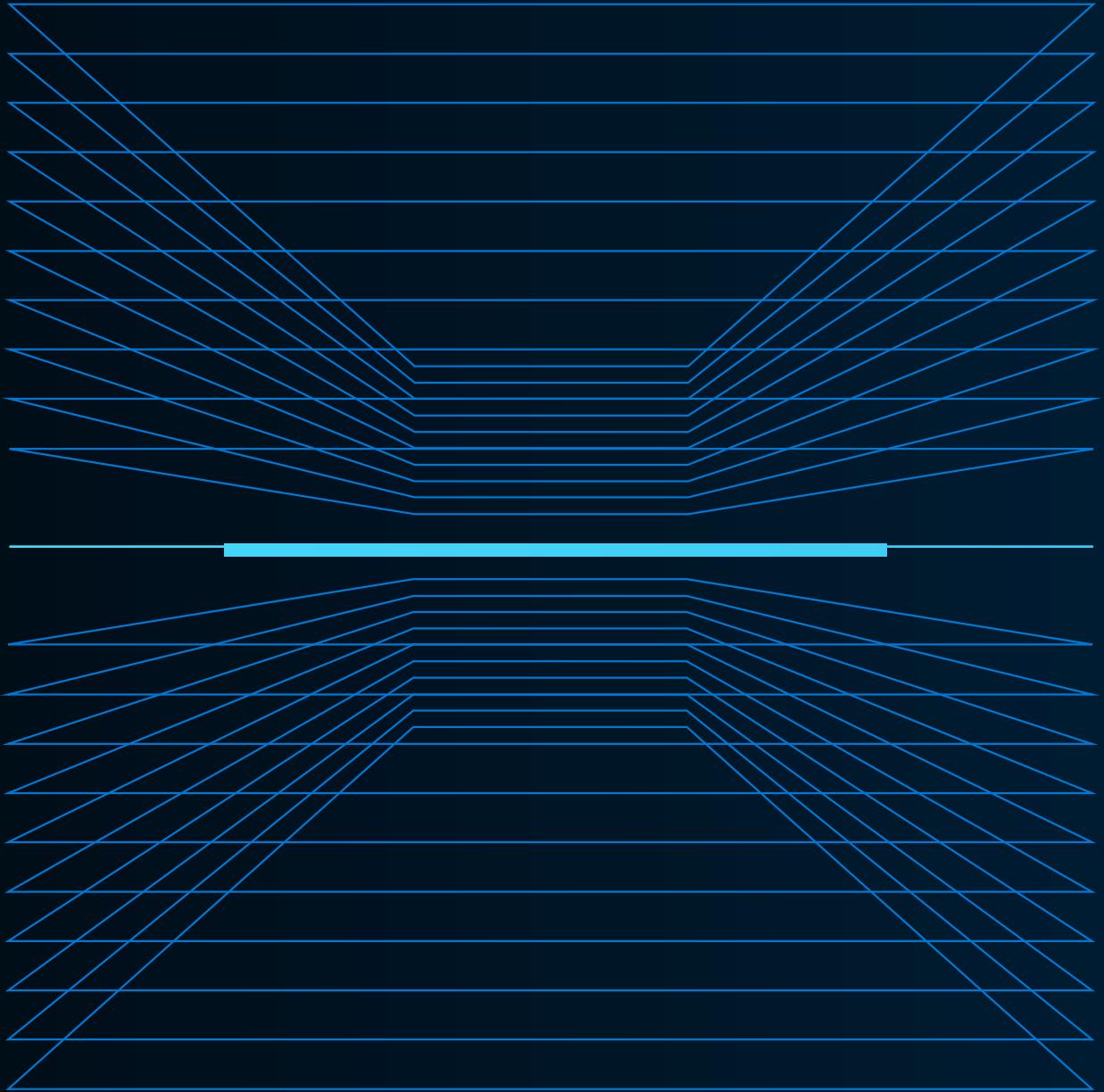




Azure Cognitive Services

Début du webinar à 10h00

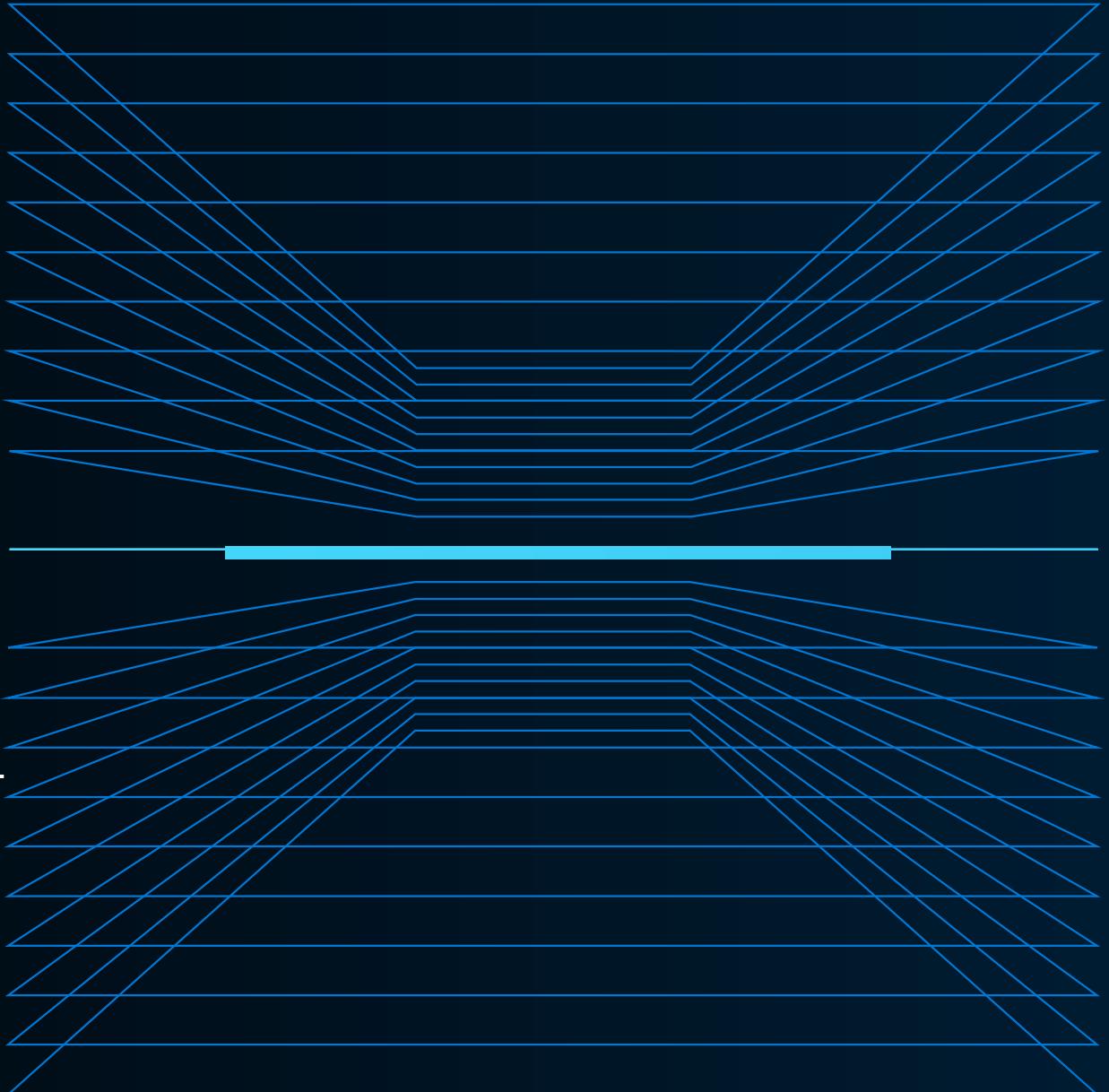




Azure Cognitive Services

Franck Gaillard – Cloud Solution Architect AI & ML
<https://www.linkedin.com/in/frgail/>

Nicolas Clerc – Cloud Solution Architect AppDev
<https://www.linkedin.com/in/nicolasclerc/>



