

Microsoft Azure Cognitive Services

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@ppiova



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Microsoft Azure AI Latam South

- Meetups mensuales
- Excelentes Post
- Muchas novedades
- Conocer personas que quieran aprender de AI

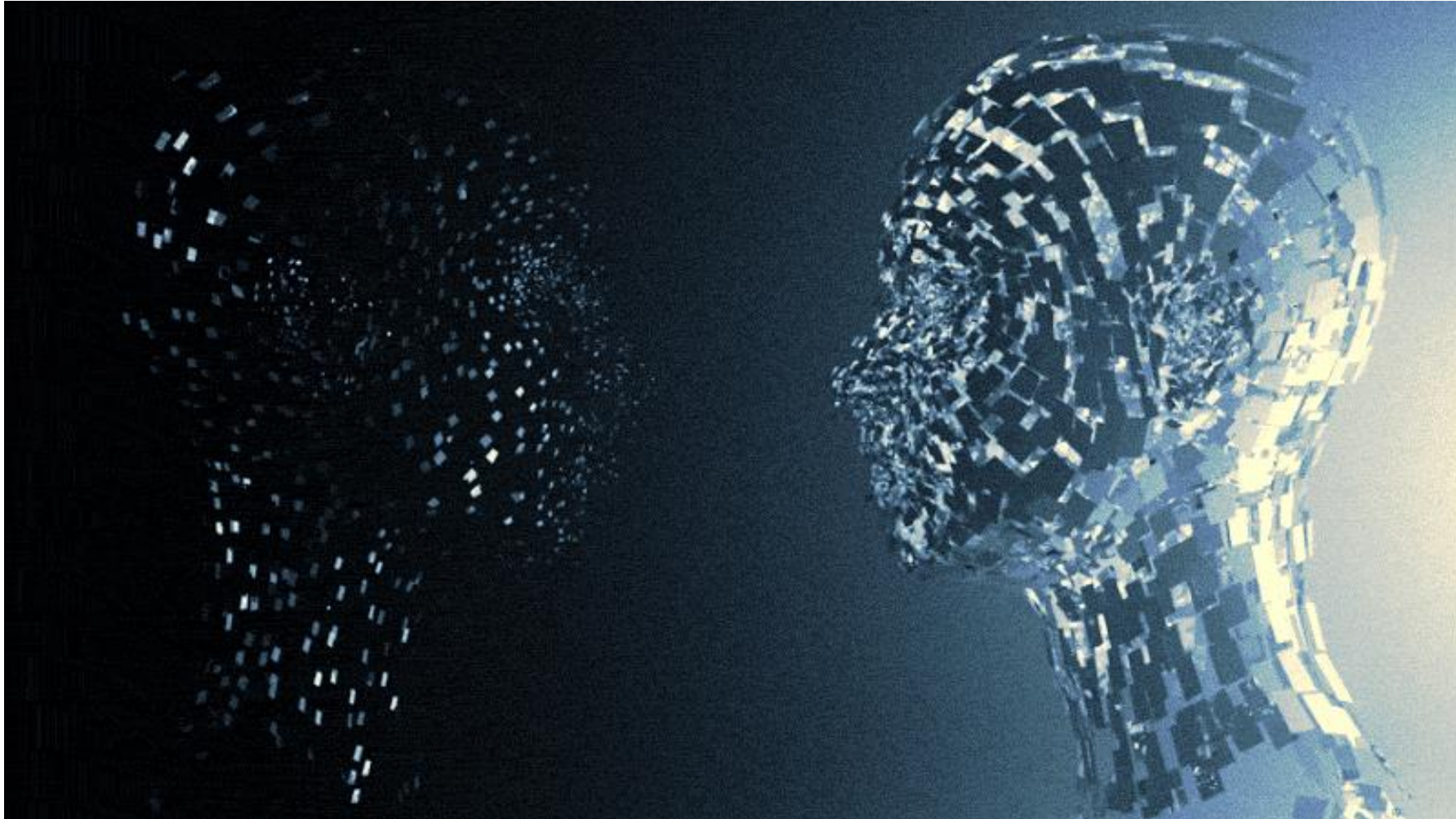


@azureails








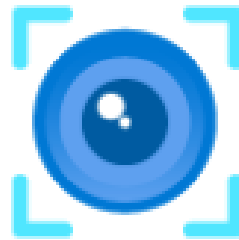
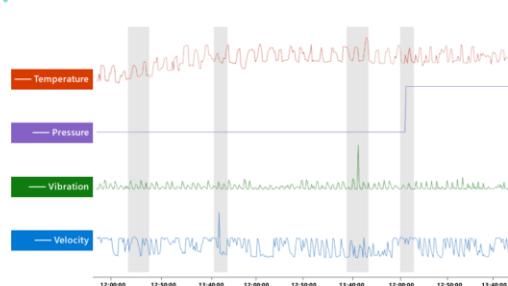
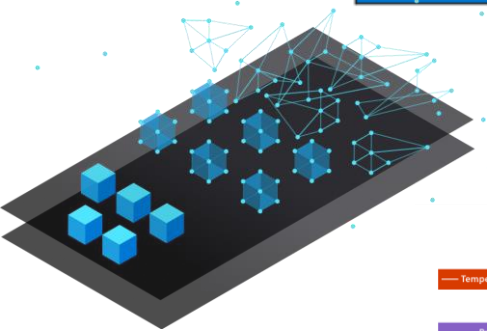
¿Qué es la Inteligencia Artificial?

Es la creación de software que imita comportamientos y capacidades humanas.



Cargar de trabajo comunes en IA

	Aprendizaje automático	Modelos predictivos basados en datos y estadísticas: la base de la IA
	Detección de anomalías	Sistemas que detectan patrones o eventos inusuales, lo que permite una acción preventiva
