Microsoft Azure Cognitive Services

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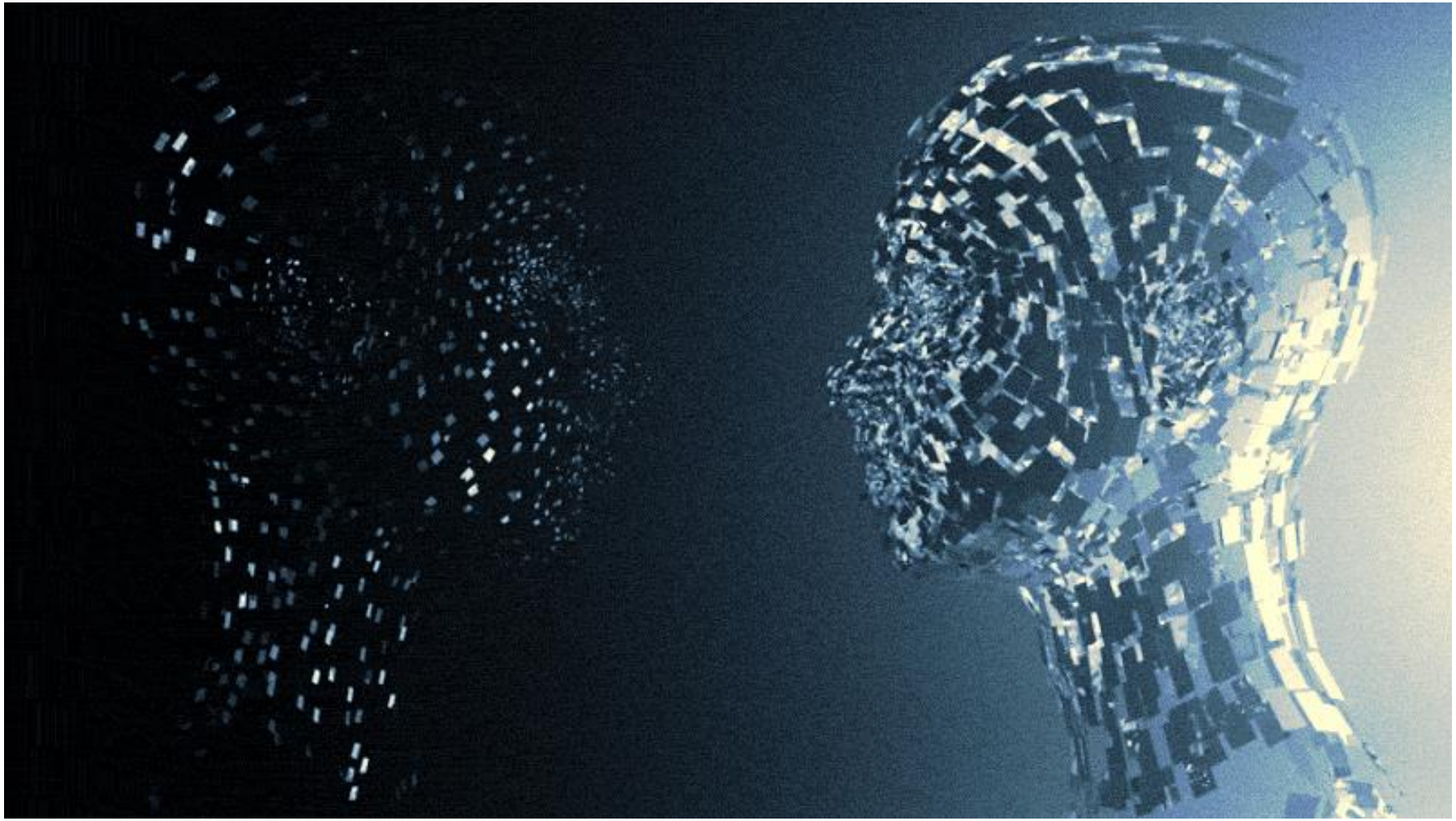
@ppiova

ppiova

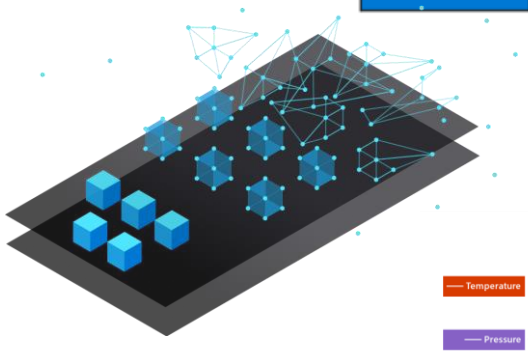
¿Qué es la Inteligencia Artificial?