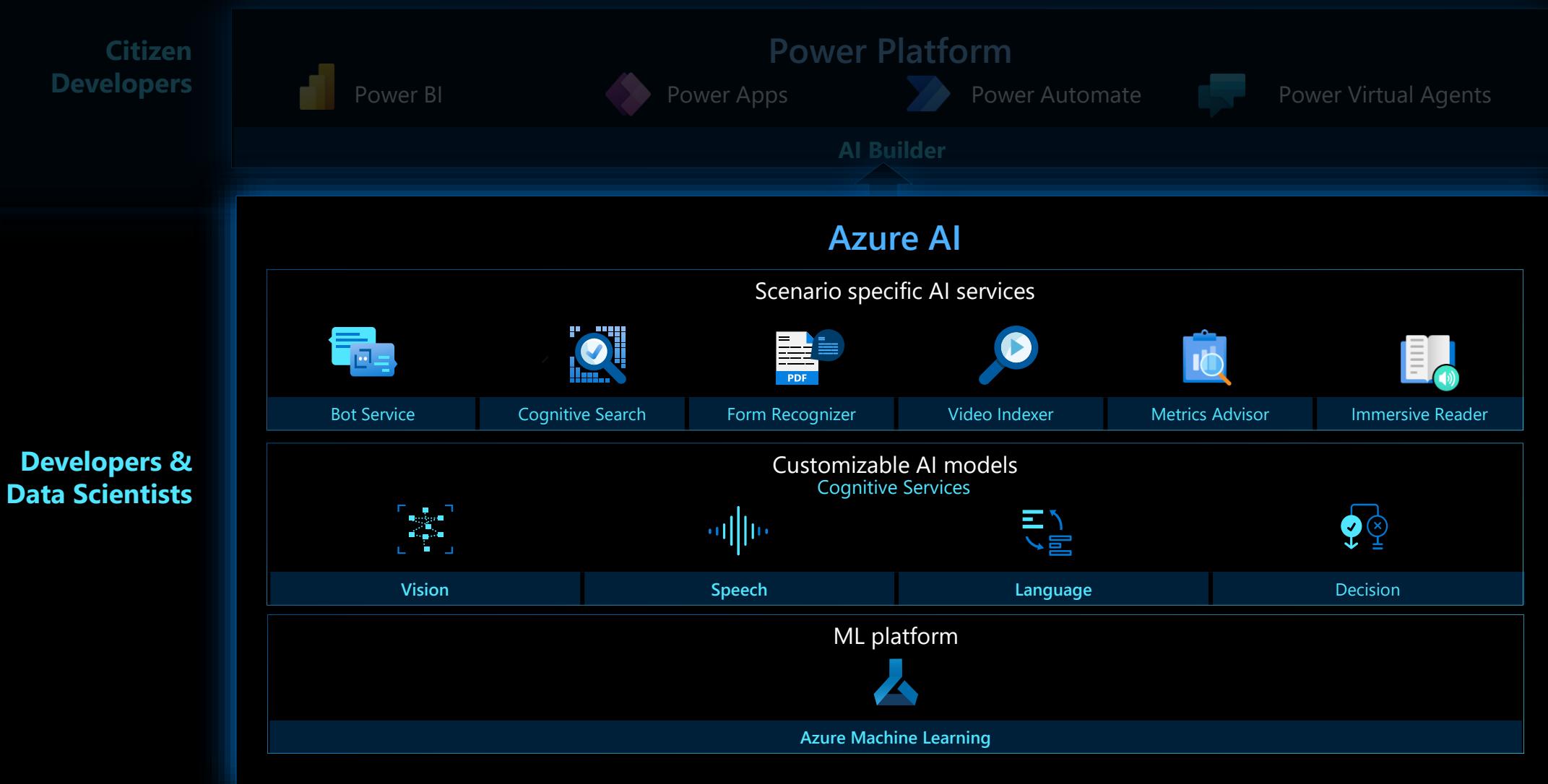
What is Artificial Intelligence ?

Software that imitate human capabilities

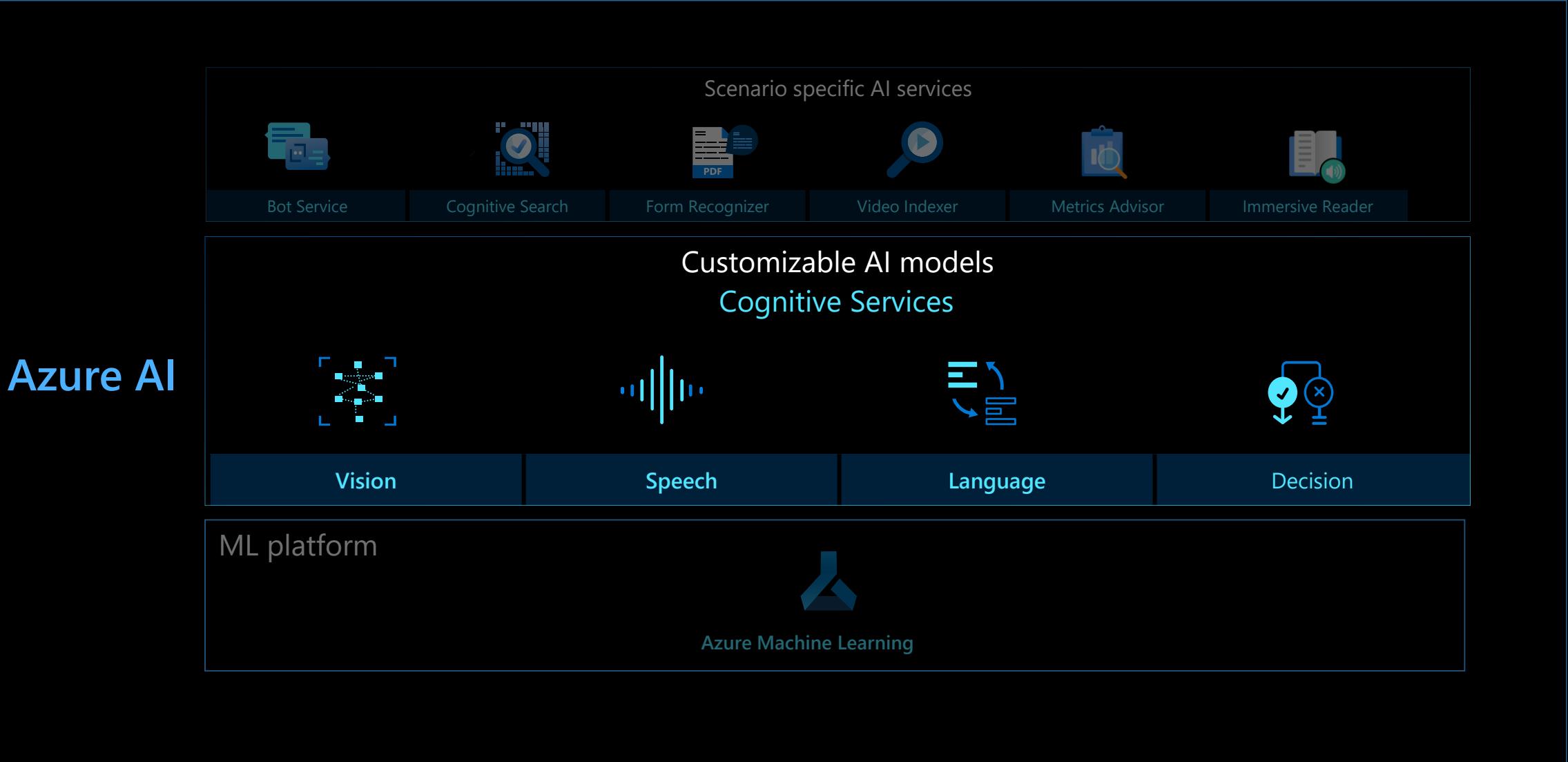
- Make decision based on data and past experience
- Recognizing abnormal events
- Interpreting visual input
- Understanding written and spoken language
- Engaging in dialog and conversations



AI Portfolio Overview



Azure AI



A leader in the industry...



"Its [Microsoft's] cloud AI developer services are among the most comprehensive on the market and are all highly competitive."

Gartner Magic Quadrant
Cloud AI Developer Services,
February 2020

[Artificial Intelligence Solutions & Services – Microsoft AI](#)

...transforming organizations worldwide

Reduce time and costs

Automate processes

Improve customer support



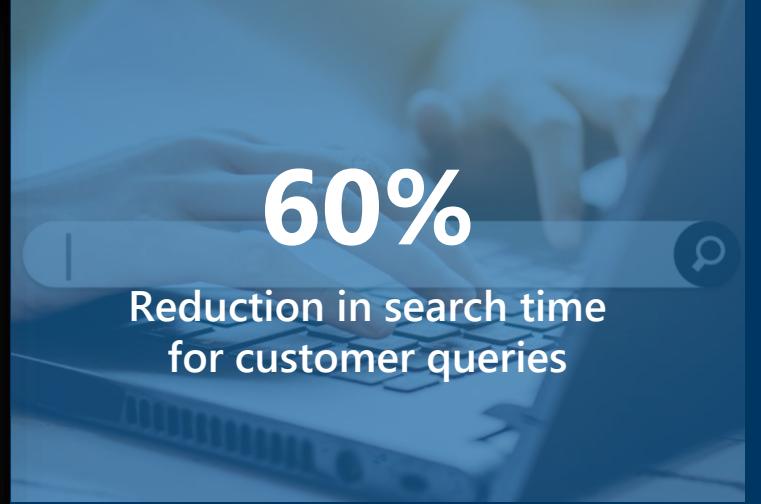
80%

Cost reduction by
streamlining transcription



54M

Prescriptions per month
automatically processed

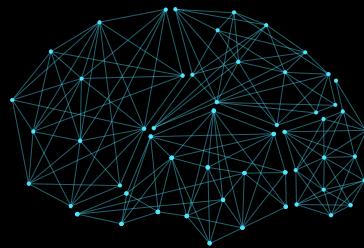


60%

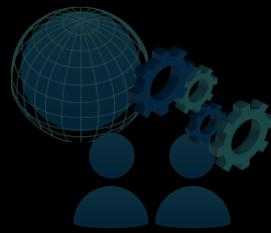
Reduction in search time
for customer queries