	Computer Vision	Aplicaciones que interpretan la entrada visual de cámaras, imágenes o vídeos.
	Procesamiento del lenguaje natural	Aplicaciones que pueden interpretar el lenguaje escrito o hablado
	IA conversacional	Agentes de IA (o <i>bots</i>) que pueden entablar diálogos con usuarios humanos



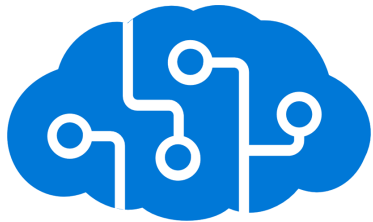
Inteligencia Artificial de Azure

Fácil de usar

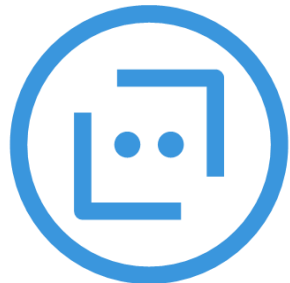
Dificultad Media

Dificultad Alta

- Cognitive Services.
 - Bot Service.
 - QnA Maker.
 - LUIS.



- Azure ML Studio Visual Experience.

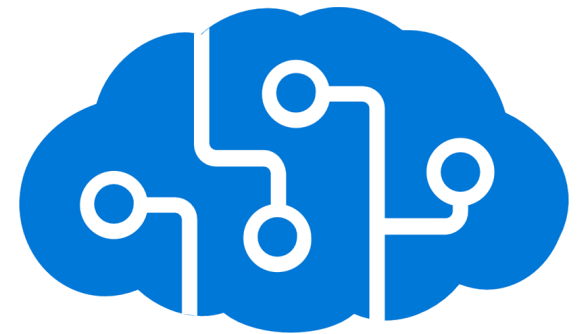


- Azure ML Studio Code Experience.



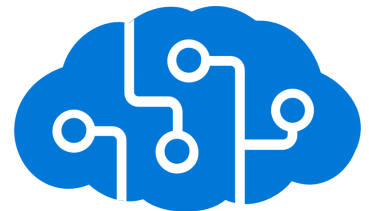
¿Qué son los Servicios Cognitivos?

