



Ing. Pablo Angel Piovano

Ingeniero en Computación, con más de 12 años de experiencia en el sector TI, liderando equipos para el desarrollo de soluciones de Software, principalmente utilizando tecnologías Microsoft.



@ppiova



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¿Por qué aprender desarrollo Mobile?

- El mundo se volvió Mobile
- Cada vez se utilizan más los dispositivos
- Video llamadas
- Trabajo cotidiano
- Para estudiar
- Redes Sociales
- Games!!!



Desarrollo Nativo

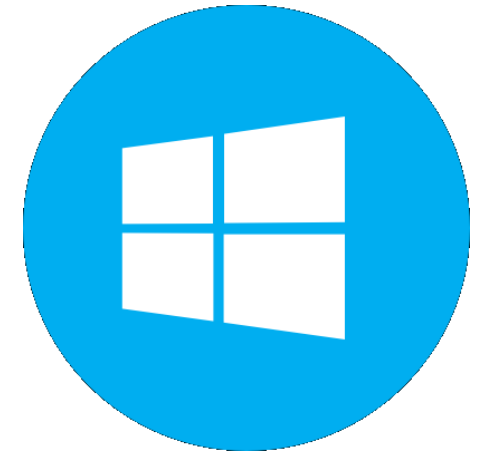
¿Qué debemos saber?



- Mac OS X
- Xcode
- Objective-C
- Swift
- IOS SDK
- Apple Tools



- OS
- Android Studio
- Java
- Kotlin
- Android SDK
- SDK Tools



- Windows OS
- Visual Studio
- C#
- F#
- .NET Framework
- UWP

Mobile Complexity

On Mobile, Quality is Hard



5 OS versions
20 devices
20 languages
35 locales
6 screen sizes



9 OS versions
6 Screen configurations
27 screen sizes
39 languages

57 locales
15 Manufacturers
Over **19,000** distinct devices



Historia

Miguel de Icaza @migueldeicaza.



Creador del proyecto MONO.

Objetivo era deployar apps .NET en ambientes Linux.

Lo compro NOVEL (quedo abandonado ese proyecto).

Miguel recuperó la licencia y funda Xamarin (similar idea en móvil).

En el 2016 lo compra Microsoft. (sin licencia y proyecto OpenSource)

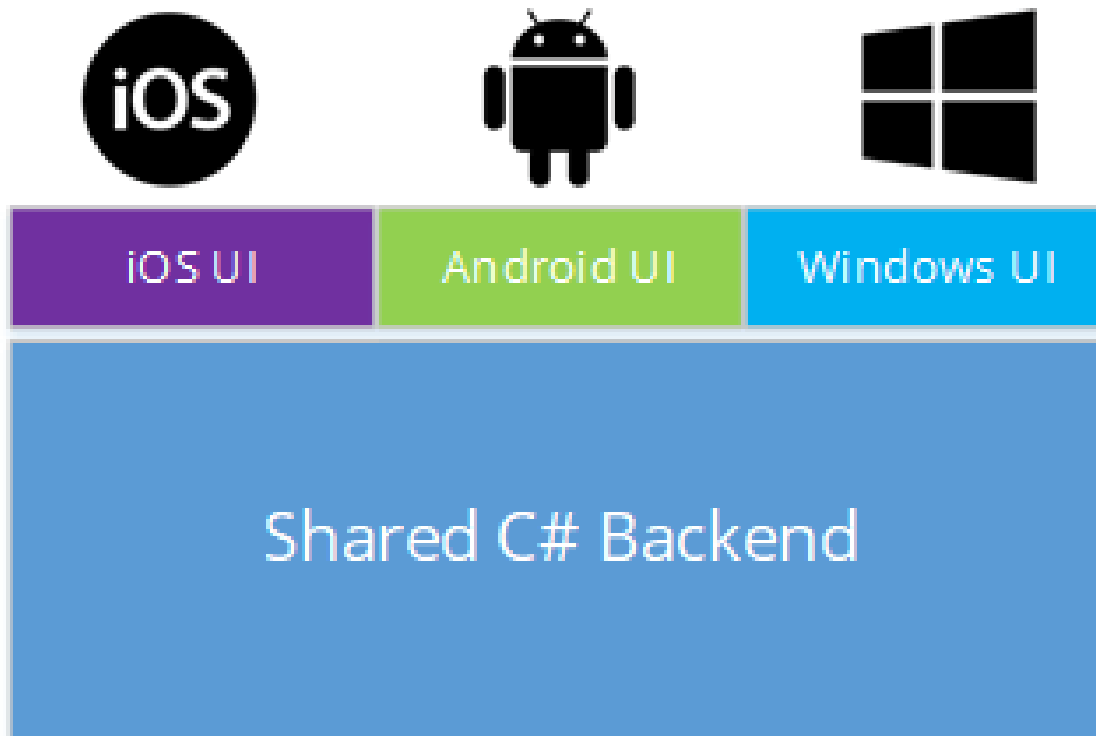
En estos últimos años se generó una gran Comunidad

Microsoft dio un gran enfoque a Xamarin Forms!!!