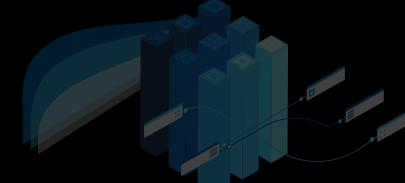
Azure Cognitive Services



**Breakthrough AI
within reach**



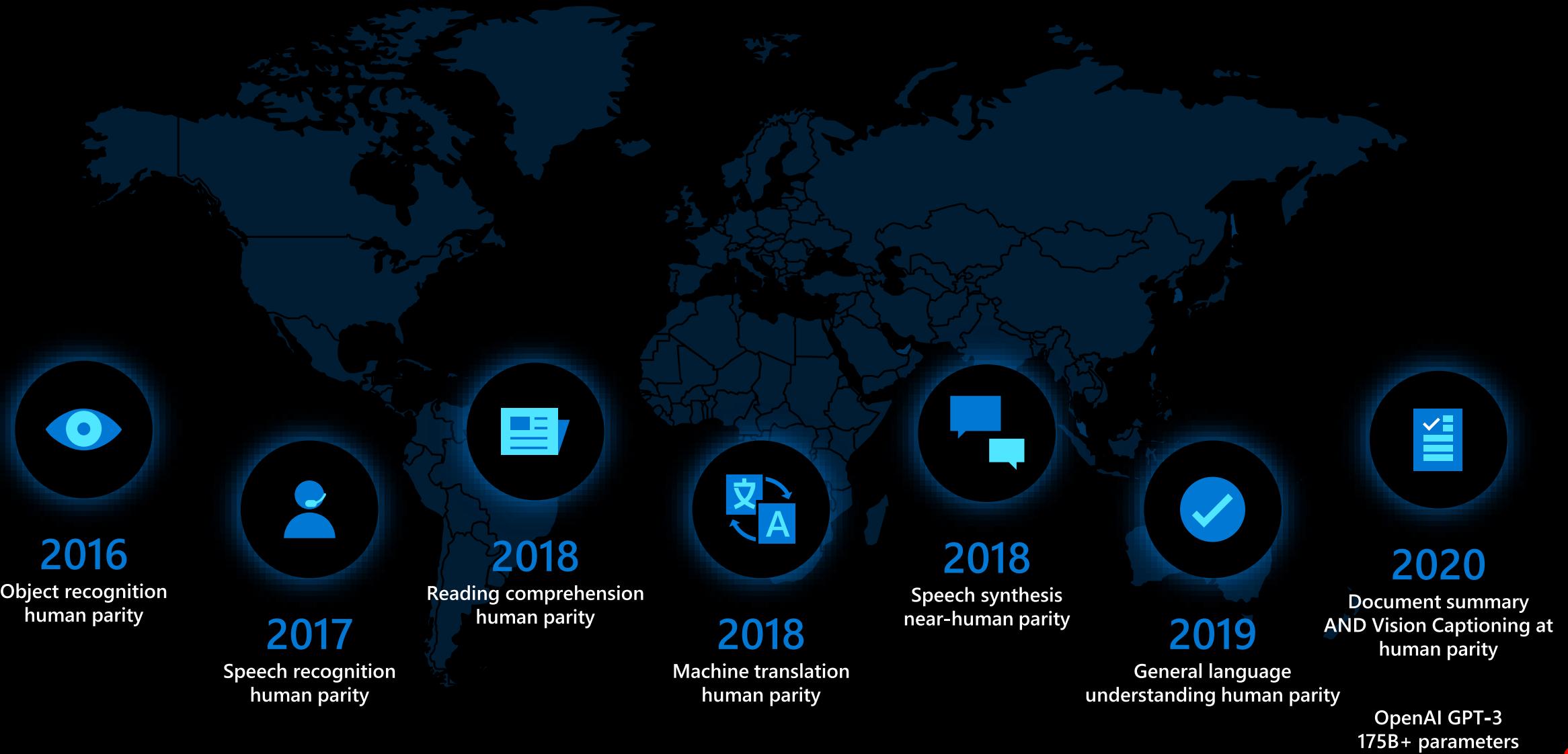
**Built for mission-
critical deployments**