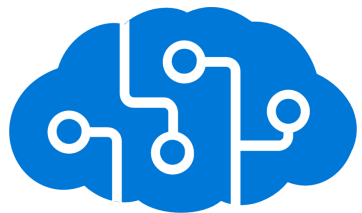
- Son servicios que brindan inteligencia a una aplicación informática.
- Integran poderosos algoritmos y técnicas de Inteligencia Artificial, por ejemplo:
 - Reconocimiento facial.
 - Reconocimiento de voz.
 - Reconocimiento de texto en una imagen.
 - Conversión de texto a voz y viceversa.
 - Traducción en tiempo real.
 - Y muchos más!!!.



¿Qué es Azure Cognitive Services?

- Es una colección de APIs inteligentes basadas en la nube que hacen posible que las aplicaciones vean, escuchen, hablen, entiendan e incluso tomen decisiones interpretando las necesidades de los seres humanos, utilizando métodos naturales de comunicación.
- Anunciado oficialmente en el evento //Build 2016.
- Previamente conocido como Proyecto Oxford.





¿Por qué Microsoft Azure Cognitive Services?

Fácil

REST APIs

Simple de añadir: solo unas cuantas líneas de código



Flexible

Se integra en el lenguaje y la plataforma de su elección.

La amplitud de ofertas le ayuda a encontrar la API correcta para su aplicación

Traiga sus propios datos para su experiencia personalizada



Probado

Construido por expertos en su campo de Microsoft Research, Bing y Azure Machine Learning

Documentación de calidad, código de muestra y soporte comunitario



Servicios Cognitivos de Azure Categorías



Visión

- **Computer Vision**
- **Custom Vision**
- **Face**
- Video Indexer
- Form Recognizer