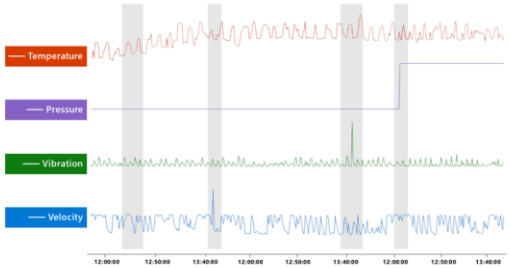
Es la creación de software que imita comportamientos y capacidades humanas.

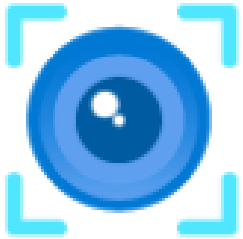


Cargar de trabajo comunes en IA

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 *bots*) que pueden entablar diálogos con usuarios humanos



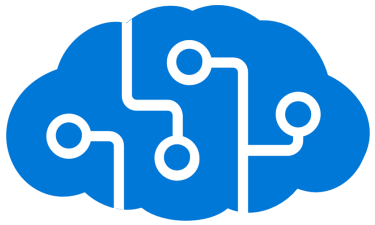
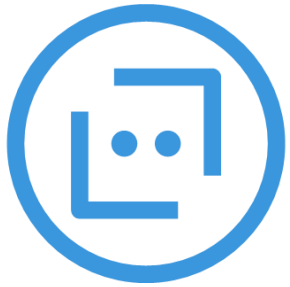




Inteligencia Artificial de Azure

Fácil de usar — **Dificultad Media** — **Dificultad Alta**

- Cognitive Services.
  - Bot Service.
  - QnA Maker.
  - LUIS.
- Azure ML Studio Visual Experience.
- Azure ML Studio Code Experience.

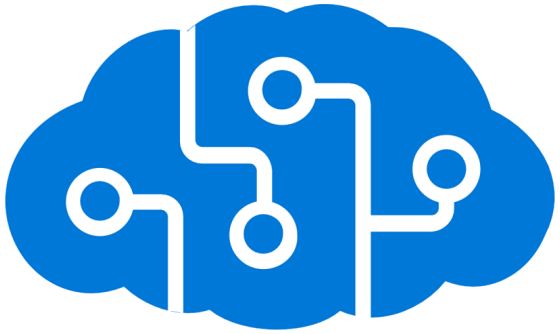




¿Qué son los Servicios Cognitivos?

- Son servicios que brindan inteligencia a una aplicación informática.

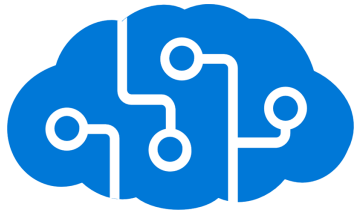
- Integran poderosos algoritmos y técnicas de Inteligencia Artificial, por ejemplo:

    - 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

node

python

Probado

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

Documentación de calidad, código de muestra y soporte comunitario

GitHub

stackoverflow

msdn

uservoice

Servicios Cognitivos de Azure Categorías

Visión

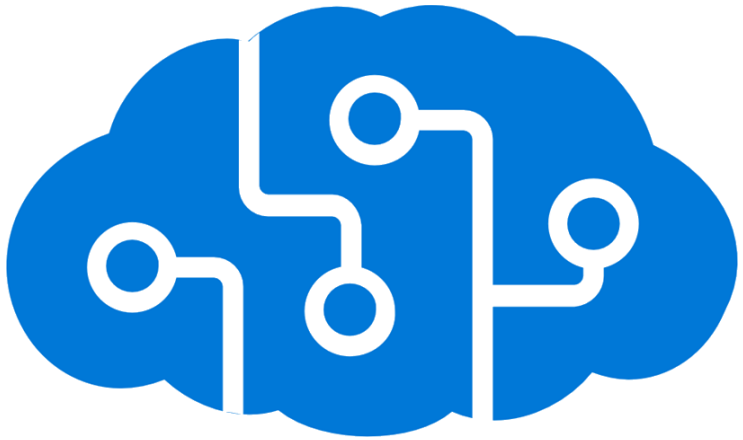
- Computer Vision
- Custom Vision
- Face
- Video Indexer
- Form Recognizer

