



Share AI Cognitive Services

Christopher MANEU
Startups Developer Advocate @ Microsoft R&D
@cmaneu

C'est quoi le Machine Learning?

$$f(x) \rightarrow y$$

C'est quoi le Machine Learning?

$$f(\text{img}) \rightarrow \text{dog}$$


Pour faire du Machine Learning, on a donc besoin

De données propres et structures

Correctement labellisées

En quantité

Et de développeurs / data scientists qualifiés!

Cognitive Services capabilities

Infuse your apps, websites, and bots with human-like intelligence



Vision

- Object, scene, and activity detection
- Face recognition and identification
- Celebrity and landmark recognition
- Emotion recognition
- Text and handwriting recognition (OCR)
- Video metadata, audio, and keyframe extraction and analysis
- Explicit or offensive content moderation
- Custom image recognition



Speech

- Speech transcription (Speech-to-text)
- Speech Synthesis (Text-to-speech)
- Real-time speech translation
- Speaker identification and verification
- Custom Speech models for transcription and translation
- Custom voice



Language

- Language detection
- Text sentiment analysis
- Key phrase extraction
- Entity recognition
- Spell checking
- Explicit or offensive text content moderation, PII detection
- Text translation
- Customizable text translation
- Contextual language understanding



Knowledge

- Q&A extraction from unstructured text
- Knowledge base creation from collections of Q&As
- Semantic matching for knowledge bases
- Customizable content personalization learning



Search

- Ad-free web, news, image, and video search results
- Trends for video, news
- Image identification, classification and knowledge extraction
- Identification of similar images and products
- Named entity recognition and classification
- Knowledge acquisition for named entities
- Search query autosuggest
- Ad-free custom search engine creation

A variety of real-world applications

Vision

What is in the image or video?

Intelligent Image insights

Category	People; 5 faces
Adult/Racy?	False/False
Dominant colors	
Accent color	

Computer Vision

Speech

Give me directions to the nearest local branch

Speech to text

Convert spoken audio to text

Convert text to spoken audio

Extract intent of user

Speech Service

Language

Play today's customer call recording

Natural Language Processing

Intent: PlayCall

Content: Customer#

DateTime.date: today

Now Playing

11/29/2016 Customer Call

Language Understanding

Knowledge

QnA Pair of this site?

Automatic extraction of questions and answers

What are your hours today?

Today we are open from 7:00 AM to 10:00 PM.

Do you have vegetarian options?

Yes, we have vegetarian options available.

QnA Maker

Search

Search for 'fraud prevention'

Intelligent web search

Information Communications Media Market News

It also investigates the top three expected Fraud Detection and Prevention programs, in terms of demand in key markets...

The Big Question: In-House or Outsourced Fraud Protection?

First, let's point out that there is not one absolute answer—there are "pros" and "cons" to each. Those who favor in-house...

How to Protect Your Business from Online Fraud this Holiday Season

Michael heads fraud prevention tool. Online and mobile shopping are expected to continue growing apace...

Bing News Search



SURFRIDER
FOUNDATION EUROPE



The background of the image is a photograph of a river, likely the Amazon, showing significant plastic pollution. Numerous pieces of plastic waste, including bottles, bags, and other debris, are visible floating on the water's surface. The water has a blueish tint, and the overall scene conveys a message about environmental degradation.

80% de la
pollution plastique
vient des rivières







CARTOGRAPHIER 100% DES FLEUVES EN 1 AN !

+157 000 Km



Par où commencer ?