Voz

- Speech to Text
- Text to Speech
- Speech Translation
- Speaker Recognition



Idioma

- LUIS
- QnA Maker
- Text Analytics
- **Translator Text**



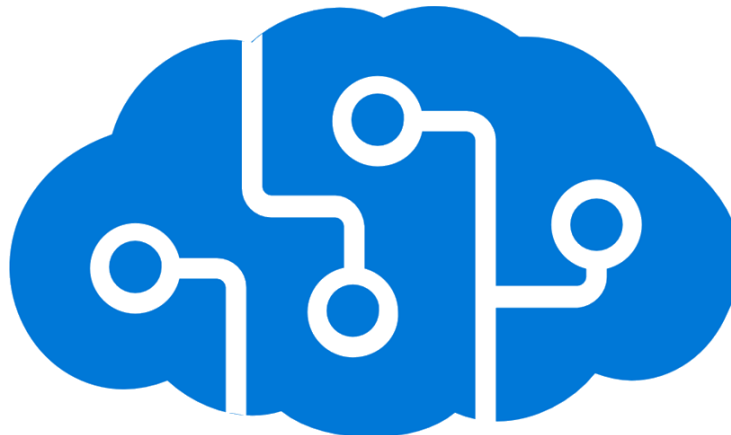
Decisión

- Anomaly Detector
- Content Moderator
- Personalizer



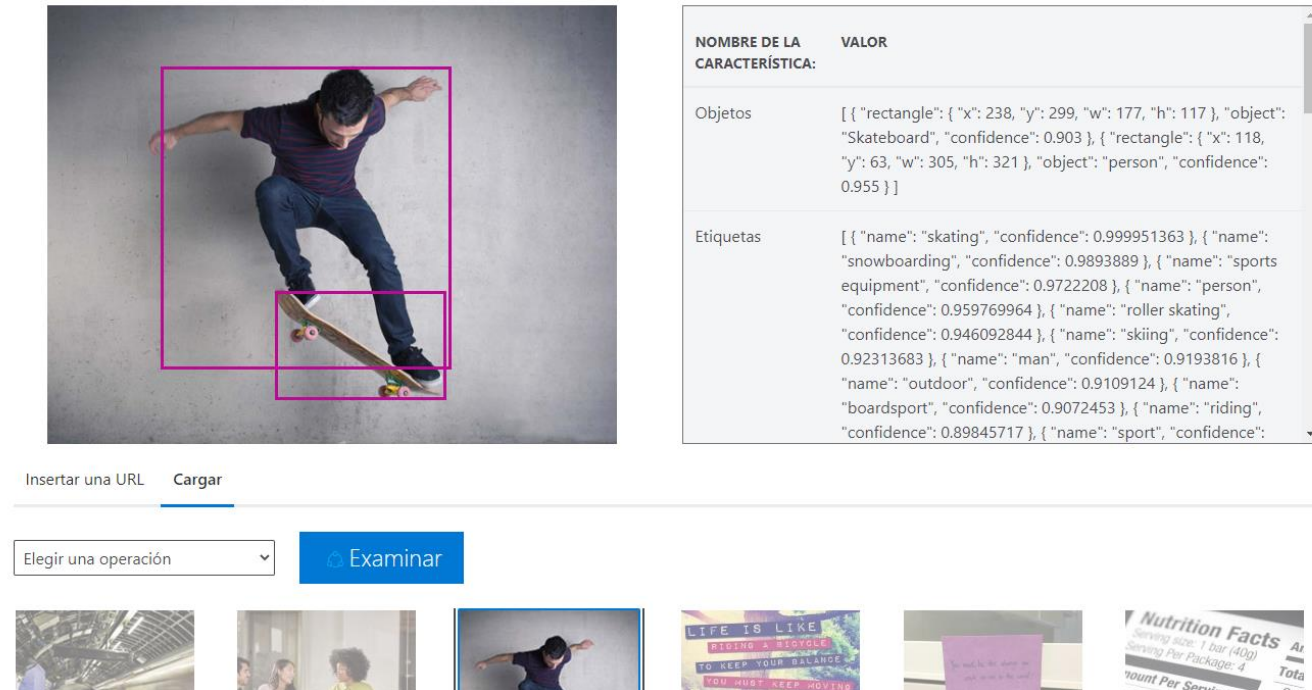
Búsqueda

- Bing Web Search
- Bing Custom Search
- Bing Image Search
- Bing Entity Search
- Bing News Search
- Bing Video Search
- Bing Autosuggest
- Bing Spell Check
- Bing Local Business Search



Azure Cognitive Services – Computer Vision

- Es el servicio de Inteligencia artificial que analiza el contenido de imágenes y vídeos.
- Que se puede hacer:
 - Descripción de una imagen
 - Etiquetado de características visuales
 - Detección de objetos
 - Detección de caras
 - Reconocimiento de OCR en imágenes
 - Generar vistas en miniatura
 - Moderar contenido



