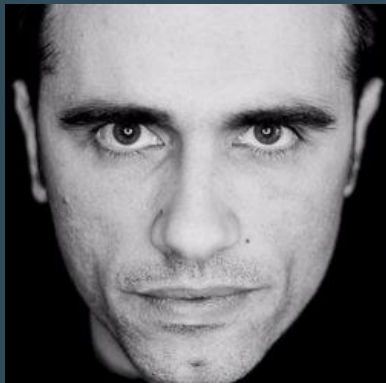


A lap around Azure Cognitive Services



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Azure Cognitive Services 101

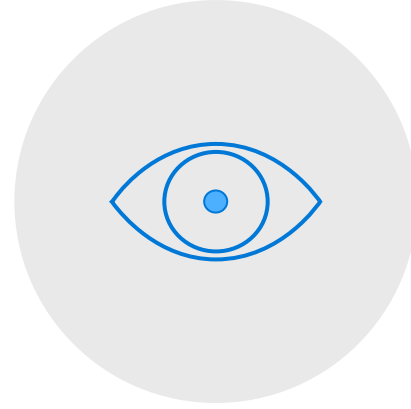
Domain-specific machine learning models available* as services



Decision



Language



Vision



Speech

*both in the cloud and on-premises as docker containers

Cognitive Services

Azure Cognitive Services are accessible via a built-in HTTP-based API, on top of which native SDKs are available for:

- .NET
- Go
- Java
- Node.js
- Python

To use a cognitive service, we need its url (a.k.a. **endpoint**) and password (a.k.a. **key**): both can be found in their dashboard





Avengers! Assemble.

Demo

Rossy - <https://github.com/andysal/Rossy>

~~Avengers~~Services: assemble!

- The **Speech** service is used to do Speech-to-Text
- The **Text Analytics** service is used to guess the language
- The **Language Understanding** service is used to guess the user's intent
- The **Computer Vision** service is used to resolve the user intent against the provided image
- The **Speech** service is used to provide the user an audible answer

Text Analytics

A cognitive service providing an easy way to parse natural language to:

- Perform sentiment analysis
- Detect language
- Extract key phrases
- Detect entities
- Recognize personally identifiable information
- Full list of recognized entity types available [here](#)

Demo

Text Analytics

Sentiment Analysis

Sentiment Analysis applies sentiment labels to text, which are returned at a sentence and document level, with a confidence score for each. The labels are *positive*, *negative*, and *neutral*. At the document level, the mixed sentiment label also can be returned.

Sentence sentiment	Returned document label
At least one positive sentence is in the document. The rest of the sentences are neutral.	positive
At least one negative sentence is in the document. The rest of the sentences are neutral.	negative
At least one negative sentence and at least one positive sentence are in the document.	mixed
All sentences in the document are neutral.	neutral

Language Understanding Intelligent Service

A cognitive service that provides an easy way to create language models to allow applications to understand user commands.





CommunityDays.it

Demo

LUIS

Computer Vision

A cognitive service that provides a way to analyze images looking for:

- A summary
- Brands
- Faces
- People
- Objects

The service has 2 pricing tiers

Demo

Computer Vision

Speech

A cognitive service service capable of:

- Text-to-speech
- Detecting the spoken language
- Speech translation
- Speech-to-text

Speech synthesis

It renders [SSML](#) to voice: producing the SSML is on us.

```
<speak version="1.0" xmlns="https://www.w3.org/2001/10/synthesis" xml:lang="en-US">  
  <voice name="en-US-Guy24kRUS">  
    Good morning Jessa  
  </voice>  
  <voice name="en-US-Jessa24kRUS">  
    <mstts:express-as type="cheerful">  
      Good morning to you Guy!  
    </mstts:express-as>  
  </voice>  
</speak>
```



Speech synthesis

2 kinds of voices are available:

- Standard
- Neural: powered by deep neural networks, they're generally closer to the real thing

More than 140 voices available, full list available [here](#).

Demo

Speech Synthesis

Speech-to-text

Also known as **speech recognition**, it enables *real-time* and *batch* transcription of audio streams into text.

Real time modes:

- **Recognize once**: recognizes an utterance from the beginning of the detected speech until the next pause (max 20 seconds)
- **Continuous**: keeps processing all utterances until stopped, or until too much time in silence has passed.
- **Dictation**: will cause the speech config instance to interpret word descriptions of sentence structures such as punctuation. For example, the utterance "*Do you live in town question mark*" would be interpreted as the text "*Do you live in town?*"
- Supported audio formats: **WAV, OPUS/OGG, FLAC, ALAW, MULAW**



Demo

Speech-to-text

Grazie!

- Il materiale sarà online nei prossimi giorni su <http://www.communitydays.it>