.NET USER GROUP LUXEMBOURG

Et si vous mettiez un peu d'IA dans vos apps ?

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Qui sommes-nous ?

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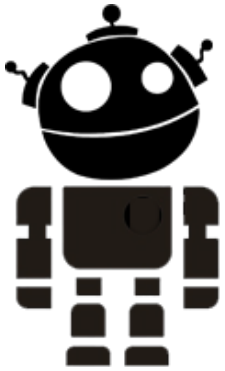
Introduction

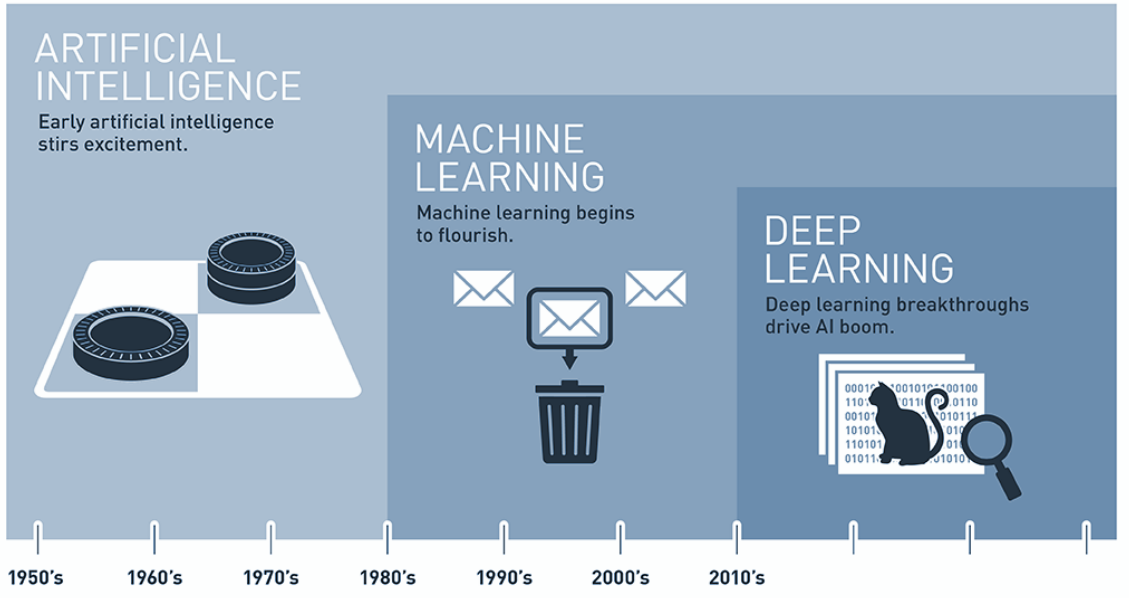
« Construction de programmes informatiques qui s'adonnent à des tâches qui sont, pour l'instant, accomplies de façon plus satisfaisante par des êtres humains car elles demandent des processus mentaux de haut niveau tels que : l'apprentissage perceptuel, l'organisation de la mémoire et le raisonnement critique ».

Marvin Lee Minsky



Introduction

La Machine Learning est un type d'IA qui confère aux ordinateurs la capacité d'apprendre sans être explicitement programmés.



Cognitive Services

- S’intègre dans des applications, des sites web, ou des bots, des algorithmes intelligents pour voir, écouter, énoncer, comprendre et interpréter les besoins des utilisateurs.
- Prolonge l’intelligence naturelle humaine vers la machine avec de l’intelligence artificielle
- Multitude d’API permettant de rendre nos apps intelligentes