Un premier PoC

Partir de pas grand chose

300 images non labellisées

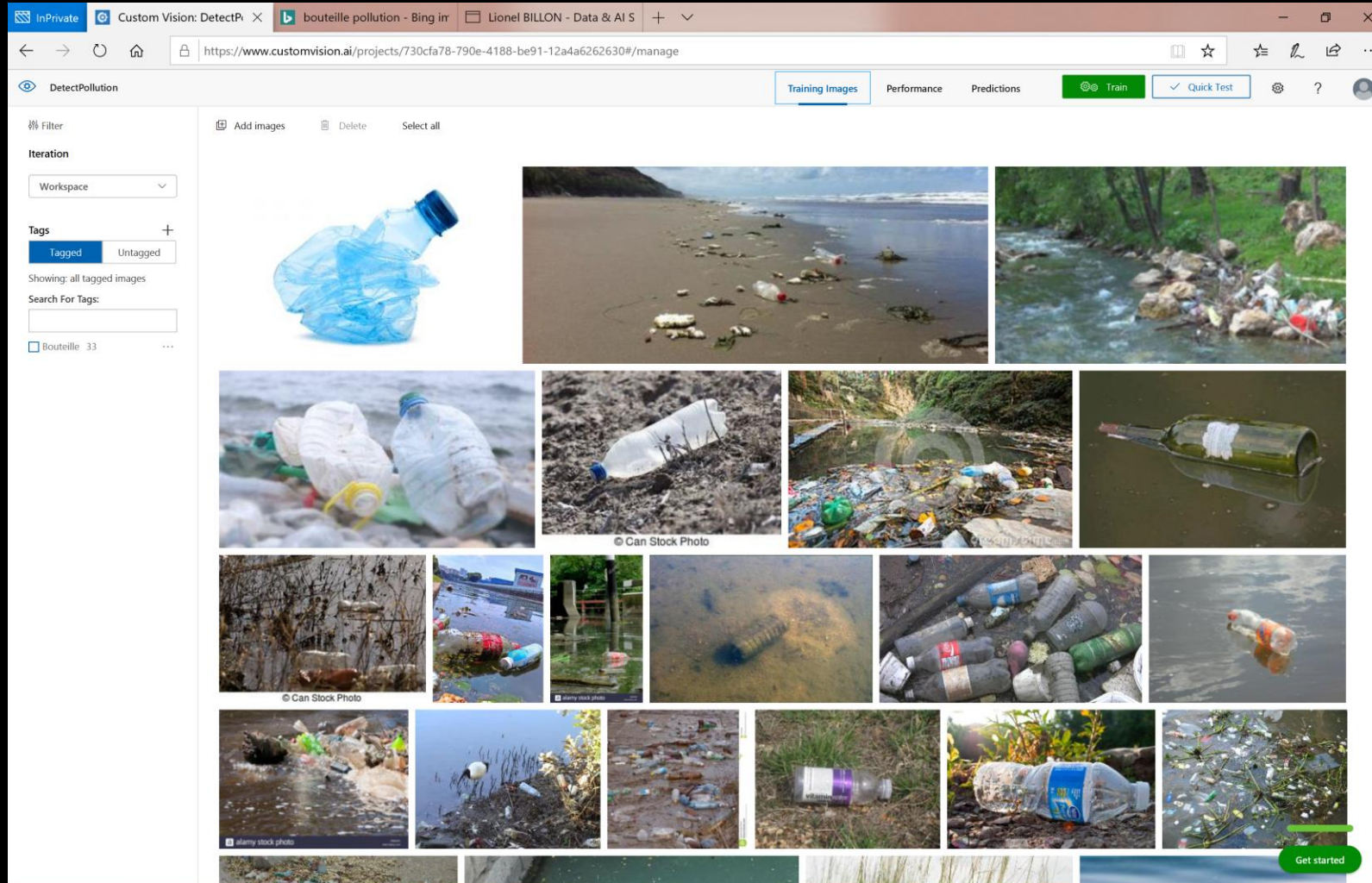
Pas de base de données (fichiers plats)

Pas d'infrastructure

Pas de développeurs / data scientists

Pas de drones

De l'IA sans rien y connaître



De l'IA sans rien y connaître

Iterations

Probability Threshold: 50%
Overlap Threshold: 30%

Iteration 3
Trained : 9 minutes ago
with General domain

Iteration 2
Trained : 45 minutes ago
with General domain

Iteration 1
Trained : 54 minutes ago
with General domain

Prediction URL

Make default

Delete

Export

Quick Test

Regions Shown



Image URL

Enter Image URL

Browse local files

File formats accepted: jpg, png, bmp
File size should not exceed: 4mb

Predicted Object Filter

Probability Threshold: 40%

Predictions

Predictions are shown in red

Tag	Probability
Bouteille	95.3%

De l'IA sans rien y connaître...

Custom Vision: DetectPi × pollution plastic bottle water Lionel BILLON - Data & AI S

DetectPollution Training Images Performance Predictions Train Quick Test

Filter Delete

Iteration
Iteration 3

Tags
Showing: all predicted images
Search For Tags:

