

# Artificial Intelligence with GeneXus

## Introduction

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Even though artificial intelligence was created in the 1950s, in recent years it has evolved at great speed and today it is increasingly used in applications of all kinds, such as voice or image recognition, automatic translation, etc.

Following its premise of being “Future Proof,” GeneXus has added the possibility of using Artificial Intelligence in our applications.

Cognitive services GeneXus connects to:

IBM Watson

Microsoft Cognitive Services

SAP Leonardo

Google Cloud Services

Amazon Web Services

The use of Artificial Intelligence algorithms is achieved by connecting with cognitive service providers through a unified API; that is, we can use the same methods and data types for all services, hiding the complexity of the connection with each.

The providers we have access to are Watson from IBM, Cognitive Services from Microsoft, SAP Leonardo, Google Cloud Services and Amazon Web Services.

At present, we're working so that we can use algorithms developed by any provider, even by ourselves using artificial intelligence languages.

## Artificial Intelligence Module

**Manage Module References** X

Modules: Search by pattern here...

**Chatbot (2.1.10.129299)**  
GeneXus Chatbot module is a basic set of interfaces and implementations of data structures and algorithms needed to implement a Chatbot solution.

**GeneXusAI (1.1.21.129329)** **Install**  
GeneXusAI contains a common set of Artificial Intelligence tasks, including audio, text and image processing, all of...

**GeneXus (2.1.7.129290)**  
GeneXus Core Module is a basic set of interfaces and

**GXTest (0.4.2)**  
GXTest Module provides core functionality for creating, running and reporting tests on genexus and over c/cd pipelines. <https://wiki.genexus.com/commwiki/servlet/wiki?>

**Module Information:**

**GeneXusAI**

**Module is not installed**

Available Versions: 1.1.21.129329

**Author:** GeneXus S.A.  
**Owner:** GeneXus S.A.

**Description:**  
GeneXusAI contains a common set of Artificial Intelligence tasks, including audio, text and image processing, all of them provided by several Cloud Platforms (e.g. IBM Watson, Microsoft Azure Cognitive Services, SAP Leonardo)

**Platforms:**

- C# Web

**Dependencies:**

- GeneXus 1.12.13.125610

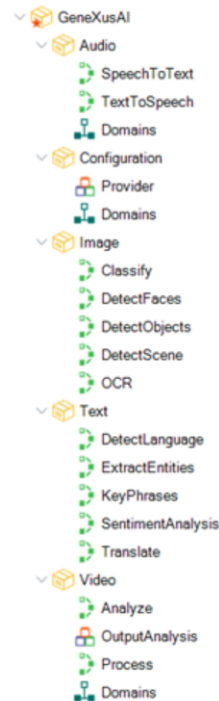
**Id:** 733e9734-9f0a-4620-b397-d84fbc2cef10

**MyKB**

- > Main Programs
- > Root Module
- > References
  - > GeneXus
  - > **GeneXusAI**
  - > Customization
  - > Documentation

To install the Artificial Intelligence module, go to Knowledge Manager > Manage Module References. There you'll find a list of modules, including GeneXus AI; install it by clicking on the "Install" button. Once installed, you will find the module below the "References" node of the KB Explorer, together with the GeneXus core module.

Artificial Intelligence functions available:



The AI functions available in GeneXus are grouped in 4 submodules: Audio, Image, Text and Video.

With the audio module we can transcribe audio to text (SpeechToText), or convert text to audio (TextToSpeech).

The image module allows us to classify an image (Classify), detect faces (DetectFaces), detect objects in an image (DetectObjects) or the image scene (DetectScene), and also recognize a text that is within an image and convert it to written text (Optical Character Recognition, OCR).

In the text module, with DetectLanguage we can detect the language of a text; with ExtractEntities we can extract the names of people, organizations or cities; with KeyPhrases we can extract relevant phrases or words from the text; with SentimentAnalysis we can detect whether the text is pessimistic or cheerful, and with Translate we can translate a text from one language to another.

The video module allows us to process and use image analysis functions within the video.

The Configuration module is used to indicate the service provider we are going to work with, the credentials to access it, and other necessary values.

## Examples of use of Artificial Intelligence algorithms

## Image processing



## Audio processing

*"The first question that comes up is:  
What is GeneXus? GeneXus is a tool that  
automatically generates software  
programs such as applications for the  
Web, and Smart Devices, always at the  
forefront of technological evolution."*



Amazon



IBM



Microsoft

Here is an example of image processing. It was detected that this is a photo in an open place, the building is recognized as the Taj Mahal and that there are also people. A man's face has also been detected.

In the following example of audio processing, we'll see how a digitized voice reads the text aloud. We can choose to use a male or female voice.

It's worth pointing out that since GeneXus can use different cognitive services, we can use the service that's more suitable for each task, thus achieving the best results.

More information about Artificial Intelligence with GeneXus

More info: <https://wiki.genexus.com/commwiki/servlet/wiki?40167>

For more information about Artificial Intelligence in GeneXus, read this Wiki link:  
<https://wiki.genexus.com/commwiki/servlet/wiki?40167>

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