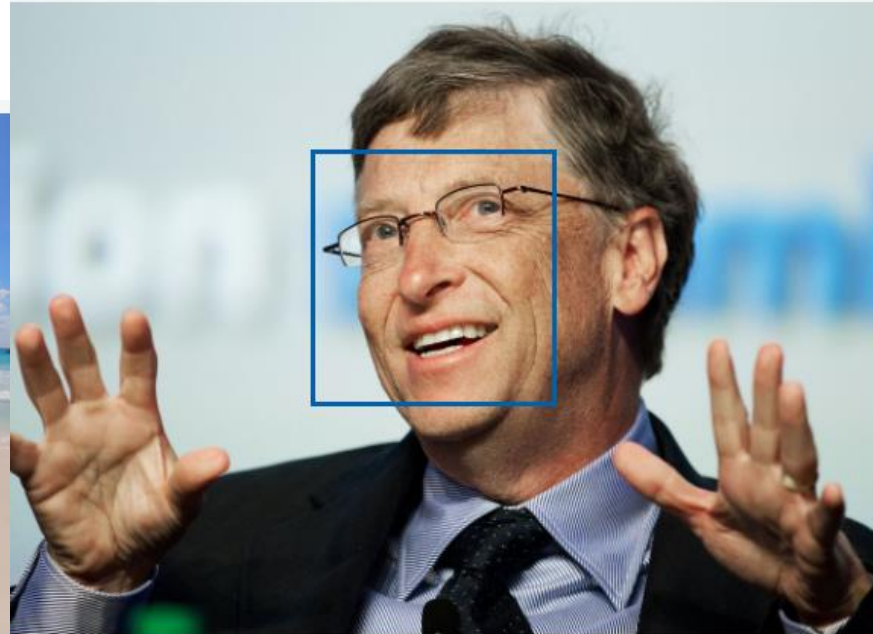
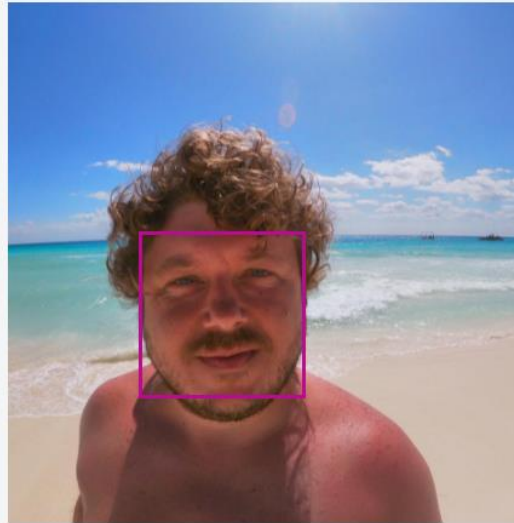
The screenshot displays the Azure Cognitive Services Computer Vision interface. On the left, a photograph of a person skateboarding is shown with two bounding boxes: a larger one for the person and a smaller one for the skateboard. To the right, a table provides the analysis results.

NOMBRE DE LA CARACTERÍSTICA:	VALOR
Objetos	[{ "rectangle": { "x": 238, "y": 299, "w": 177, "h": 117 }, "object": "Skateboard", "confidence": 0.903 }, { "rectangle": { "x": 118, "y": 63, "w": 305, "h": 321 }, "object": "person", "confidence": 0.955 }]
Etiquetas	[{ "name": "skating", "confidence": 0.999951363 }, { "name": "snowboarding", "confidence": 0.9893889 }, { "name": "sports equipment", "confidence": 0.9722208 }, { "name": "person", "confidence": 0.959769964 }, { "name": "roller skating", "confidence": 0.946092844 }, { "name": "skiing", "confidence": 0.92313683 }, { "name": "man", "confidence": 0.9193816 }, { "name": "outdoor", "confidence": 0.9109124 }, { "name": "boardsport", "confidence": 0.9072453 }, { "name": "riding", "confidence": 0.89845717 }, { "name": "sport", "confidence": 0.89845717 }]

Below the table, there is a section for uploading an image with options to 'Insertar una URL' or 'Cargar'. A dropdown menu labeled 'Elegir una operación' and a blue 'Examinar' button are also present. At the bottom, a row of six small thumbnail images is displayed, including a person skateboarding, a person's face, a person's face, a person's face, a person's face, and a nutrition facts label.

Azure Cognitive Services – FACE

- Detección de caras
- Comprobación facial
- Reconocimiento de emociones percibidas



Resultado de la detección:
1 caras detectadas

```
JSON:
[
  {
    "faceRectangle": {
      "top": 187,
      "left": 482,
      "width": 316,
      "height": 316
    },
    "faceAttributes": {
      "emotion": {
        "anger": 0.0,
        "contempt": 0.0,
        "disgust": 0.0,
        "fear": 0.0,
        "happiness": 1.0,
        "neutral": 0.0,
        "sadness": 0.0,
        "surprise": 0.0
      }
    }
  }
]
```