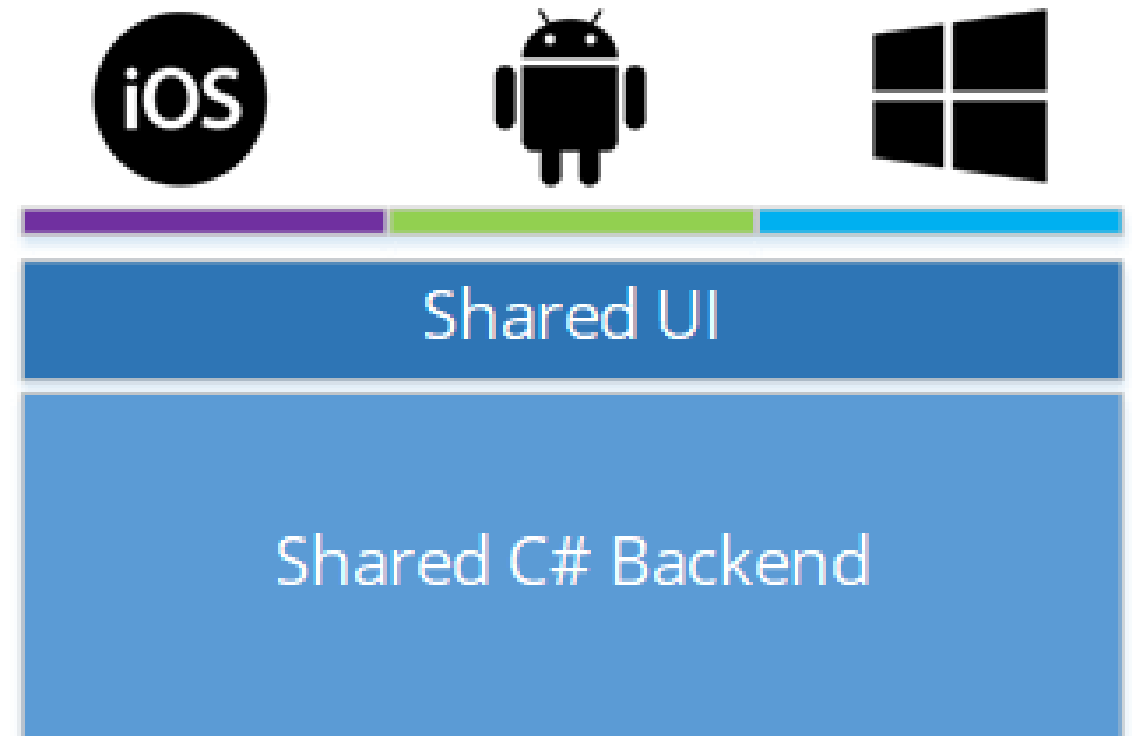


Tipos de Desarrollo en Xamarin

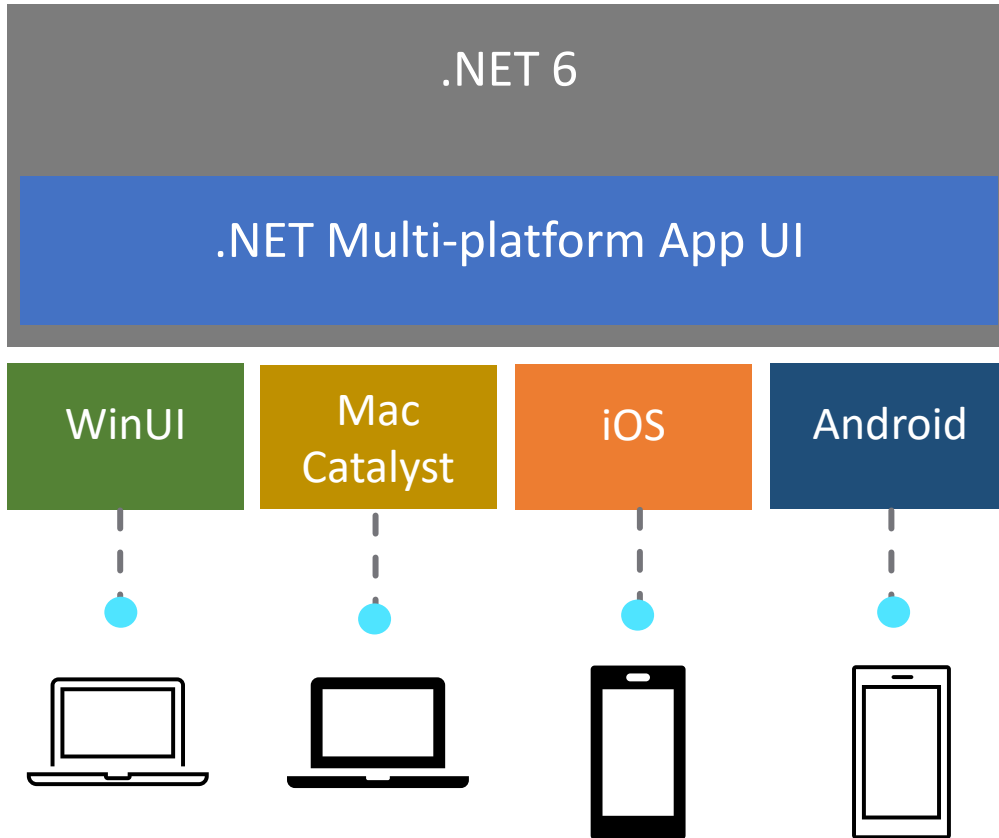
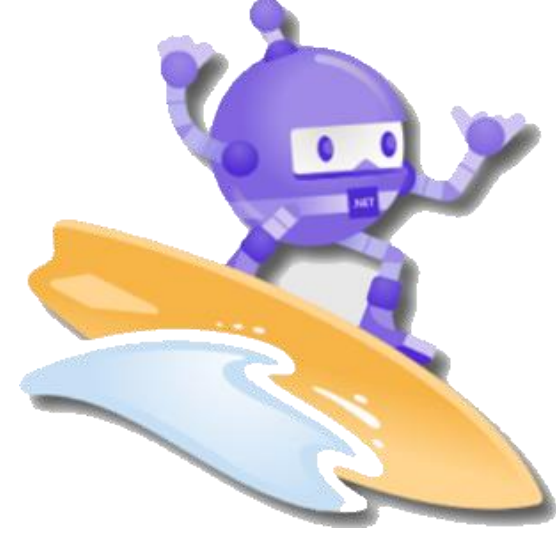
Traditional