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

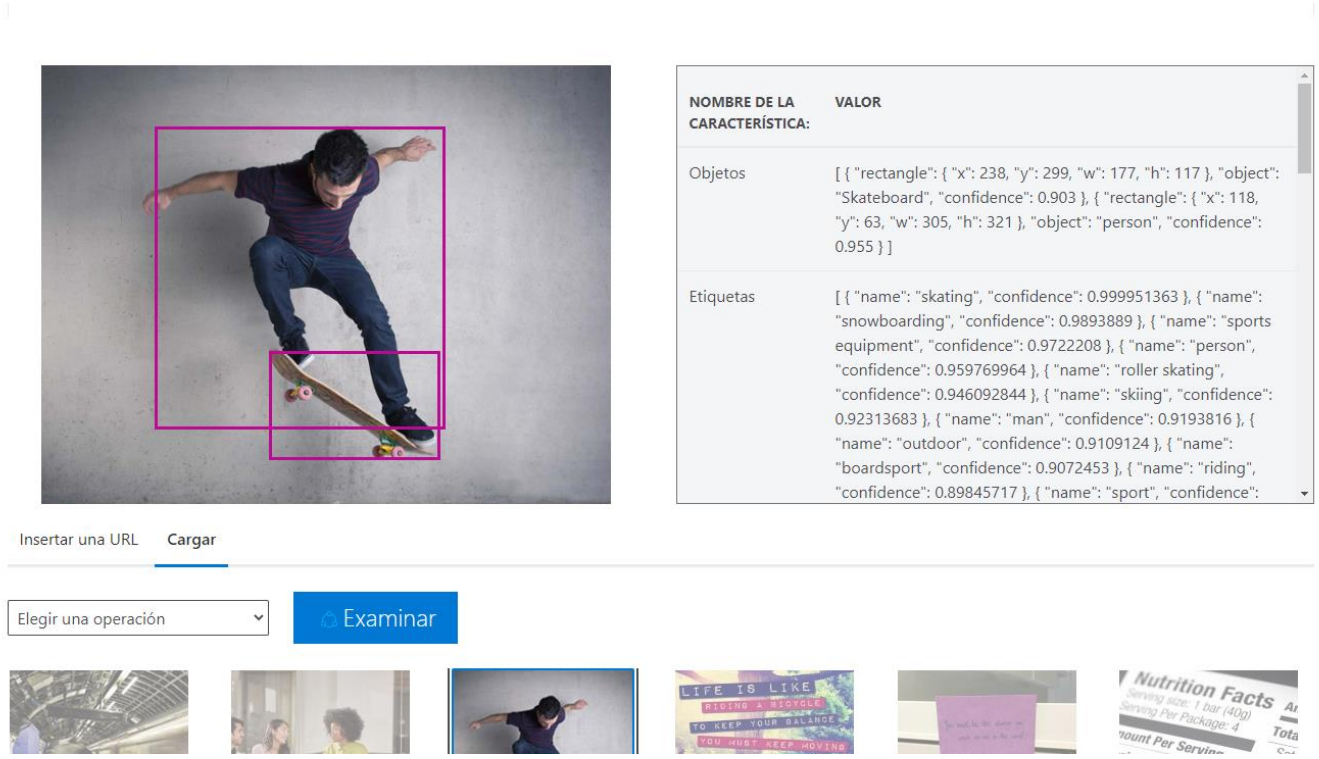
- Bing Web Search
- Bing Custom Search
- Bing Image Search
- Bing Entity Search
- Bing News Search
- Bing Video Search
- Bing Autosuggest
- Bing Spell Check
- Bing Local Business Search