☐ Bouteille

Sort
☒ Suggested
☐ Newest
☐ Oldest

Quick Test ☒ Regions Shown

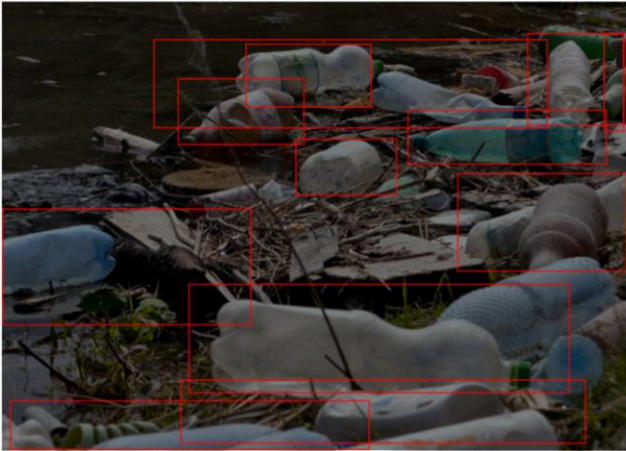


Image URL
 →

or

File formats accepted: jpg, png, bmp
File size should not exceed: 4mb

Predicted Object Filter
Probability Threshold: 17% ^①

Predictions
Predictions are shown in red

Tag	Probability
Bouteille	85.4%
Bouteille	77.5%
Bouteille	70%
Bouteille	69.4%
Bouteille	52.4%

De l'IA sans rien y connaître...

SurfRider2

Filter

Iteration

Workspace

Tags

Tagged Untagged

Showing: all tagged images

Search For Tags:

baches 44

bouteilles 12

Add images Delete Tag images Select all

Training Images Performance Predictions

SurfRider2

Training Images Performance

Iterations

Prediction URL

Probability Threshold: 50%

Iteration 1

Finished training on 2/21/2019, 2:34:37 PM using General domain

Classification type: Multilabel (Multiple tags per image)

Precision 81.6%

Recall 78.6%

Performance Per Tag

Tag	Precision	Recall	Image count
baches	98.2%	94.7%	56
bouteilles	94.4%	93.3%	12

Souriez!

Automatiser la prise de photos d'identité

Search

Add Bing Search APIs to your apps and harness the ability to comb billions of webpages, images, videos, and news with a single API call



Accent Chairs You'll Love | Wayfair

USD 251.68



Abbyson Living BR-AC1059-BLU Sierra Tufted Velvet Wingback ...



Pair of Guillaume et Chambron Black Cerused Oak 'Edouard ...

USD 8600



Form Recognizer Service

Data extraction in any business process that intakes forms and outputs structured data

AdventureWorks

Address: 22 1st way Suite
4000 Redmond, WA
99243

Invoice For: Contoso
456 49th
New York

2018

Mortgage Interest Statement

Form 1098

Copy B For Payer/Borrower

Contoso

Bill To: Contoso, Ltd

Phone: 432-555-0199

Fax: 432-555-0123

Email: contoso@example.com

Invoice #: 3-456-1

Invoice Date: 4/14/2019

Invoice For: Project 2

Item #	Description	Qty	Unit Price	Discount	Price
24567	Invoice 3-456-2 Data 1	95	\$ 5.00	\$ -	\$ 195.00
24568	Invoice 3-456-2 Data 2	40	4.00	5.00	155.00
24569	Invoice 3-456-2 Data 3	90	6.00	7.00	173.00
24570	Invoice 3-456-2 Data 4	40	7.00	-	280.00
24571	Invoice 3-456-2 Data 5	10	4.00	-	40.00
24572	Invoice 3-456-2 Data 6	5	8.00	-	40.00
24573	Invoice 3-456-2 Data 7	70	6.00	-	420.00
24574	Invoice 3-456-2 Data 8	25	4.00	-	100.00
24575	Invoice 3-456-2 Data 9	5	7.00	3.00	32.00
24576	Invoice 3-456-2 Data 10	80	1.00	-	80.00
24577	Invoice 3-456-2 Data 11	60	7.00	-	420.00
24578	Invoice 3-456-2 Data 12	44	3.00	-	66.00

Invoice Subtotal: \$ 2,014.00

Tax Rate: 6.75%

Taxes Due: 136.23

Other: \$

TOTAL: \$ 2,150.23

Make all checks payable to Contoso.

Terms: Total due in 90 days. Overdue accounts subject to a service charge of 3% per month.