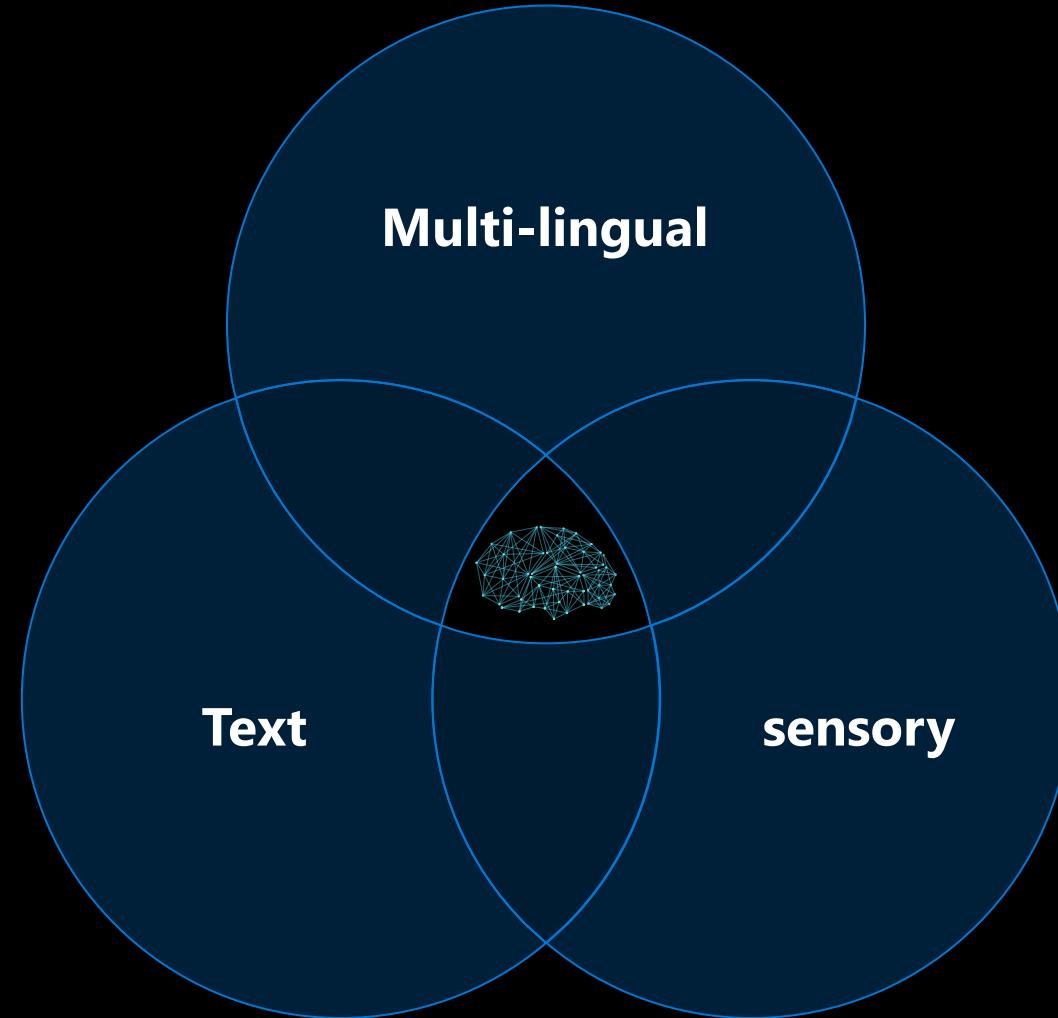
**Responsible AI in
action**



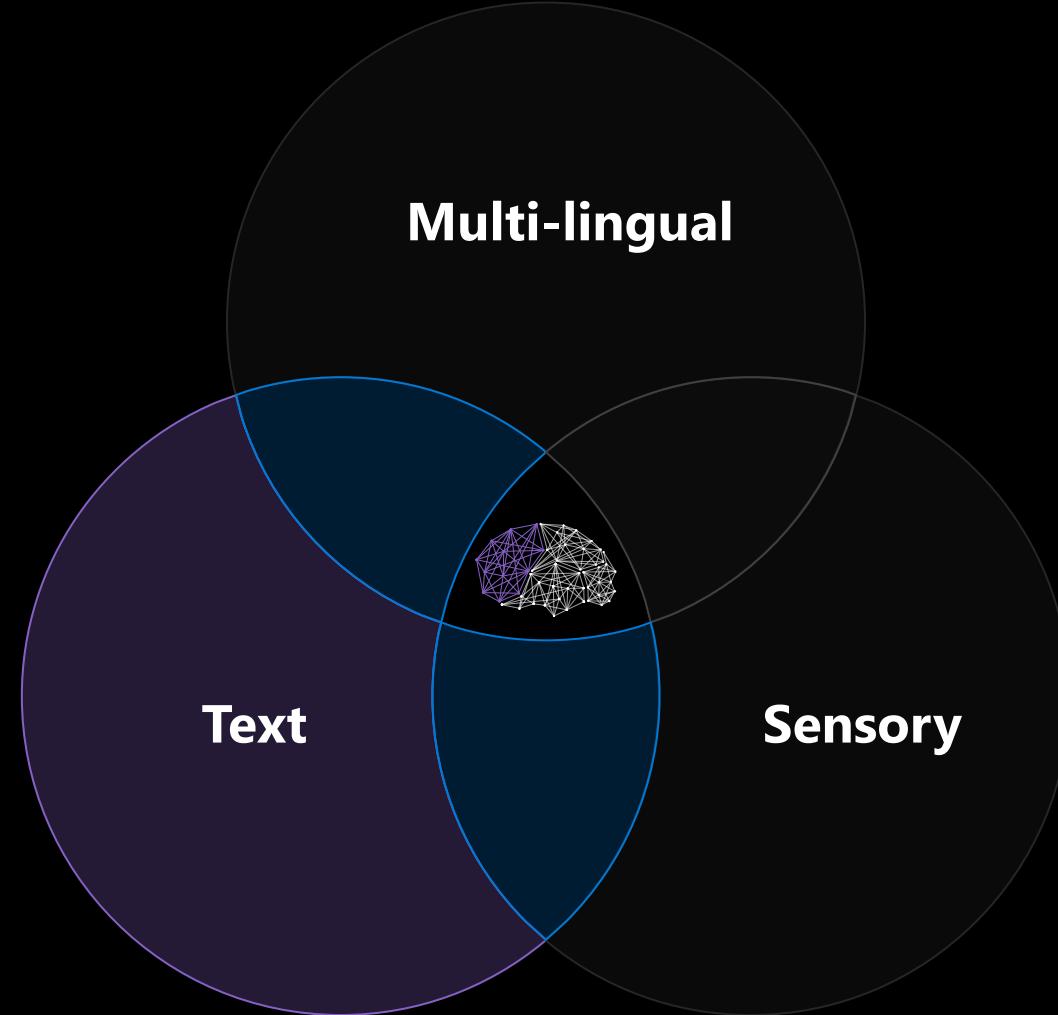
Breakthrough AI grounded in world-class research



The approach to our world-class research



Starting with bodies of text...



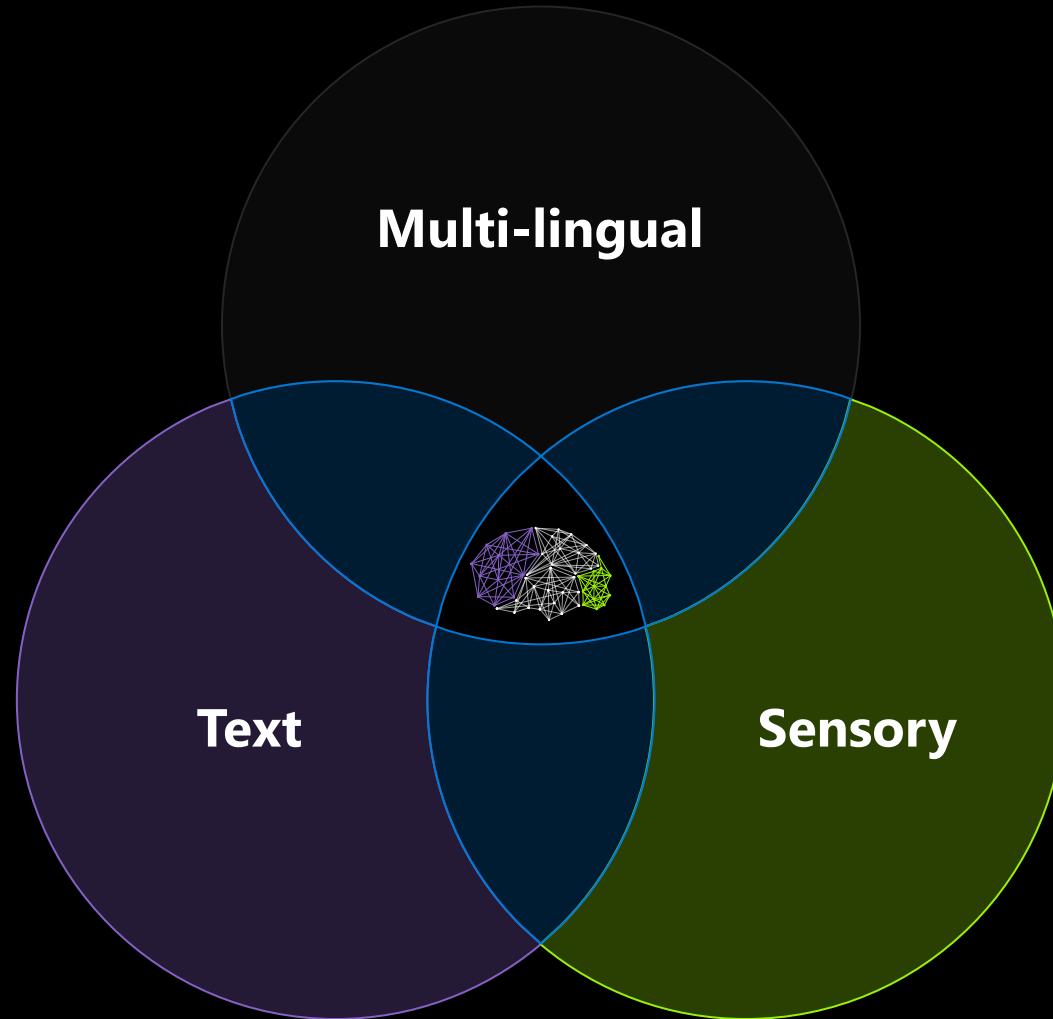
Massive Language Models

Understanding the world through text

The screenshot shows the OneDrive web interface for the user Megan Bowen. The left sidebar includes sections for 'My files' (Recent, Shared, Recycle bin), 'Shared libraries' (Mark 8 Project Team, Work @ Contoso, Give @ Contoso, Leadership Team, Digital Initiative Public R..., Retail, Brand, Communication site, More libraries, Create shared library), 'OneDrive admin', 'Get the OneDrive apps', and 'Return to classic OneDrive'. The main area displays a list of files with columns for Name, Last modified, Owner, Size, and Share status. The files listed are:

Name	Last modified	Owner	Size	Share status
European Expansion.pptx	January 18	Megan Bowen	3.41 MB	Private
Expense Insights.xlsx	January 18	Megan Bowen	398 KB	Private
Fabrikam.one	January 18	Megan Bowen	54.5 KB	Shared
Finance.pbix	January 18	Megan Bowen	3.18 MB	Private
HR.pbix	January 18	Megan Bowen	1.42 MB	Private
International Marketing Strategy.docx	January 17	Megan Bowen	422 KB	Shared
IT.pbix	January 18	Megan Bowen	1.35 MB	Private
Marketing.pbix	January 18	Megan Bowen	1.79 MB	Private
New Data Type Sample Data.xlsx	January 18	Megan Bowen	1.23 MB	Private
Operations Analytics.pbix	January 18	Megan Bowen	573 KB	Private
Operations.pbix	January 18	Megan Bowen	6.86 MB	Private
Proposed_agenda_topics.docx	January 17	Megan Bowen	691 KB	Private
RD And Engineering Costs Q1.xlsx	January 18	Megan Bowen	15.7 KB	Private
RD Expense Report.pptx	January 18	Megan Bowen	353 KB	Shared
RD Expenses Q1 to Q3.xlsx	January 18	Megan Bowen	13.1 KB	Private
Sales Invoice Template.docx	January 18	Megan Bowen	33.0 KB	Private
Sales.pbix	January 18	Megan Bowen	1.53 MB	Private
Y1050_Launch_Timeline.xlsx	January 19	Megan Bowen	1.70 MB	Private

...pairing text with sight and sound...