URL de la imagen

Enviar

Examinar

URL de la imagen

Enviar

Examinar

Resultado de la comprobación: las dos caras pertenecen a la misma persona. **La confianza es 0.91385.**

Microsoft Azure

Home > Resource groups > DemoAI > Create a resource >

Custom Vision

Microsoft

Custom Vision

Microsoft

★★★★☆ 4.3 (44 ratings)

Create

Add to Favorites

Prediction Resource

Select pricing and location for Prediction Resource

Prediction location *

(US) East US

Prediction pricing tier (Learn More) * ⓘ

Free F0 (2 Transactions per second, 10K Transactions per month)

Standard S0 (10 Transactions per second)

Microsoft Azure

Search resources, services, and docs (G+/)

Home > Resource groups > DemoAI > Create a resource > Custom Vision >

Create

Custom Vision All In One

optimize manufacturing processes, accelerate digital marketing campaigns -- and more. No machine learning expertise is required. [Learn more](#)

Create options

BothTrainingPrediction

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ

Pay-As-You-Go

Resource group * ⓘ

DemoAI

Create new

Name * ⓘ

XamDemo

Training Resource

Select pricing and location for Training Resource

Training location *

(US) East US

Training pricing tier (Learn More) * ⓘ

Free F0 (2 Transactions per second, 2 Projects)

Standard S0 (10 Transactions per second)

