interactions with your company. This is often done with a visualisation tool that shows customer journeys with the highest value.

Predictive analytics
Predictive analytics is a field in AI that is used in making predictions about unknown, future events. Predictive analytics uses many data mining techniques, statistics, modeling and machine learning to analyse current data in order to make predictions about the future.

Predictive model
A model that uses observations measured in one data set. The goal is to predict the likelihood that another data set will behave in the same way or will have the same result. These models usually use a machine learning algorithm that learns everything about the sample in order to make the prediction.

R

Regression modeling

Regression modeling is a machine learning technique in which the relationship strength between dependent and independent variables is examined. Regression models look, for example, at comparable customers in your database to come up with a prediction about the number of new customers next year. It is extremely useful for predicting income.

Robotics

Robotics is an application where this subset of engineering comprises the design, production and operation of robots. This area overlaps with electronics, computer science, AI, mechatronics, nanotechnology and biotechnology.

S

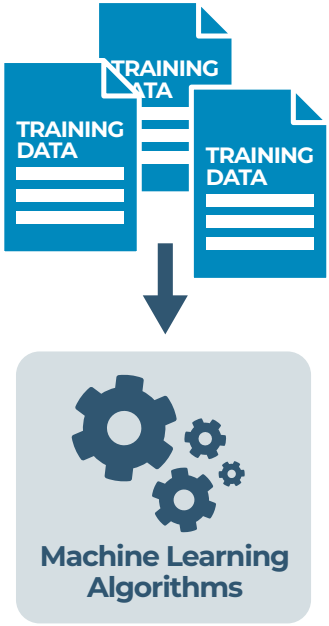
Sentiment analysis
A specialty in machine learning that helps computers analyse text and classify text by sense and/or meaning. Sentiment analysis is often used to determine whether (social media) messages are positive, negative or neutral. The media monitoring tools from OBI4wan are useful for conducting sentiment analysis.

Supervised learning
Machine learning systems usually have to be taught “to think for themselves”. Supervised learning uses training elements developed by people to help machine learning systems learn the correct output for each input. For example, a system can learn to recognise traffic signs based on notes. Supervised learning is part of deep learning.

Speech recognition
A technology that enables a device to recognise and understand spoken words. Speech recognition does this by digitising sound and comparing its patterns with the saved patterns.

T

Training data set
Certain data information that is given to machine learning systems for learning.



U

Unsupervised learning
A form of machine learning that does not require training data generated by people. Instead, the system "learns" all the patterns, clusters or regularities that it can extract from the training data.

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