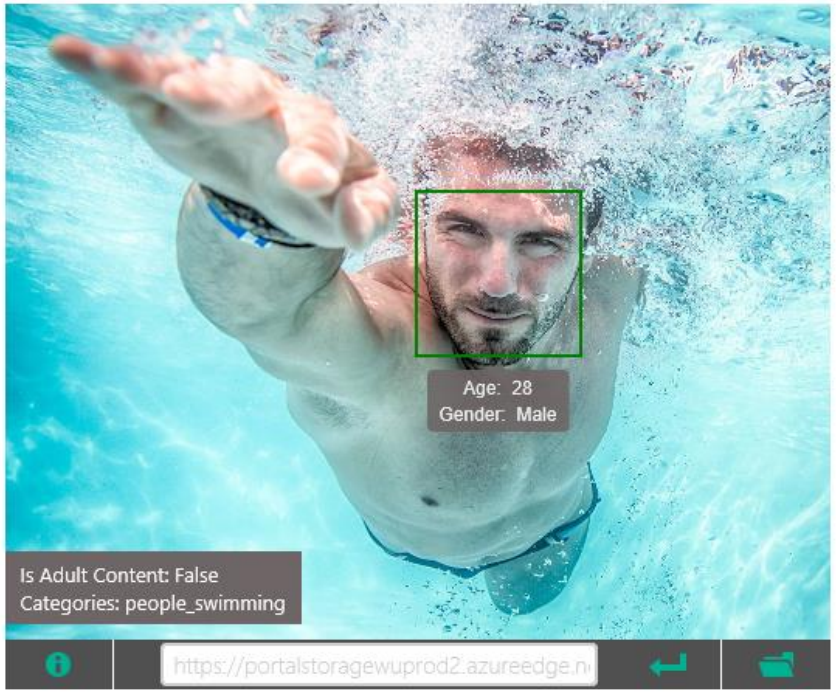
Cognitive Services

Vision	Computer Vision	Emotion	Face	Video	
Speech	Bing Speech	Custom Recognition	Speaker Recognition		
Language	Bing Spell Check	Language Understanding	Linguistic Analysis	Text Analytics	Web Language Model
Knowledge	Academic Knowledge	Entity Linking	Knowledge Exploration	Recom-mendations	
Search	Bing Auto-suggest	Bing Image Search	Bing News Search	Bing Video Search	Bing Web Search

Cognitive Services - Vision

Analyze an image

This feature returns information about visual content found in an image. Use tagging, descriptions and domain-specific models to identify content and label it with confidence. Apply the adult/racy settings to enable automated restriction of adult content. Identify image types and color schemes in pictures.



Features:

Feature Name	Value
Description	{ "type": 0, "captions": [{ "text": "a man swimming in a pool of water", "confidence": 0.7850108693093019 }] }
Tags	[{ "name": "water", "confidence": 0.9996442794799805 }, { "name": "sport", "confidence": 0.9504992365837097 }, { "name": "swimming", "confidence": 0.9062818288803101, "hint": "sport" }, { "name": "pool", "confidence": 0.8787588477134705 }, { "name": "water sport", "confidence": 0.631849467754364, "hint": "sport" }]
Image Format	jpeg
Image Dimensions	1500 x 1155
Clip Art Type	0 Non-clipart
Line Drawing Type	0 Non-LineDrawing
Black & White Image	False