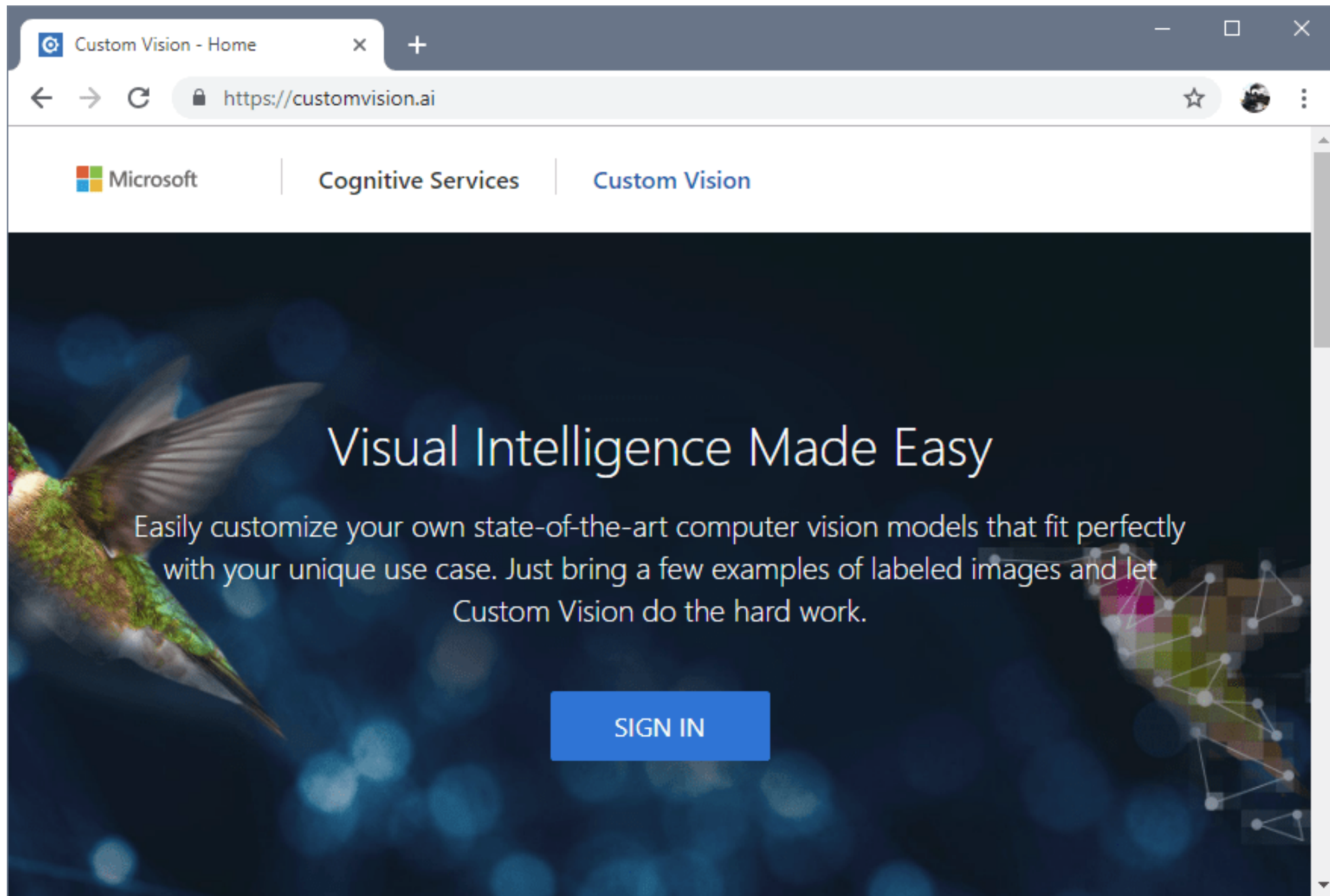
Prediction Resource

Select pricing and location for Prediction Resource

Prediction location *

(US) East US

Prediction pricing tier (Learn More) * ⓘ



Custom Vision - Home



https://customvision.ai



Microsoft

Cognitive Services

Custom Vision

Visual Intelligence Made Easy

Easily customize your own state-of-the-art computer vision models that fit perfectly with your unique use case. Just bring a few examples of labeled images and let Custom Vision do the hard work.

SIGN IN

Create new project



Name*

Enter project name

Description

Enter project description

Resource

[create new](#)

[Manage Resource Permissions](#)

Project Types ⓘ

- ☒ Classification
- ☐ Object Detection


Classification Types ⓘ

- ☐ Multilabel (Multiple tags per image)
- ☒ Multiclass (Single tag per image)

Domains:

- ☒ General [A2]
- ☐ General [A1]
- ☐ General
- ☐ Food
- ☐ Landmarks
- ☐ Retail
- ☐ General (compact) [S1]
- ☐ General (compact)
- ☐ Food (compact)
- ☐ Landmarks (compact)
- ☐ Retail (compact)


Pick the domain closest to your scenario. Compact domains are lightweight models that can be exported to iOS/Android and other platforms. [Learn More](#)


 Fruit


Training Images


Performance


Predictions


 Train

 Quick Test







 Filter

Iteration

Workspace


Tags


Tagged


Untagged

Showing: all tagged images

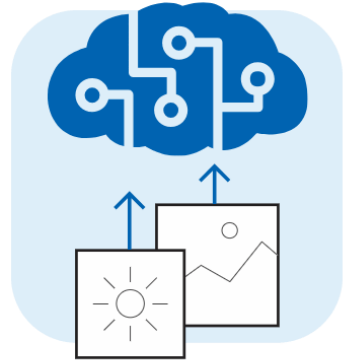
Search for

 Add images

 Delete

 Tag images

Select all




Looks like you don't have any images here!

Go ahead and browse for images to upload to your project, tag them, and they will be ready to be trained.

Add images

.JPG, .PNG, .BMP format, up to 6 MB per image



Filter

Iteration

Workspace

Tags

TaggedUntagged

Showing: all tagged images

Search For Tags:

Cell 30

Goku 32

Goku Super Saiyan 28

Krillin 32


















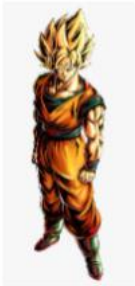
Piccolo 28

Super Buu 28

Vegeta 31

Add imagesDeleteTag imagesSelect all

<1234>



Get started

Choose Training Type



Training Types ⓘ

☐ Quick Training

☒ Advanced Training

In most cases, the more time you select the better the model will be. You're charged based on the compute time used to train your model, so choose your budget based on your need.