Xamarin Forms



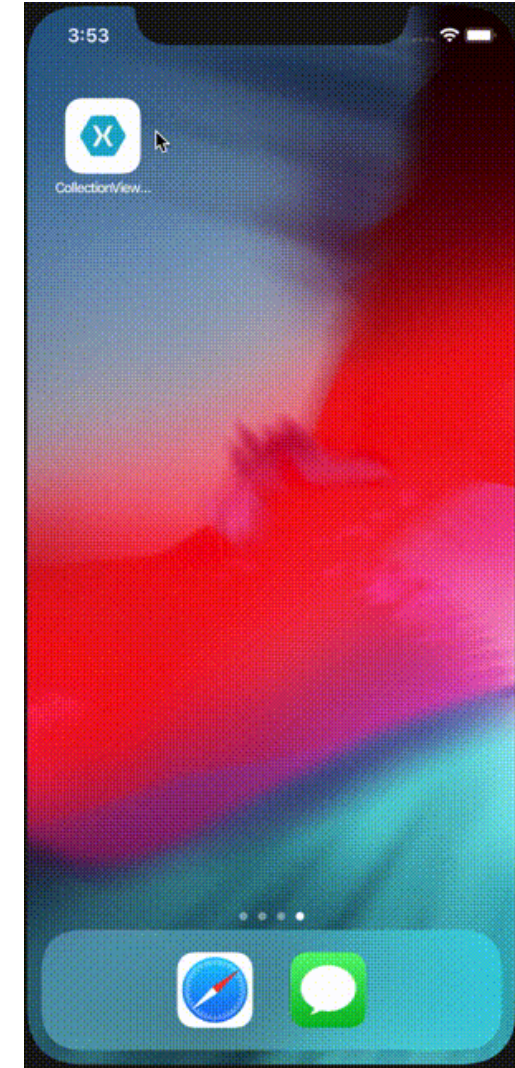
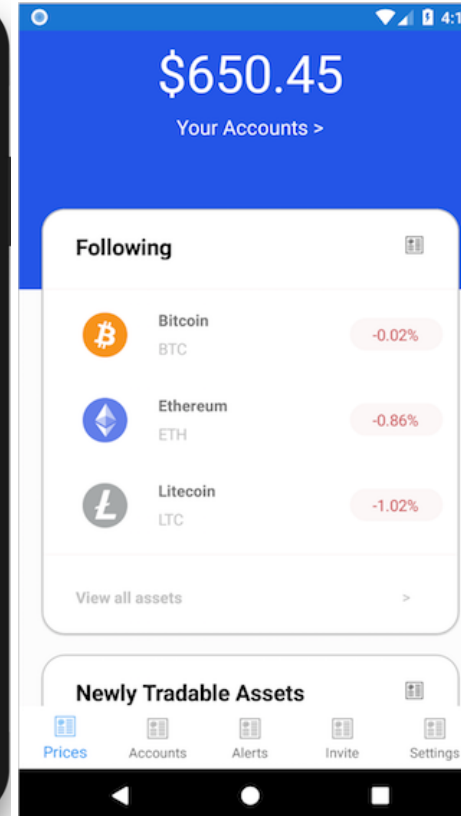
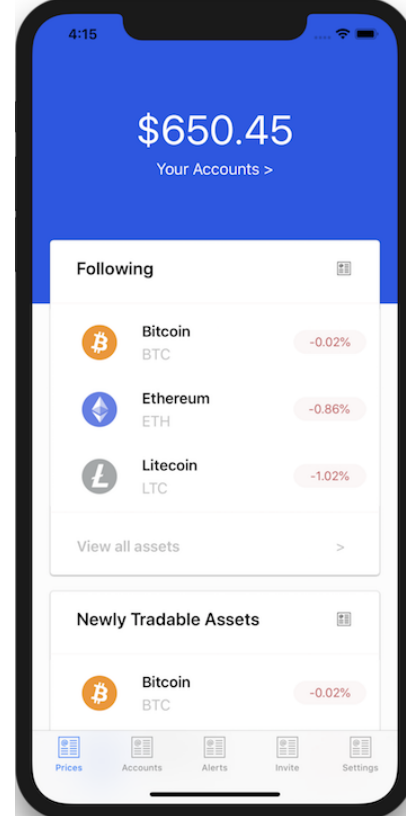
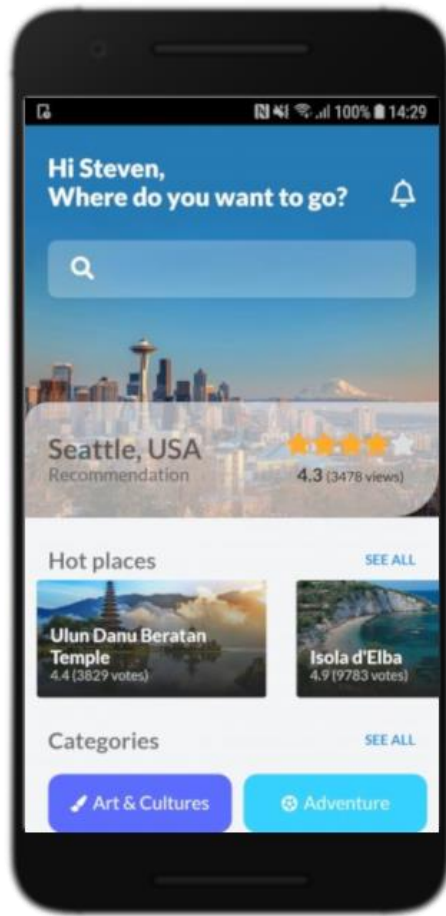
.NET Multi-platform App UI