Language + Vision models

Image captioning for accessibility

Image Captioning



Traditional
plant

Ours (before)
A close-up of a plant

Ours (after)
A field of wheat

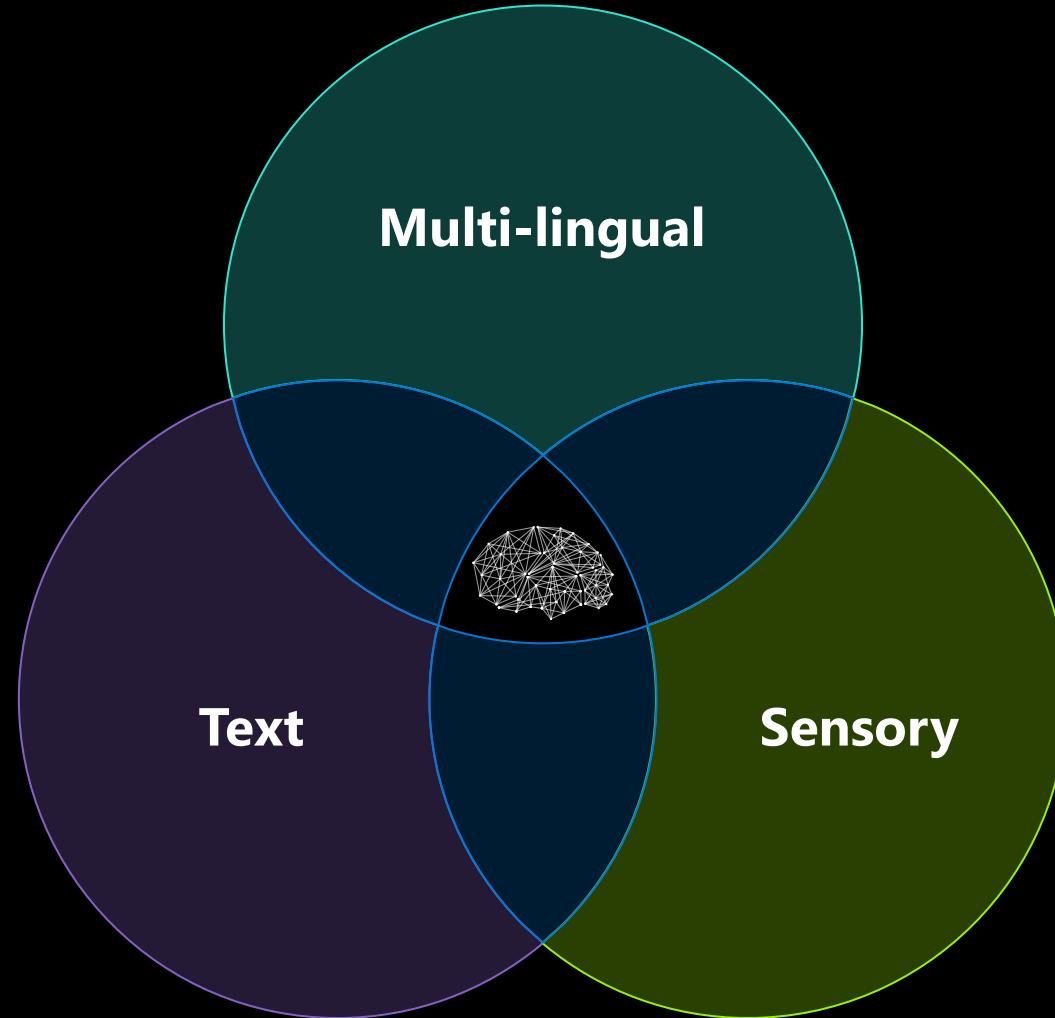
Maintenant L'inverse fonctionne aussi

[Blog](#)[What is DALL-E?](#)[Prompt guide](#)[Privacy](#)[Contacts](#)

a field of wheat with a close-up

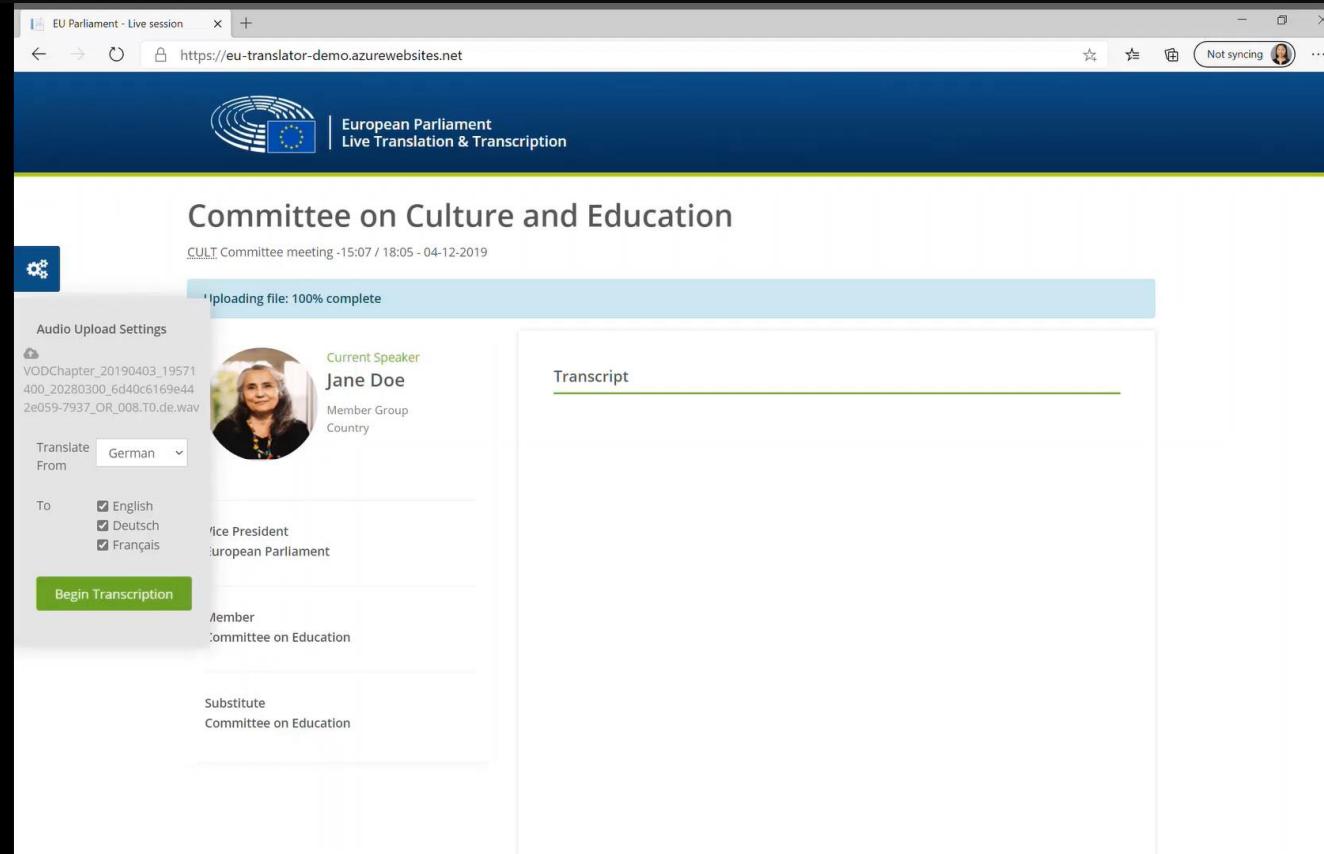
[Generate image](#)

...and expanding this knowledge across multiple languages.

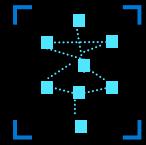


Text + Sensory + Multi-lingual

EU Parliament: Simultaneous translation and transcription



Azure Cognitive Services



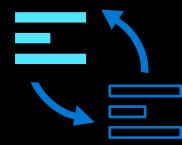
Vision

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



Speech

- Speaker Recognition
- Speech



Language

- Immersive Reader
- Language Understanding
- Text Analytics
- Text and document Translation
- QnA Maker



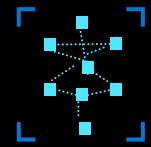
Decision

- Anomaly Detector
- Content Moderator
- Personalizer



Customizable

Most comprehensive set of AI capabilities



Vision

Image understanding

Text extraction

Image captioning

Form recognition

Video indexing

Facial recognition

Spatial analysis



Speech

Speaker recognition

Speech to text

Text to speech

Custom neural voices

Speech translation



Language

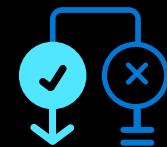
Entity extraction

Sentiment analysis

Intent understanding

Text and document translation

Q & A creation



Decision

Anomaly detection

Root-cause analysis

Metric monitoring

Personalization



No machine-learning expertise required

All it takes is an API call to embed AI

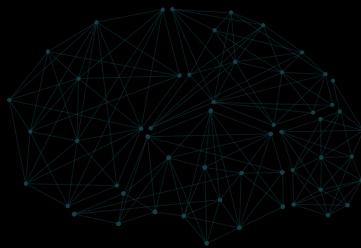
JSON

```
{  
  "status": "Succeeded",  
  "succeeded": true,  
  "failed": false,  
  "finished": true,  
  "recognitionResults": [  
    {  
      "page": 1,  
      "clockwiseOrientation": 358.85,  
      "width": 1000,  
      "height": 945,  
      "unit": "pixel",  
      "lines": [  
        {  
          "boundingBox": [  
            249,  
            268,  
            671,  
            259,  
            672,  
            308,  
            250,  
            316  
          ],  
          "text": "You must be the change you  
          wish to see in the world !"  
        }  
      ]  
    }  
  ]  
}
```

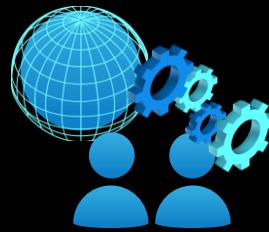
You must be the change you
wish to see in the world !

Everything has its beauty, but
not everyone sees it !