Training budget: 1 hour ⓘ



☐ Send me an email notification after training completes

Email address

ppiova@hotmail.com

Train

XamDragonBall

Training Images

Performance

Predictions

Train

Quick Test

?

Iterations

Probability Threshold: 50%

Iteration 4

PUBLISHED

Advanced Trained : 21 hours ago with General (compact) domain, Training Budget: 2 hours

Iteration 3

Trained : 23 hours ago with General (compact) domain

Iteration 2

Trained : 23 hours ago with General (compact) domain

Iteration 1

Trained : 1 days ago with General (compact) domain

Unpublish

Prediction URL

Delete

Export

Iteration 4

Finished training on 6/1/2021, 8:57:42 PM using General (compact) domain
Iteration id: 29086a4a-2a31-45c2-a097-bcf1bc9cd9a3
Classification type: Multiclass (Single tag per image)
Published as: Iteration4

Precision

97.7%

Recall

97.7%

AP


99.8%

Performance Per Tag

Tag	Precision	Recall	A.P.	Image count
Vegeta	100.0%	100.0%	100.0%	31
Super Buu	100.0%	100.0%	100.0%	28
Piccolo	100.0%	100.0%	100.0%	28
Goku Super Saiyan	100.0%	83.3%	100.0%	28

Get started

Iterations

Probability Threshold: 50% 



Iteration 4

PUBLISHED

Advanced Trained : 21 hours ago
with General (compact) domain,
Training Budget: 2 hours

Iteration 3

Trained : 23 hours ago with General
(compact) domain

Iteration 2

Trained : 23 hours ago with General
(compact) domain


Iteration 1


Trained : 1 days ago with General
(compact) domain

Training Images

Performance

Predictions

 Train

 Quick Test

Performance Per Tag









Tag	Precision 	Recall	A.P.	Image count
Vegeta	100.0%	100.0%	100.0%	31 
Super Buu	100.0%	100.0%	100.0%	28 
Piccolo	100.0%	100.0%	100.0%	28 
Goku Super Saiyan	100.0%	83.3%	100.0%	28 
Goku	100.0%	100.0%	100.0%	32 
Cell	100.0%	100.0%	100.0%	30 
Krillin	87.5%	100.0%	98.2%	32 



Image URL

Enter Image URL

→

or

Browse local files

File formats accepted: [jpg](#), [png](#), [bmp](#)
File size should not exceed: [4mb](#)

Using model trained in

Iteration

Iteration 4 ▾

Predictions

Tag	Probability
Piccolo	100%
Cell	0%
Goku Super Saiyan	0%
Super Buu	0%
Goku	0%

Filter

Iteration

Iteration 4

Tags

Showing: all predicted images

Search For Tags:

☐ Cell

☐ Goku

☐ Goku Super Saiyan

☐ Krilin

☐ Piccolo

☐ Super Buu

☐ Vegeta

Sort

☒ Suggested

☐ Newest

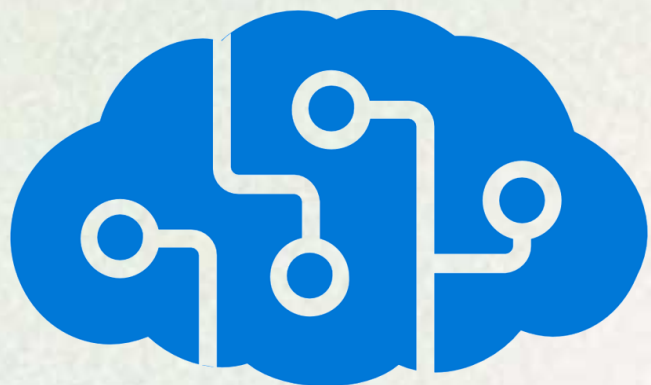
☐ Oldest

Delete

Tag images



Viene la Demo



Y tu lo sabes!!!

MUCHAS GRACIAS!!!



@ppiova



ppiova