- UI nativa cross platform
- Proyecto único, Código compartido
- Despliegue a multiples dispositivos, mobile & desktop
- Junio Preview 5
- Julio Preview 6 – Migrar proyectos Xamarin
- Agosto Preview 7
- Septiembre Release Candidate
- Noviembre General Availability Disponible con .NET 6

github.com/dotnet/maui

[Roadmap · dotnet/maui Wiki \(github.com\)](#)



XAML

```
<ContentPage xmlns="http://xamarin.com/schemas/2014/forms"
              xmlns:x="http://schemas.microsoft.com/winfx/2009/xaml"
              x:Class="XamlSamples.HelloXamlPage"
              Title="Hello XAML Page">
    <ContentPage.Content>

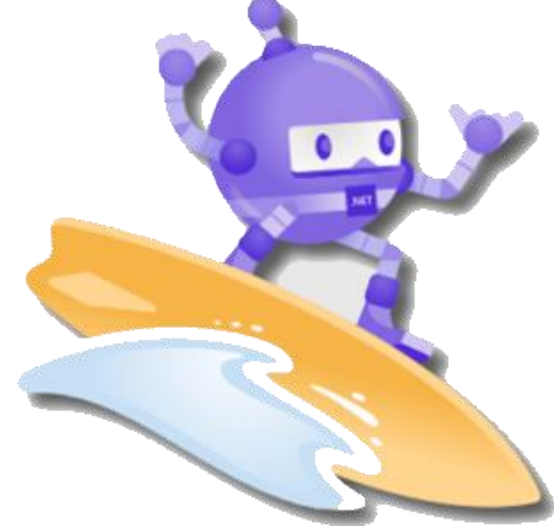
        <Label Text="Hello, XAML!"
               VerticalOptions="Center"
               HorizontalTextAlignment="Center"
               Rotation="-15"
               IsVisible="true"
               FontSize="Large"
               FontAttributes="Bold"
               TextColor="Blue" />

    </ContentPage.Content>
</ContentPage>
```

[Link de Diseños Apps Xamarin Forms](#)

Ventajas

- Necesito 1 solo IDE - Visual Studio
- No hay costo de licencia
- Utiliza C# como lenguaje
- Puedo compartir vistas entre las plataformas
- La Curva de aprendizaje es rápida
- Puedo crear componentes reutilizables
- Hay una comunidad muy grande y sobretodo muy activa, siempre aparecen nuevos controles o features para facilitarnos el desarrollo. Ejemplo Xamarin Control Toolkit
- Es de código abierto (Repository Git)



Tener Seleccionado Mobile Development with .NET

Modifying — Visual Studio Community 2019 — 16.10.0

Workloads Individual components Language packs Installation locations

Web & Cloud (4)



ASP.NET and web development



Build web applications using ASP.NET Core, ASP.NET, HTML/JavaScript, and Containers including Docker supp...



Python development



Editing, debugging, interactive development and source control for Python.



Azure development



Azure SDKs, tools, and projects for developing cloud apps and creating resources using .NET and .NET Framework....