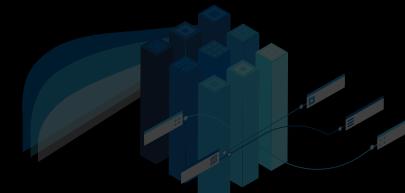
Azure Cognitive Services



**Breakthrough AI
within reach**



**Built for mission-
critical deployments**



**Responsible AI in
action**

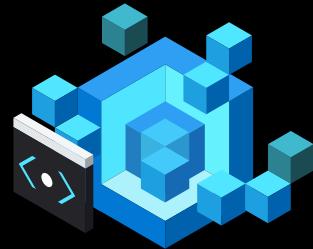


Deploy mission-critical AI applications



Deploy anywhere

Full hybrid and cross cloud support using containers



Tested at scale

Battle-tested on Microsoft products daily



Run securely

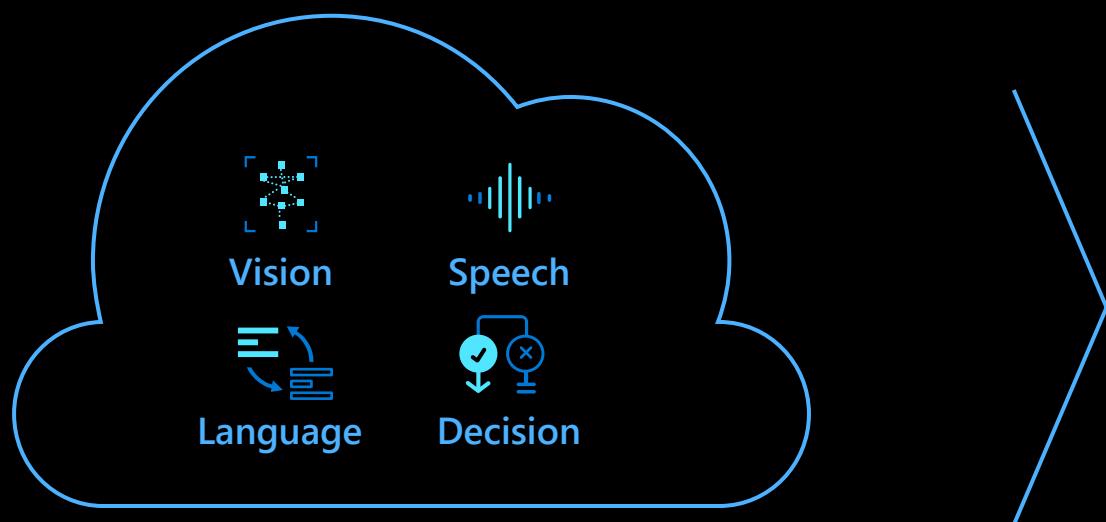
More certifications than any cloud provider

You own and control your data

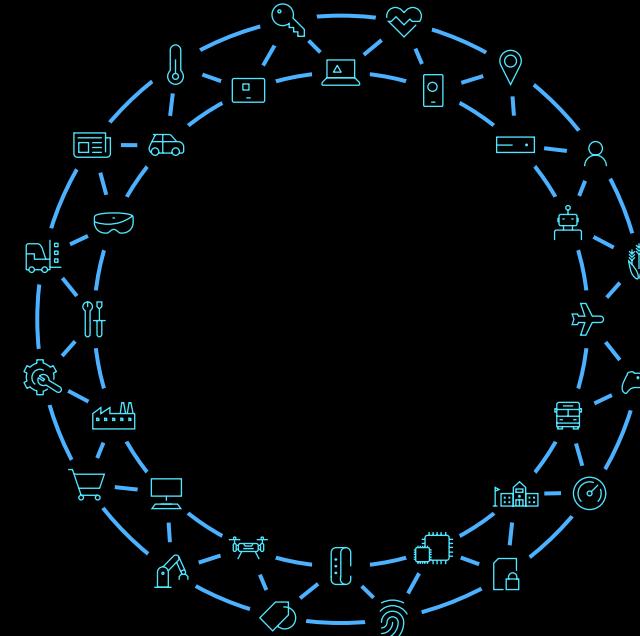
Deploy anywhere

Cross-cloud and edge support with containers

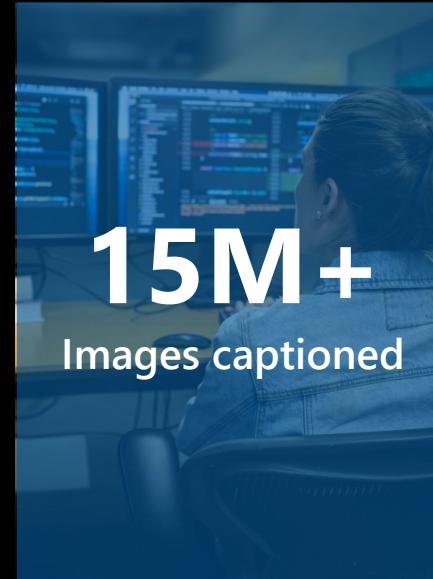
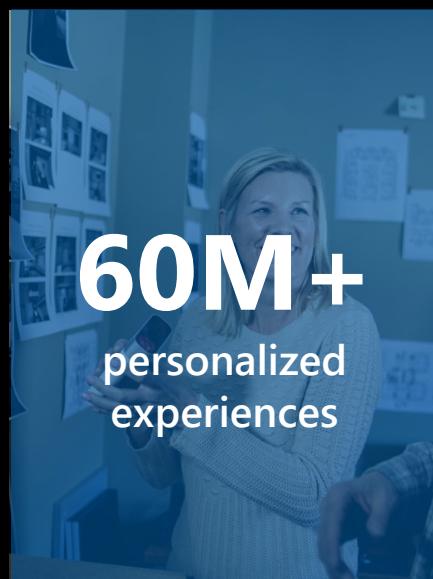
Azure Cognitive Services



Wherever your data resides



Tested at scale in Microsoft solutions

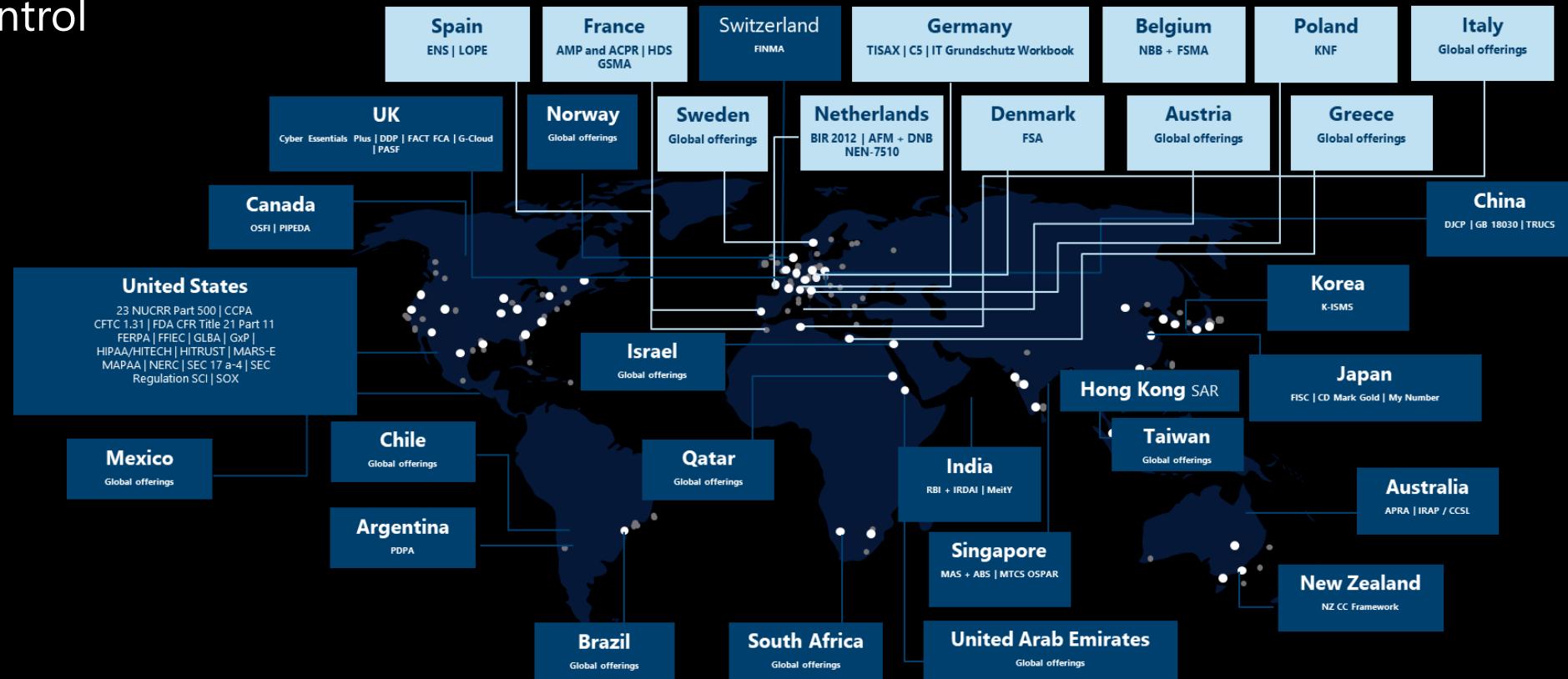


Run securely

More certifications than
any other cloud provider

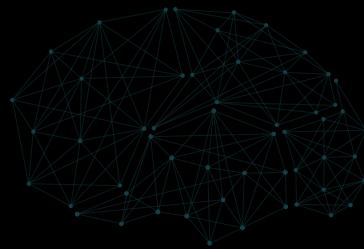
You own and control
your data

EU countries
(applies to all EU countries and the EU countries marked in white boxes)
EBA | EN 301 549 | ENISAL IAF | GDPR | EU
Model Clauses