PDF

Images



```
"status": "succeeded",
"lastUpdatedDateTime": "2019-10-29T19:52:21+00:00",
"analyzeResult": {
  "readResults": [
    {
      "page": 1,
      "width": 8.458333333333334,
      "height": 11.652777777777779,
      "angle": 270.24,
      "unit": "inch"
    }
  ],
  "pageResults": [
    {
      "page": 1,
      "clusterId": 0,
      "keyValuePairs": [
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          "key": {
            "text": "Invoice #",
            "boundingBox": [
              2.1222,
              0.5528,
              3.6083,
              0.5528,
              3.6083,
              0.6736,
              2.1222,
              0.6736
            ]
          },
          "value": {
            "text": "30455465",
            "boundingBox": [
              2.1222,
              0.6736,
              3.6528,
              0.6736,
              3.6528,
              0.8125,
              2.1222,
              0.8125
            ]
          }
        }
      ],
      "confidence": 1.0
    }
  ]
}
```

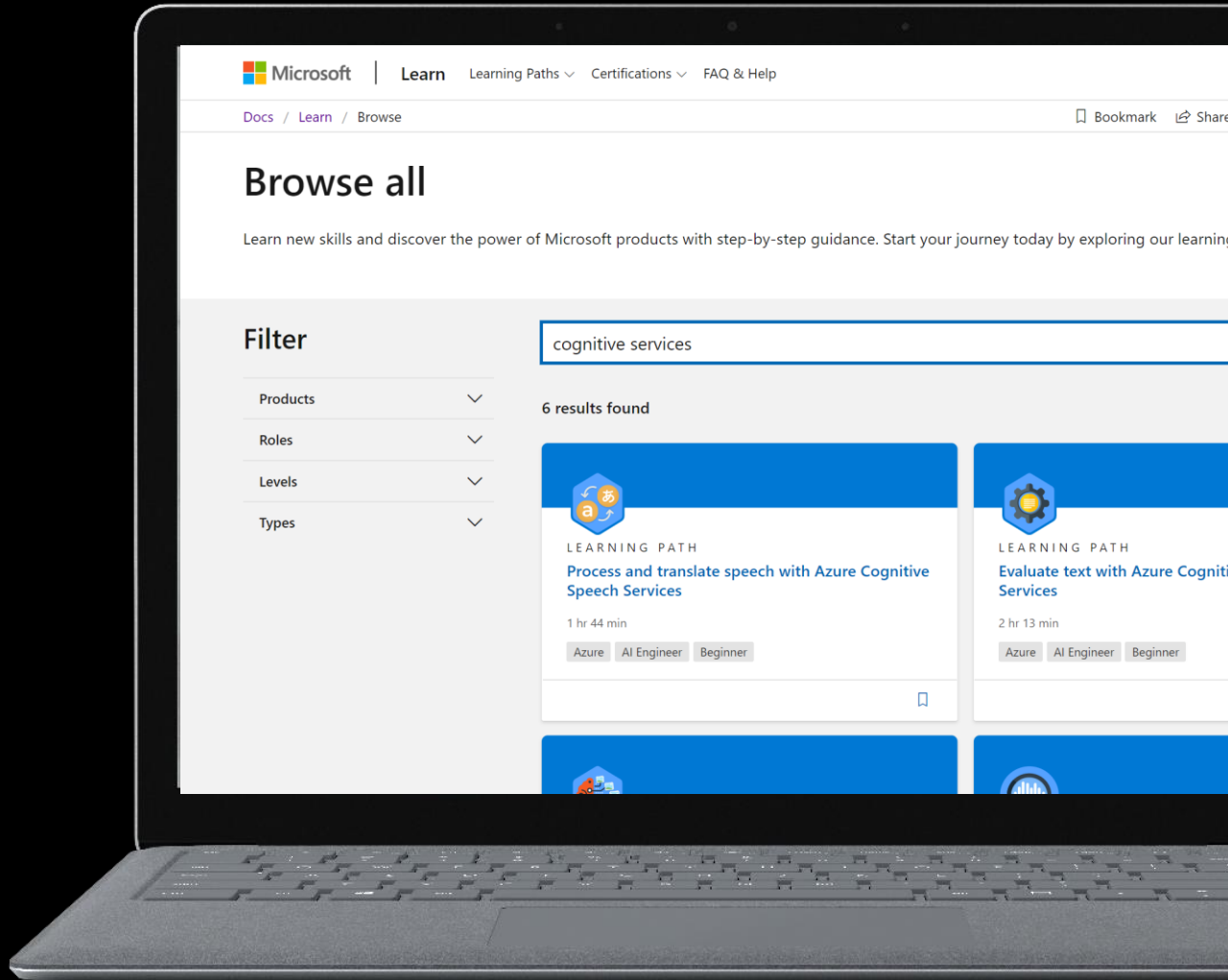
Train your custom model with 5 sample forms

Key Pair Values and Tables

APPRENDRE

Apprenez à vous en servir

<https://aka.ms/learn-cognitive>





Q&A