Node.js development



Build scalable network applications using Node.js, an asynchronous event-driven JavaScript runtime.

Installation details

- visual studio core editor
- ASP.NET and web development
- Azure development
- Python development
- Node.js development
- .NET desktop development
- Desktop development with C++
- Universal Windows Platform develop...
- Mobile development with .NET
- Mobile development with C++
- Game development with Unity
- Game development with C++
- Data storage and processing
- Data science and analytical applicati...
- Visual Studio extension development
- Office/SharePoint development
- .NET cross-platform development

Desktop & Mobile (5)



.NET desktop development



Build WPF, Windows Forms, and console applications using C#, Visual Basic, and F# with .NET and .NET Frame...



Desktop development with C++



Build modern C++ apps for Windows using tools of your choice, including MSVC, Clang, CMake, or MSBuild.



Universal Windows Platform development



Create applications for the Universal Windows Platform with C#, VB, or optionally C++.



Mobile development with .NET



Build cross-platform applications for iOS, Android or Windows using Xamarin.

Location

C:\Program Files (x86)\Microsoft Visual Studio\2019\Community

Total space required 0 B


By continuing, you agree to the [license](#) for the Visual Studio edition you selected. We also offer the ability to download other software with Visual Studio. This software is licensed separately, as set out in the [3rd Party Notices](#) or in its accompanying license. By continuing, you also agree to those licenses.

Install while downloading ▾


Modify

Create a new project

Recent project templates

 Mobile App (Xamarin.Forms)

C#

 Class library

C#

Xamarin.Forms

Clear all

C#

All platforms

Mobile



Mobile App (Xamarin.Forms)

A multiproject template for building apps for iOS and Android with Xamarin and Xamarin.Forms.

C#

Android

iOS

Windows

Mobile



Android App (Xamarin)

Project templates for creating Android phone and tablet apps with Xamarin.

C#

Android

Mobile



iOS App (Xamarin)

Project templates for creating iOS apps for iPhone and iPad with Xamarin.

C#

iOS

Mobile



Android Wear App (Xamarin)

A project for creating an Android Wear app with Xamarin.

C#

Android

Mobile

New



watchOS App (Xamarin)

A project for creating a watchOS app with Xamarin.

C#

iOS

Mobile



Android Class Library (Xamarin)

New

Back

Next

Configure your new project

Mobile App (Xamarin.Forms)

C#

Android

iOS

Windows

Mobile

Project name

NombreApp

Location

C:\Users\ppiov\source\repos

...

Solution name ⓘ

NombreApp

☐

Place solution and project in the same directory

Back

Create



New Mobile App

Select a template for your app

Flyout

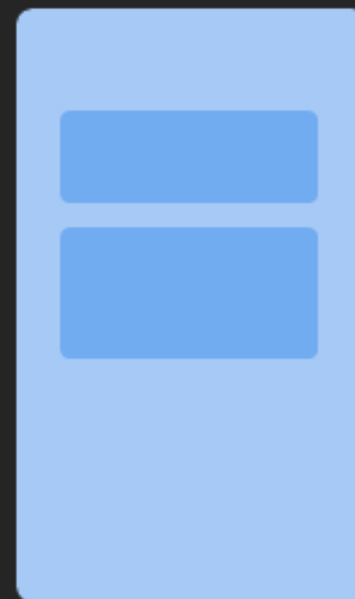
An app with a side menu that can be collapsed on small screens.

Tabbed

An app that uses tabs to navigate between sections.

Blank

An empty app with a single, initial screen.



I plan to develop for:



Android



iOS



Windows (UWP)