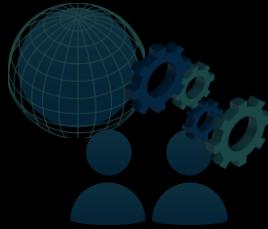


Global compliance standards: CIS Benchmark | ISO 27001 | WCAG | CSA-STAR attestation | ISO27018 | CDSA | CSA-STAR certification | ISO 27701 | PCK DDS | CSA-STAR self-assessment | ISO 9001 | Shared Assessments | ISO 20000-1:2011 | PCI DDS | TruSight | ESO 22301 | SOC

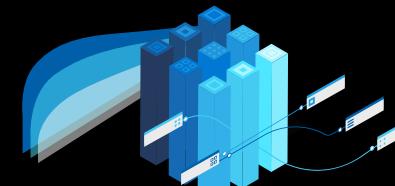
Azure Cognitive Services



**Breakthrough AI
within reach**



**Built for mission-
critical deployments**



**Responsible AI in
action**

Challenges and Risks with AI

Challenge or Risk	Example
Bias can affect results	A loan-approval model discriminates by gender due to bias in the data with which it was trained
Errors may cause harm	An autonomous vehicle experiences a system failure and causes a collision
Data could be exposed	A medical diagnostic bot is trained using sensitive patient data, which is stored insecurely
Solutions may not work for everyone	A predictive app provides no audio output for visually impaired users
Users must trust a complex system	An AI-based financial tool makes investment recommendations - what are they based on?
Who's liable for AI-driven decisions?	An innocent person is convicted of a crime based on evidence from facial recognition – who's responsible?

Develop AI products responsibly

Microsoft improves facial recognition technology to perform well across all skin tones, genders

June 26, 2018 | John Roach

[in](#) [tw](#) [f](#) [re](#) [g](#)



Responsible AI principles

Fairness 

Reliability & Safety 

Privacy & Security 

Inclusiveness 

Transparency 

Accountability 

Co-Designing Checklists to Understand Organizational Challenges and Opportunities around Fairness in AI

Michael Madan, Luke Stark, Jennifer Wotman Vaughan, Hanna Wallach
CHI Conference on Human Factors in Computing Systems | March 2020
Organized by ACM
CHI 2020 Best Paper Award

[Download BibTeX](#)

[Download PDF](#)

Groups

FATE: Fairness, Accountability, Transparency, and Ethics in AI
FATE | Montreal

Solving the challenge of securing AI and machine learning systems

Dec 6, 2019 | Valecia Maclin - General Manager, Engineering - Customer Security & Trust



Today, in collaboration with Harvard University's [Berkman Klein Center](#), we at Microsoft are publishing a series of materials we believe will contribute to solving a major challenge to securing artificial intelligence and machine learning systems. In short, there is no common terminology today to discuss security threats to these systems and methods to mitigate them, and we hope these new materials will provide baseline language that will enable the research community to better collaborate.

[Responsible AI principles from Microsoft](#)

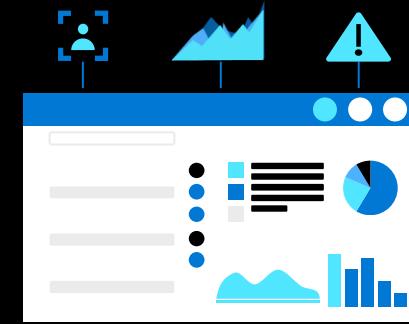
Put responsible AI into action



Develop responsibly

AI Ethics and Responsibility committee ensures we build and release AI products responsibly

Responsible AI guidelines and standards applied throughout the software development lifecycle



Empower responsible use

Provide tools to help others understand, protect, and control their AI at every stage of innovation

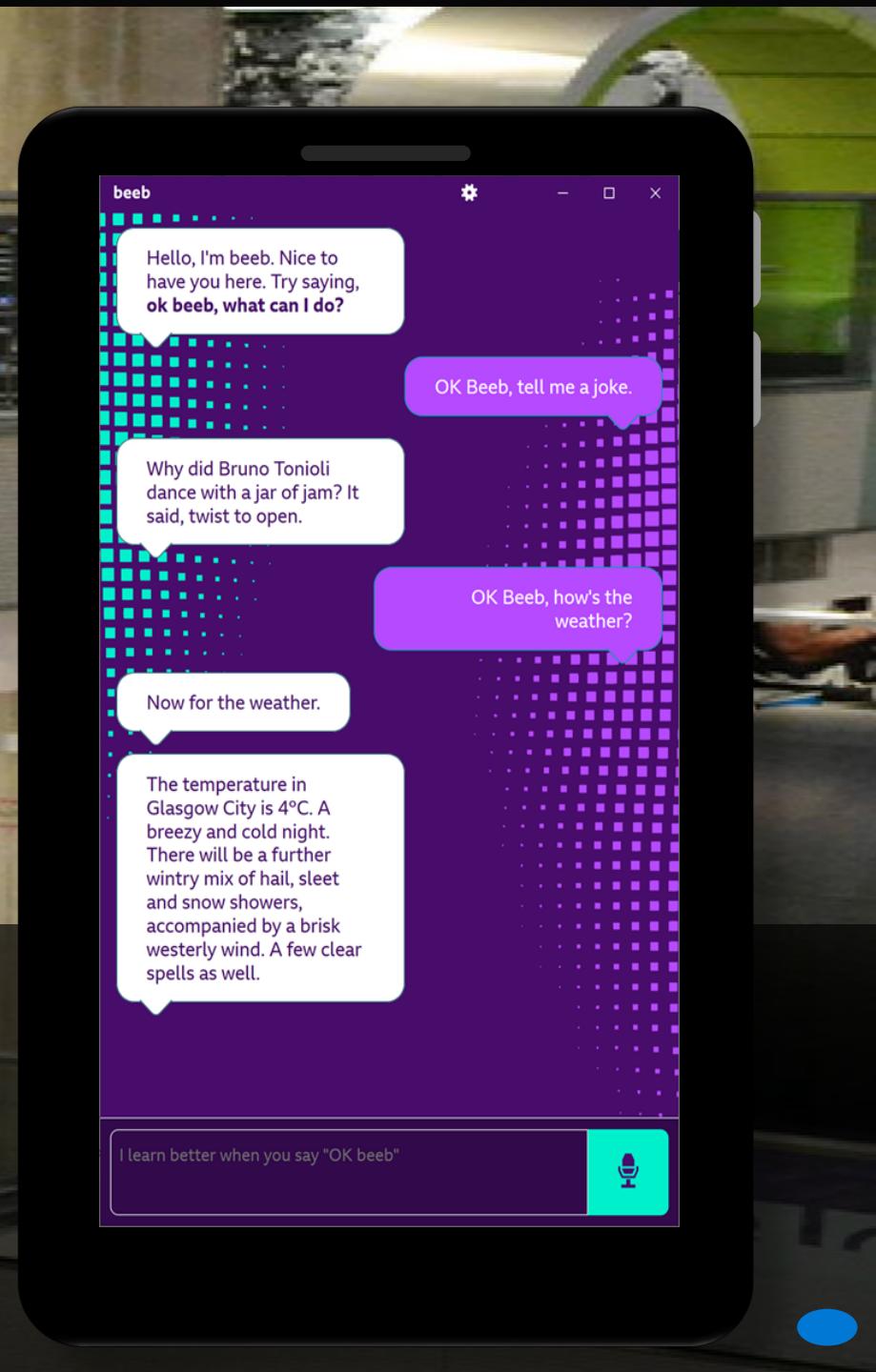
Model explainability, interpretability and reproducibility capabilities

[Responsible AI Resources – Microsoft AI](#)



Responsible

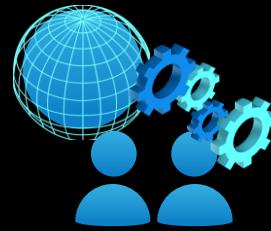
Bringing content to life with a customized voice assistant
that can understand a broad range of accents