Link a Documentación Oficial

Azure Cognitive Services – Computer Vision

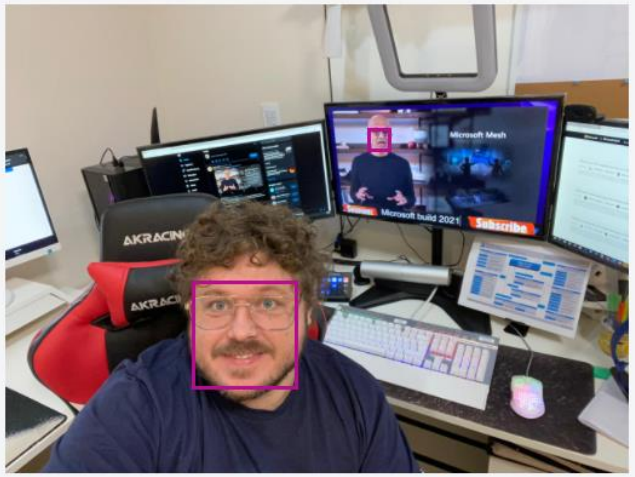
- Es el servicio de Inteligencia artificial que analiza el contenido de imágenes y vídeos.

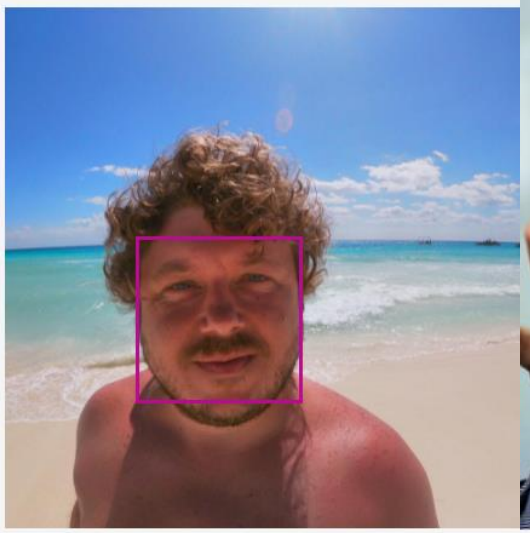
- Que se puede hacer:
  - Descripción de una imagen
  - Etiquetado de características visuales
  - Detección de objetos
  - Detección de caras
  - Reconociminto de OCR en imágenes
  - Generar vistas en miniatura
  - Moderar contenido

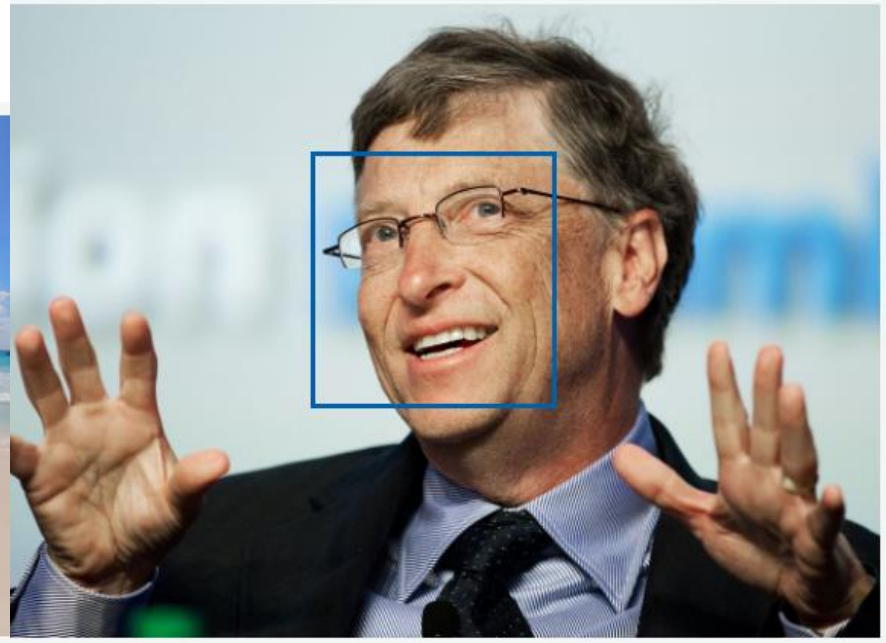


Azure Cognitive Services – FACE

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







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.**


```
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
      }
    }
  }
]
```

Azure Cognitive Services – QnA Maker

Home > DemoAI > Create a resource > QnA Maker >

Create

QnA Maker

*Basics Tags Review + create

QnA Maker is a cloud-based API service that lets you create a conversational question-and-answer layer over your existing data. Use it to build a knowledge base by extracting questions and answers from your semi-structured content, including FAQs, manuals, and documents. Answer users' questions with the best answers from the QnAs in your knowledge base-automatically. Your knowledge base gets smarter, too, as it continually learns from user behavior. Learn more

QnA Maker managed (preview) is now a feature within Text Analytics, and it has been renamed to custom question answering. Create a Text Analytics resource to use question answering and other features such as entity recognition, sentiment analysis, etc.