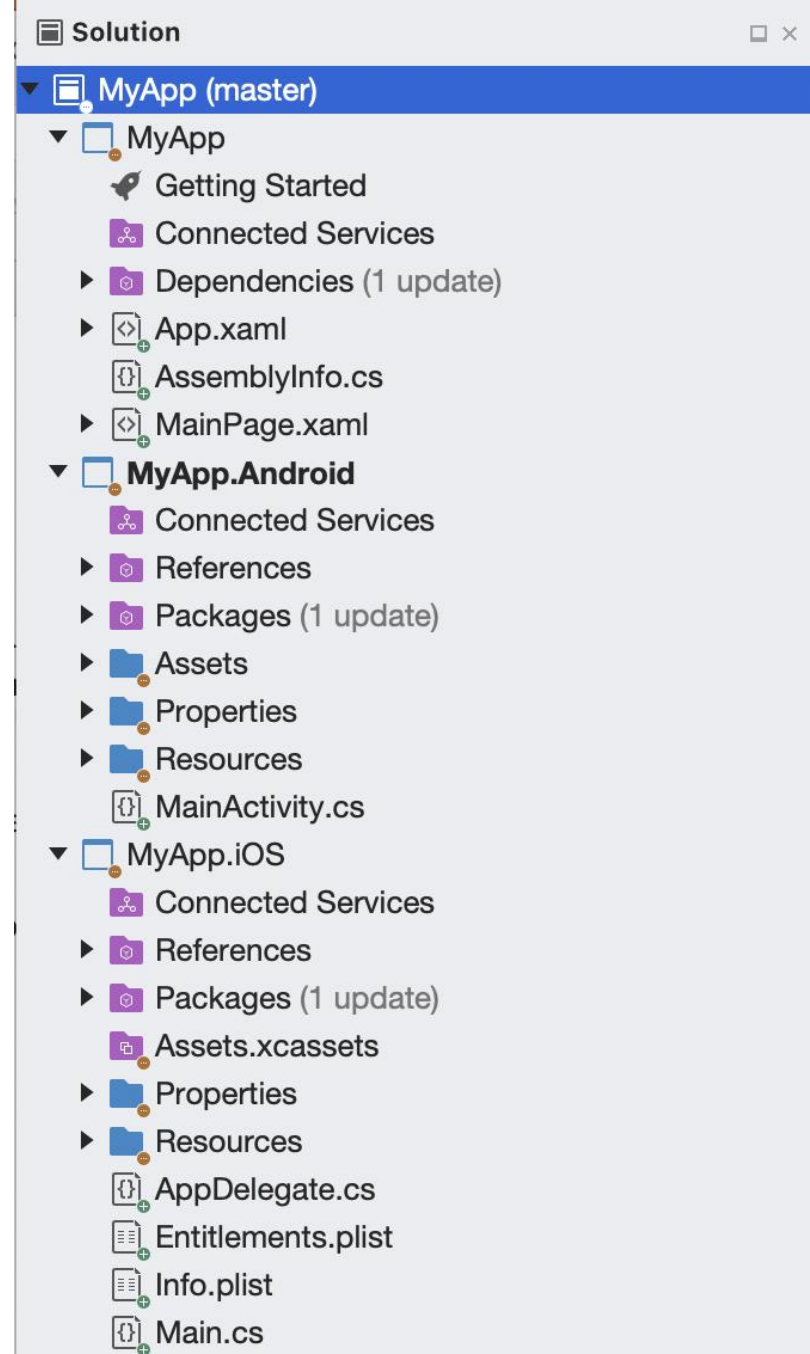
Back

Create

Experiencia de Desarrollo

Proyecto único

- La idea es mejorar la experiencia reduciendo varios puntos de fricción cuando se desarrolla una App con multiples plataformas.
- Imágenes
- Fuentes
- Código de Plataforma

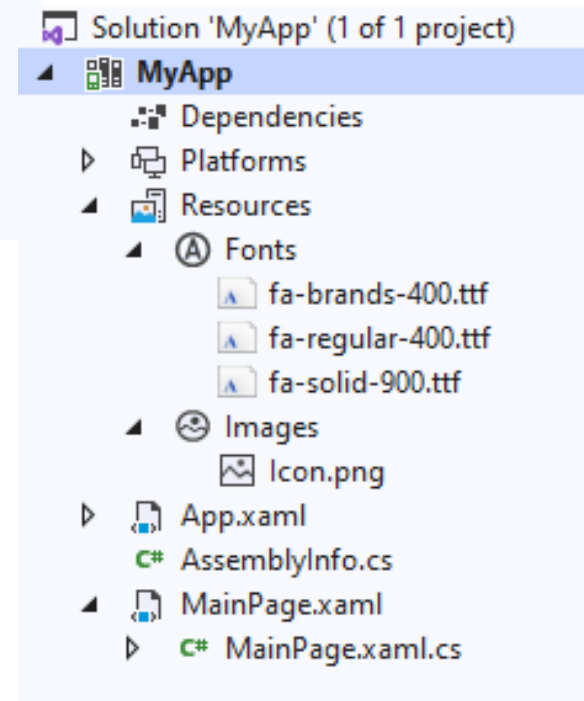
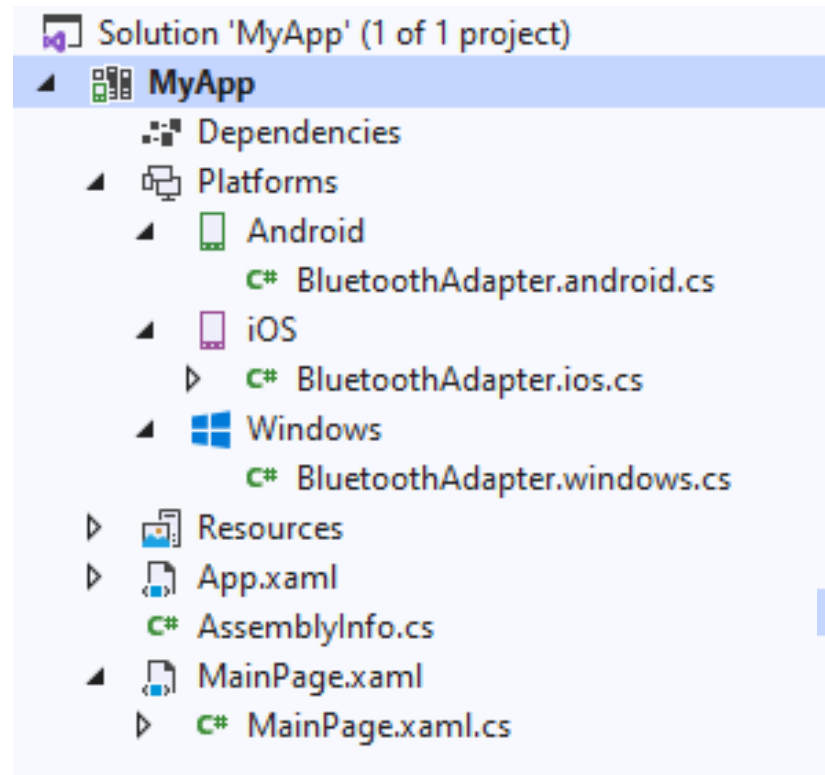