Cognitive Services - Vision

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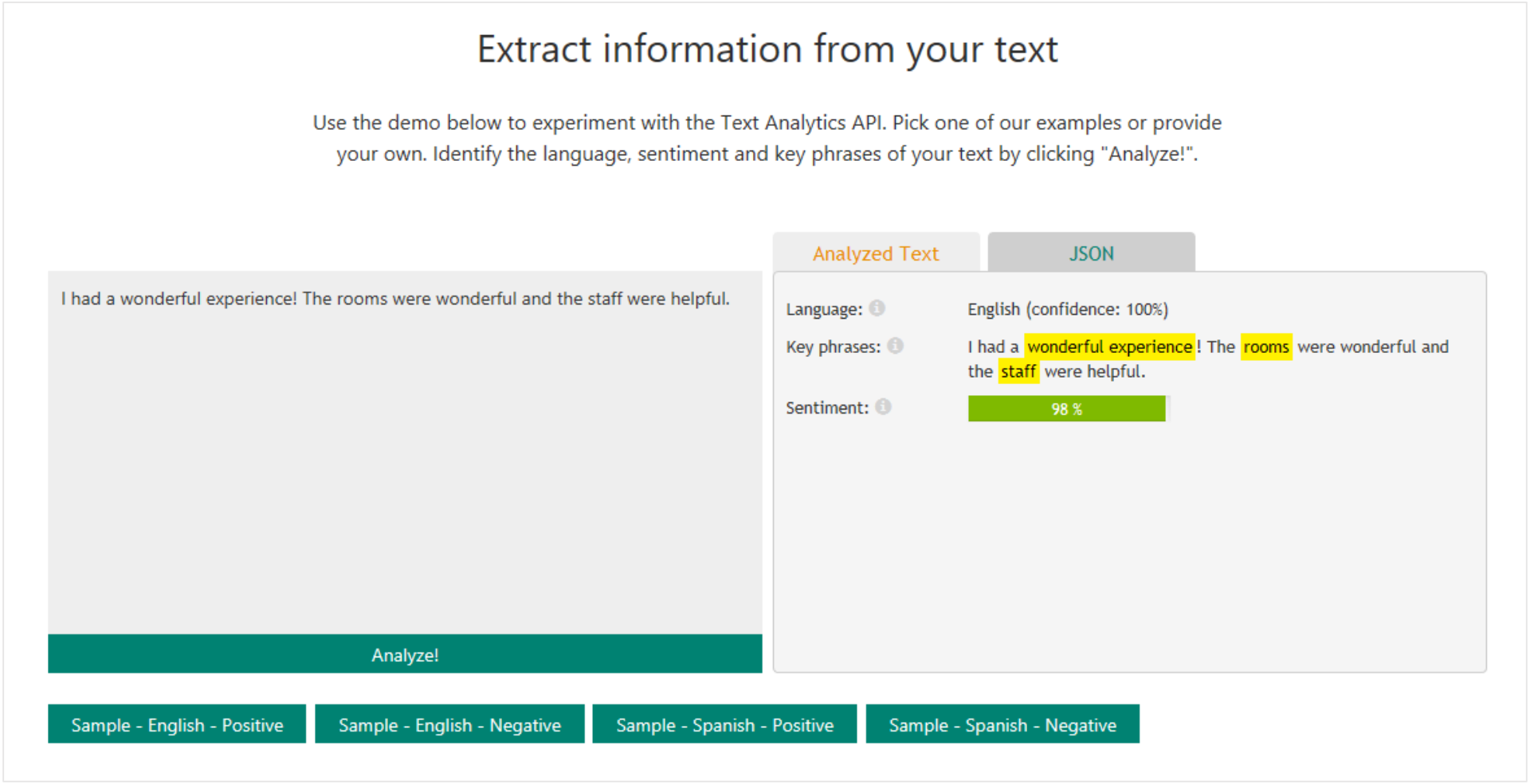
Using the Computer Vision API (C#)

```
var vision = new VisionServiceClient("subscription_key");
var features = new VisualFeature[] { VisualFeature.Description };
var result = await vision.AnalyzeImageAsync(uri, features);

string caption = result.Description.Captions[0].Text);

foreach (string tag in result.Description.Tags)
{
    // tag holds descriptive tag for image (e.g., "river")
}
```

Cognitive Services – Text analytics



Cognitive Services – Text analytics

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Using the Text Analytics API (JavaScript)

```
var input = "{'documents':[{'language':'en','id':'1000','text':" + twitterText + "}]}";

$.ajax({
    url:"https://westus.api.cognitive.microsoft.com/text/analytics/v2.0/sentiment",
    beforeSend: function(xhr){
        xhr.setRequestHeader("Content-Type", "application/json");
        xhr.setRequestHeader("Ocp-Apim-Subscription-Key", "{key}");
    },
    type: "POST",
    data: input
}).done(function(data) {
    alert(data.documents[0].score); // Sentiment from 0.0 to 1.0
}).fail(function() {
    alert("error");
});
```

Démos – Cognitive Services

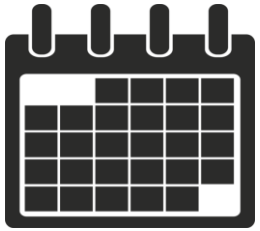
- Présentation de l'ensemble des possibilités des Cognitive Services
- Application IntelligentKiosk
- Démo disponible sur Github : https://github.com/Microsoft/Cognitive-Samples-IntelligentKiosk

Démo complète

- Démo Xamarin avec utilisation de Cognitive Services
- Déploiement via VSTS / Visual Studio Mobile Center
- Démo disponible sur Github : https://github.com/dotnet-luxembourg/SausageRecognizer

Agenda

- 11 octobre : CQRS
- 15 novembre : ChatBot avec Bot Framework/LUIS



Questions ?