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 -DemoAI

Resource group * : DemoAI

Create new

Name * : ChatFAQCovid

Pricing tier (Learn More) * : Free F0 (3 managed documents per month, 3 transactions per secon...

Azure Search details - for data

When you create a QnAMaker resource, you host the data in your own Azure subscription. Azure Search is used to index your data.

Azure Search location * : (US) East US

Azure Search pricing tier * : Free F (3 Indexes)

App Service details - for runtime

When you create a QnAMaker resource, you host the runtime in your own Azure subscription. App Service is the compute engine that runs the QnA Maker queries for you.

App name * : ChatFAQCovid

Website location * : (US) East US

The App service plan currently defaults to standard(S1) tier (Pricing). It can be modified by visiting the app service plan resource page once the resource has been created.

App insights details - for telemetry and chat logs

QnAMaker will optionally provision an instance of Application Insights and will appear in your Azure subscription. Telemetry and chatlogs will be stored here.

App insights : Enable Disable

App insights location * : (US) East US

Review + create | Next : Tags >

ChatFAQCovid	Cognitive Services
ChatFAQCovid	App Service
ChatFAQCovid	App Service plan
ChatFAQCovid-ai	Application Insights
chatfaqcovid-askz7shw2cp6wnu	Search service

QnA Maker - Pricing

Microsoft Azure

Home > Resource groups > DemoAI > Create a resource >

Custom Vision

Microsoft

Custom Vision

Add to Favorites

Microsoft

★★★★☆ 4.3 (44 ratings)

Create

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: Both | Training | Prediction

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)

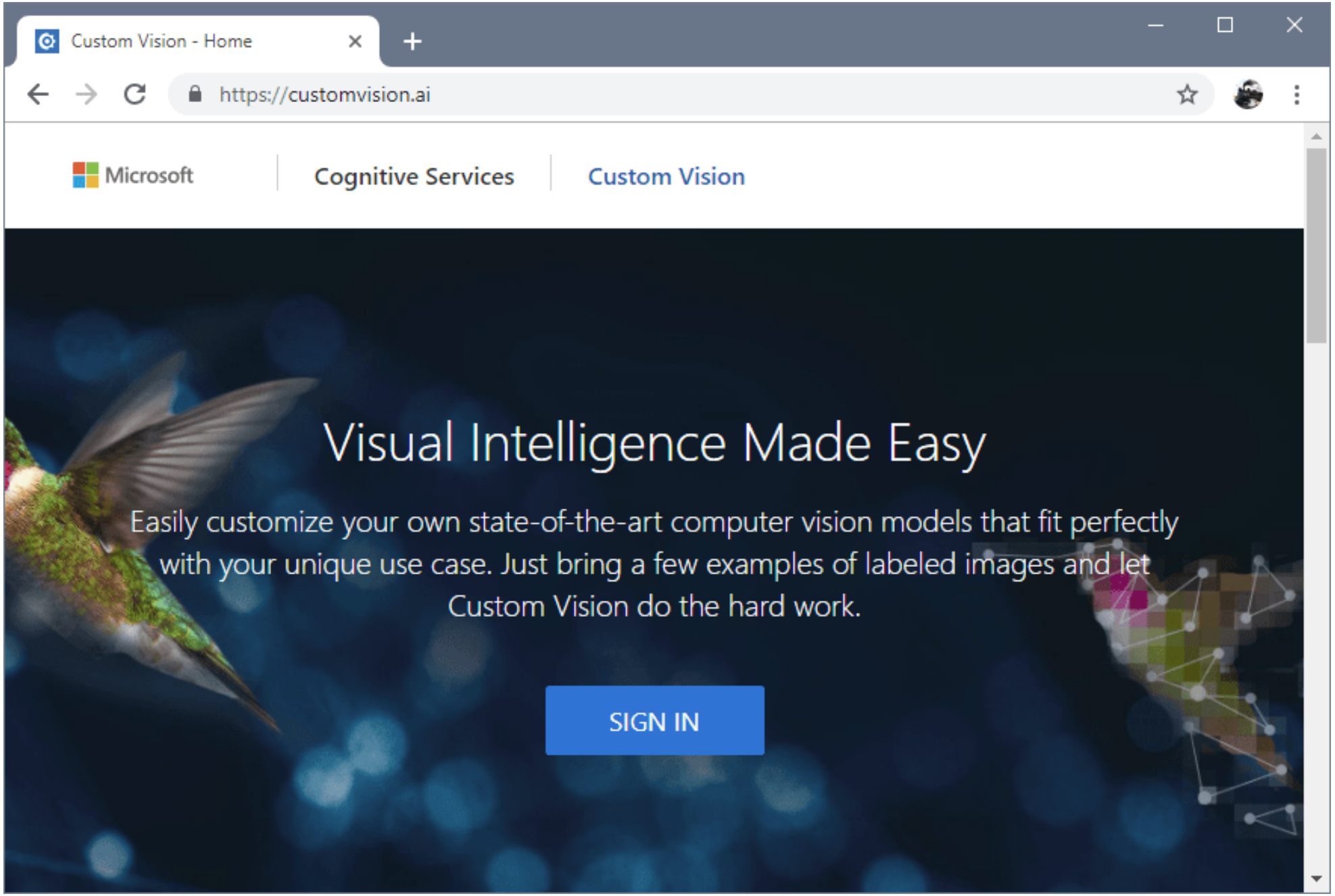
Standard S0 (10 Transactions per second)