Experiencia de Desarrollo - MAUI

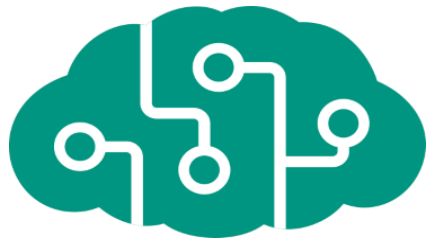
Proyecto único

- La idea es mejorar la experiencia reduciendo varios puntos de fricción cuando se desarrolla una App con multiples plataformas.

- Multi-Targeting
- Imágenes
- Fuentes
- Código de Plataforma



Libraries, Tools & Frameworks y más!!!



Cognitive
Services



App
Center



Azure
DevOps



Reactive Extensions



Prism



Jenkins



SQLite



bitrise



MVVMCross



Uno
Platform

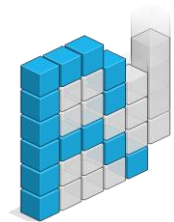


Instabug

Telerik®
by Progress



Zeplin



ReactiveUI



POLY



Zxing
Barcode
Scanning

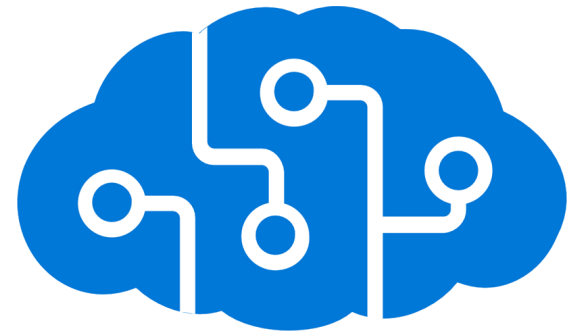
RAYGUN

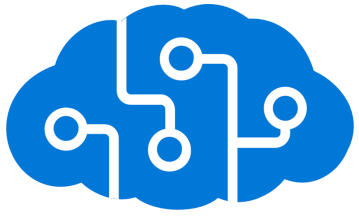


Akavache

¿Qué son los Servicios Cognitivos?

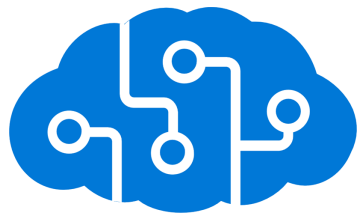
- Son servicios que brindan inteligencia a una aplicación informática.
- Integran poderosos algoritmos y técnicas de Inteligencia Artificial, por ejemplo:
 - Reconocimiento facial.
 - Reconocimiento de voz.
 - Reconocimiento de texto en una imagen.
 - Conversión de texto a voz y viceversa.
 - Traducción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



Visión

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



Voz

- Speaker Recognition
- Speech Services



Idioma

- LUIS
- QnA Maker
- Text Analytics
- Traductor



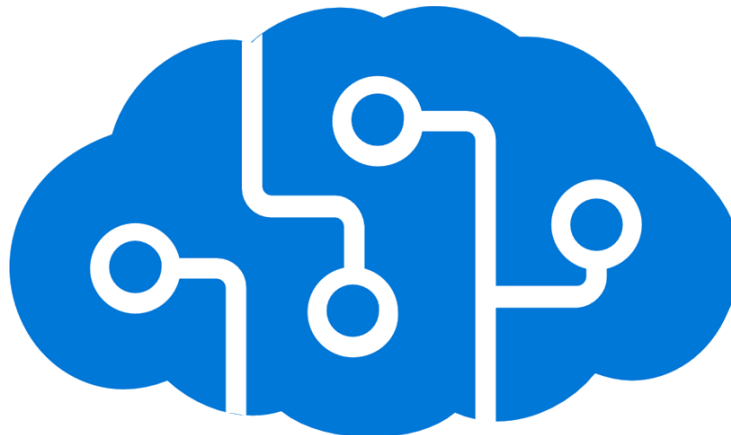
Decisión

- 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



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)

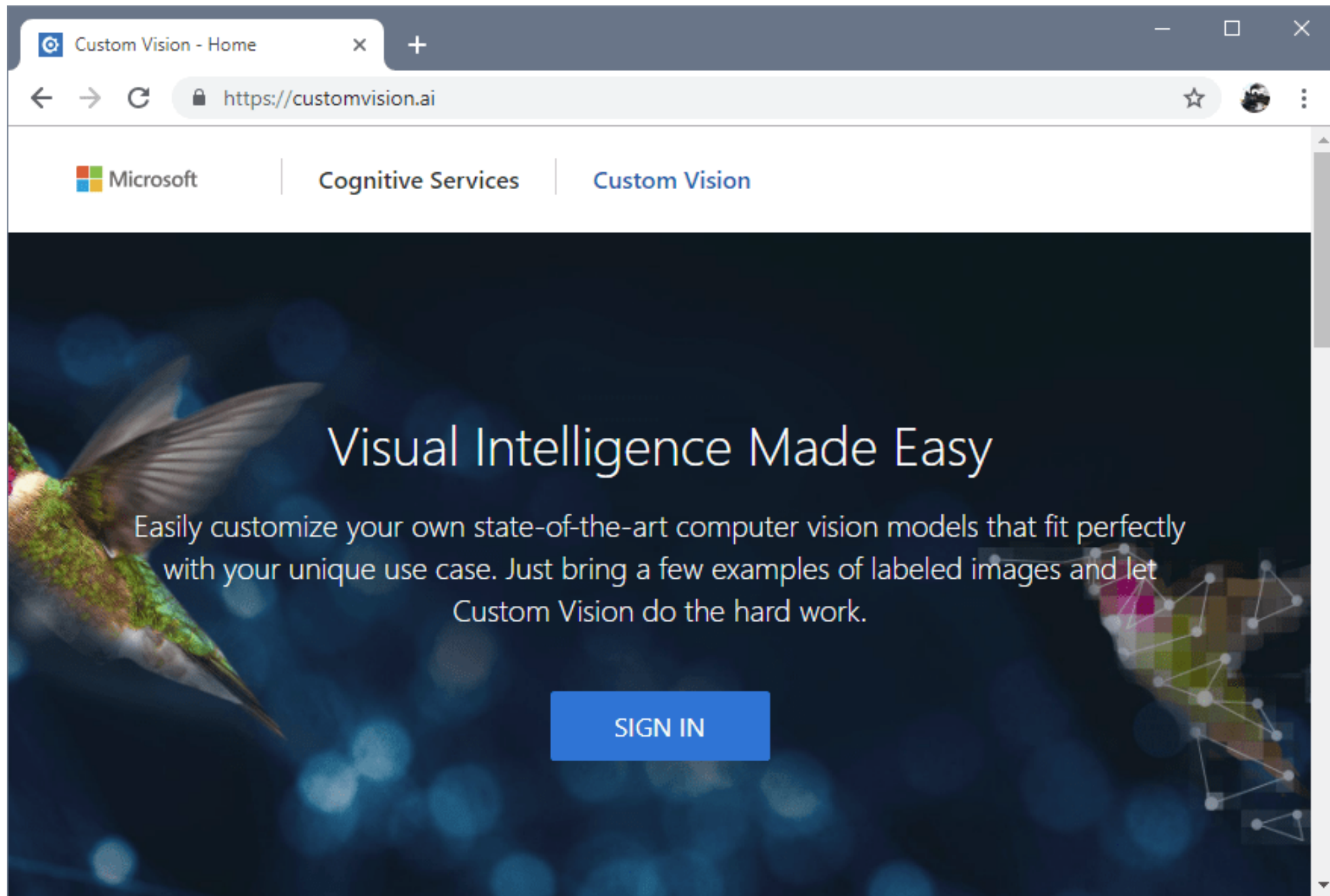
Prediction Resource

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


















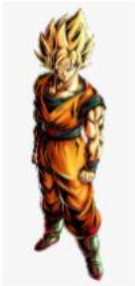
Piccolo 28

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 ⓘ

1 hour

24 hours



☐ 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 <div></div> |
| Super Buu | 100.0% | 100.0% | 100.0% | 28 <div></div> |
| Piccolo | 100.0% | 100.0% | 100.0% | 28 <div></div> |
| Goku Super Saiyan | 100.0% | 83.3% | 100.0% | 28 <div></div> |

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

→

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

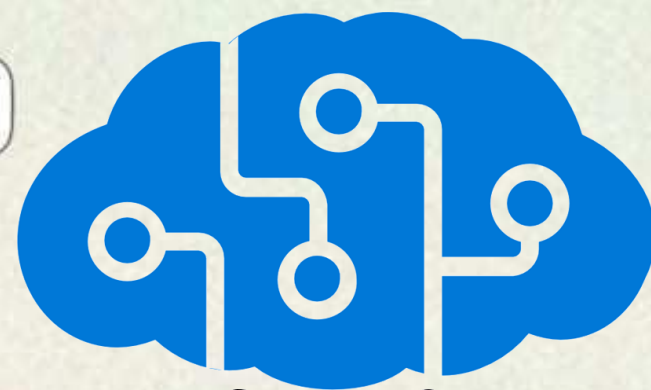
Delete

Tag images





Viene la Demo



Y tu lo sabes!!!

MUCHAS GRACIAS!!!