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

Add images | Delete | Tag images | Select all

Iteration

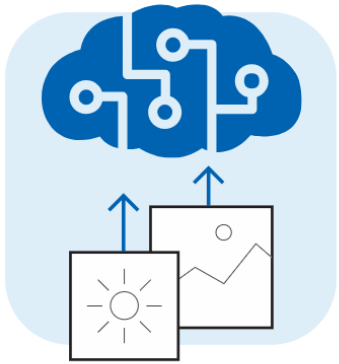
Workspace

Tags

Tagged | Untagged

Showing: all tagged images

Search for



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

XamDragonBall

Training Images | Performance | Predictions | Train | Quick Test

Filter

Iteration

Workspace

Tags

Tagged | Untagged

Showing: all tagged images

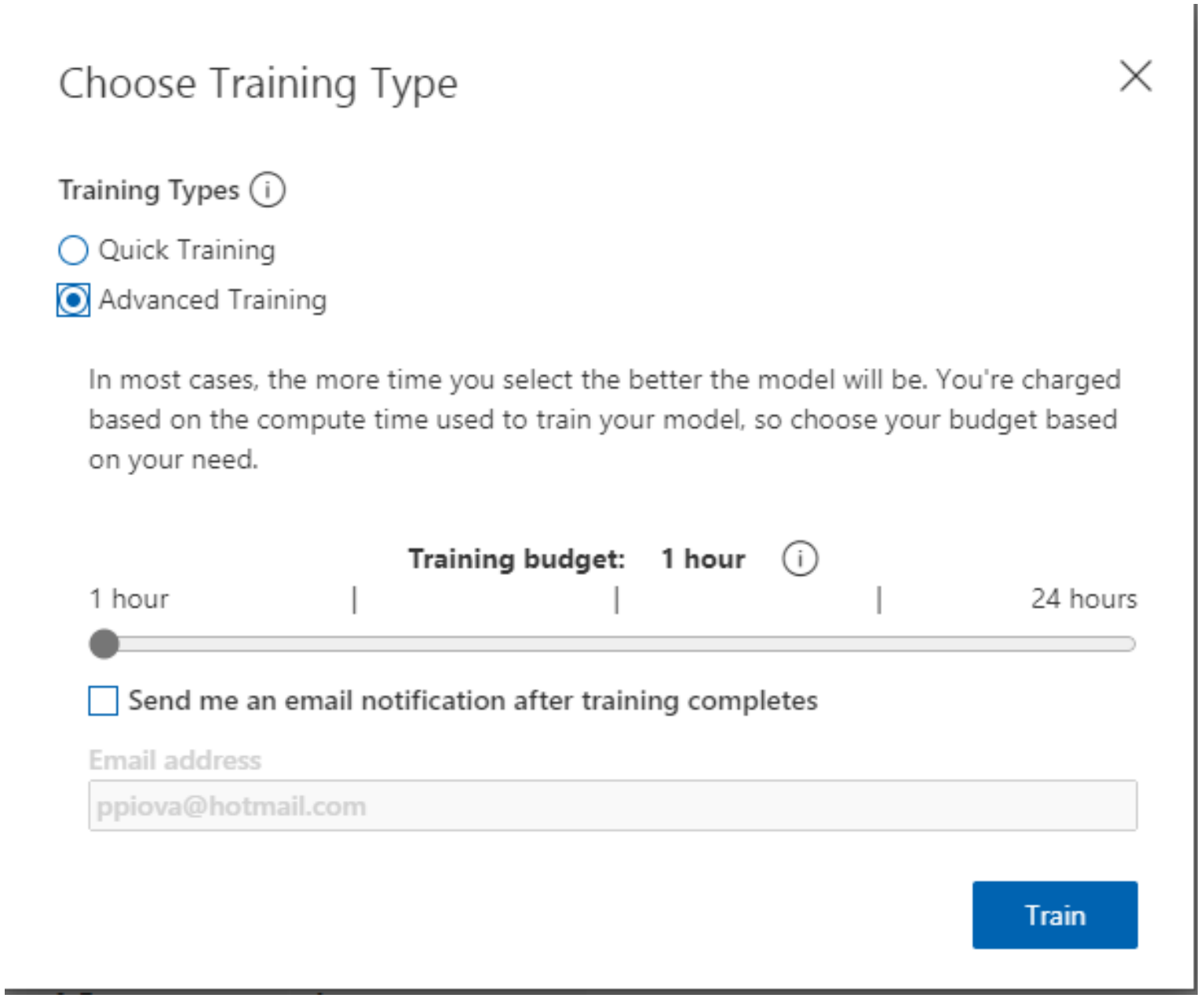
Search For Tags:

- Cell 30
- Goku 32
- Goku Super Saiyan 28
- Krilin 32
- Piccolo 28
- Super Buu 28
- Vegeta 31

Add images | Delete | Tag images | Select all

< 1 2 3 4 >

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
1 hour
24 hours
Send me an email notification after training completes
Email address
ppiova@hotmail.com
Train

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

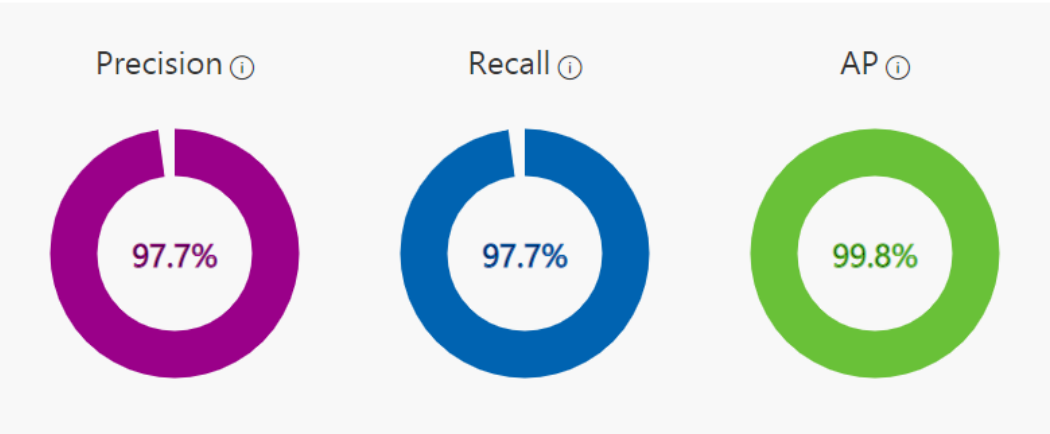
Iteration 2
Trained : 23 hours ago with General (compact) domain

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**



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
Krilin	87.5%	100.0%	98.2%	32

Quick Test

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%

XamDragonBall

Training Images | Performance | Predictions | Train | Quick Test

Filter

Delete | Tag images

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


Viene la Demo
Y tu lo sabes!!!

MUCHAS GRACIAS!!!