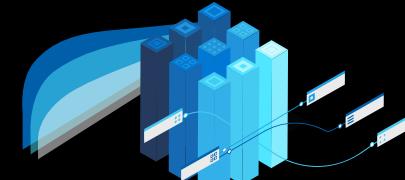
Azure Cognitive Services



**Breakthrough AI
within reach**



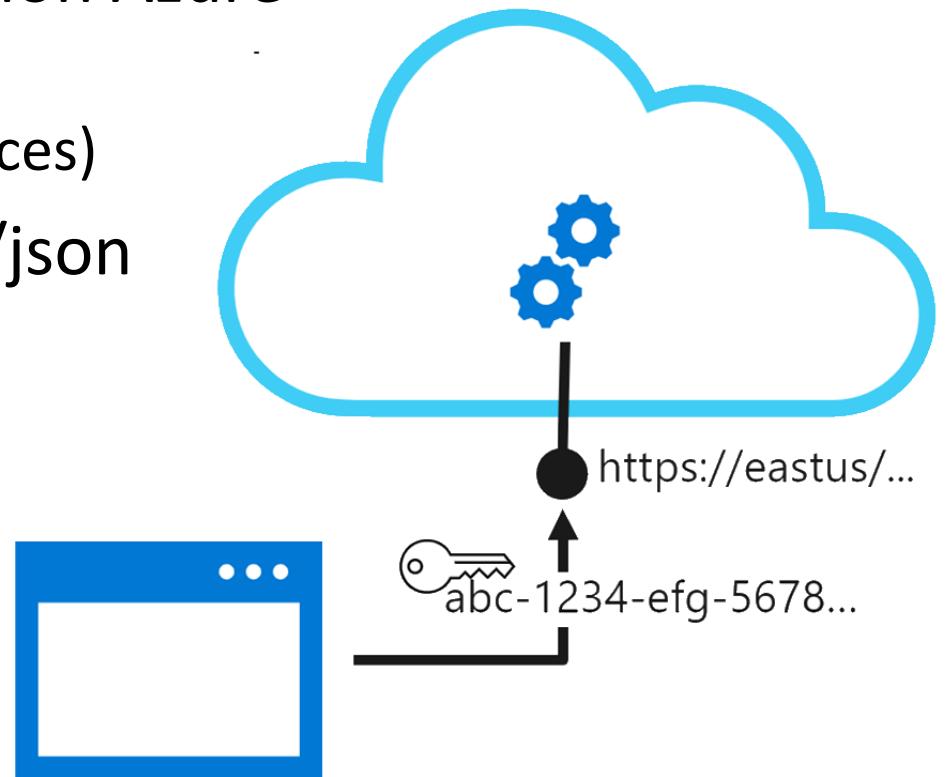
**Built for mission-
critical deployments**



**Responsible AI in
action**

Cognitive Services

- Une ressource provisionnée dans une Region Azure
 - Dédiée à un type de Cognitive service
 - Généraliste (supporte tous les cognitive services)
- Utilisé via un point d'accès API Rest Https/json
 - URL dédiée
 - URL générique avec régionalisation
- Sécurisé par une clé renouvelable.



DEMO

Création et utilisation d'un service cognitif



Azure Cognitive Service Disconnected Containers

- Déploiement de certains « Cognitive Services » hors Azure
 - Container docker sur Linux avec processeur x64
 - Speed to Text (standard & neural), Text translation (standard), Language Understanding (LUIS), Language (Sentiment analysis, Key Phrase detection, Language detection), Computer Vision (read), Form recognizer.
- Pour des scénarios spécifiques (localisation des traitements et données, sécurité, ...)
- Accès sur demande
 - <https://aka.ms/csdisconnectedcontainers>

[Basics](#) [Network](#) [Identity](#) [Tags](#) [Review + create](#)

Accelerate your business processes by automating information extraction. Form Recognizer applies advanced machine learning to accurately extract text, key/value pairs, and tables from documents. With just a few samples, Form Recognizer tailors its understanding to your documents, both on-premises and in the cloud. Turn forms into usable data at a fraction of the time and cost, so you can focus more time acting on the information rather than compiling it. [Learn more](#).

Project Details

Subscription * ⓘ

my-subscription

Resource group * ⓘ

my-resource-group

[Create new](#)**Instance Details**

Region ⓘ

West US 2

Name * ⓘ

my-resource

Pricing tier * ⓘ

Commitment tier disconnected containers DC0

[View full pricing details](#)**Commitment tier pricing (charged annually)**

Select a commitment tier pricing for the capabilities you wish you use. With commitment tier pricing, you will be charged a fixed amount every year for a given quota. If you need additional quota, you could either increase the number of units.

[Learn more](#)

Custom API/Invoice * ⓘ

Tier 2 (100,000 pages/month)

Unit count * ⓘ

1

units

Annual cost (in USD): \$31200

Annual quota (pages/month): 100000

You will be charged for the full year as soon as the resource is created

I agree to getting charged for the full year as per the commitment plan tier price at the time of resource creation

Pricing tier * ⓘ

Commitment tier disconnected containers DC0

[View full pricing details](#)**Commitment tier pricing (charged annually)**

Select a commitment tier pricing for the capabilities you wish you use. With commitment tier pricing, you will be charged a fixed amount every year for a given quota. If you need additional quota, you could either increase the number of units.

[Learn more](#)**Custom API/Invoice * ⓘ**

Tier 2 (100,000 pages/month for 31,200 USD per unit)

Unit count * ⓘ

Annual cost (in USD): \$31200

Annual quota (pages/month): 100000



Azure Cognitive Services Form Recognizer BusinessCard

Microsoft
06/01/2022

Azure Cognitive Services Form Recognizer BusinessCard Images

[Learn More >](#)



Azure Cognitive Services Form Recognizer Custom API

Microsoft
01/24/2022

Azure Cognitive Services Form Recognizer Custom API Images

[Learn More >](#)



Azure Cognitive Services Form Recognizer Custom Supervised

Microsoft
01/24/2022

Azure Cognitive Services Form Recognizer Custom Supervised Images

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Azure Cognitive Services Form Recognizer ID Document

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Azure Cognitive Services Form Recognizer ID Document Images

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Azure Cognitive Services Form Recognizer Invoice

Microsoft
06/01/2022

Azure Cognitive Services Form Recognizer Invoice Images



Azure Cognitive Services Form Recognizer Layout

Microsoft
08/10/2022

Azure Cognitive Services Form Recognizer Layout Images



Azure Cognitive Services Form Recognizer Receipt

Microsoft
06/01/2022

Azure Cognitive Services Form Recognizer Receipt Images

Microsoft Artifact Registry

https://mcr.microsoft.com/en-us/product/azure-cognitive-services/form-recognizer/invoice/about

Azure Cognitive Services Form Recognizer Invoice

Microsoft

Last Modified

06/01/2022

About Tags

About

[Azure Cognitive Services](#) is a set of APIs, SDKs and container images that enables developers to integrate ready-made AI directly into their applications. Azure Cognitive Services contains a broad set of capabilities including text analytics; facial detection, speech and vision recognition; natural language understanding, and more.

Container support in Azure Cognitive Services allow developers to use the same rich APIs that are available in Azure but with the flexibility that comes with containers. See [Container support in Azure Cognitive Services](#) for details.

Form Recognizer is part of Azure Cognitive Services that lets you build automated data processing software using machine learning technology. Identify and extract text, key/value pairs, selection marks, tables, and structure from your documents—the service outputs structured data that includes the relationships in the original file, bounding boxes, confidence and more. You quickly get accurate results that are tailored to your specific content without heavy manual intervention or extensive data science expertise. Use Form Recognizer to automate data entry in your applications and enrich your documents search capabilities. For more information, see [Form Recognizer API Documentation](#).

Featured tags

- latest docker pull mcr.microsoft.com/azure-cognitive-services/form-recognizer/invoice

Related repositories

- [Azure Cognitive Services Images](#): Azure Cognitive Services is a set of APIs, SDKs and container images that enables developers to integrate ready-made AI directly into their applications.

niclerc@X1NICO: ~

X + v

- □ ×

```
niclerc@X1NICO:~$ \
> docker pull \
> mcr.microsoft.com/azure-cognitive-services/form-recognizer/invoice:latest
```

```
latest: Pulling from azure-cognitive-services/form-recognizer/invoice
b170a134a788: Pull complete
5884073f35a9: Pull complete
39621572cdf6: Pull complete
021153a839fc: Pull complete
61086629e9ff: Pull complete
d8e317b08f55: Pull complete
10a622fab323: Downloading 250.3MB/2.122GB
028998a6d81c: Download complete
46c27765e8ab: Download complete
4fead4a57225: Download complete
64abdec980a5: Download complete
6241ffdcadba: Download complete
unexpected EOF
```

```
niclerc@X1NICO:~$
```

```
niclerc@X1NICO:~$ |
```

- Configuration du container

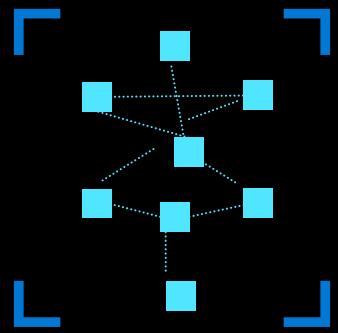
```
docker run --rm -it -p 5000:5000 \
-v {LICENSE_MOUNT} \
{IMAGE} \
eula=accept \
billing={ENDPOINT_URI} \
apikey={API_KEY} \
DownloadLicense=True \
Mounts:License={CONTAINER_LICENSE_DIRECTORY}
```

- Exécution du container en mode déconnecté

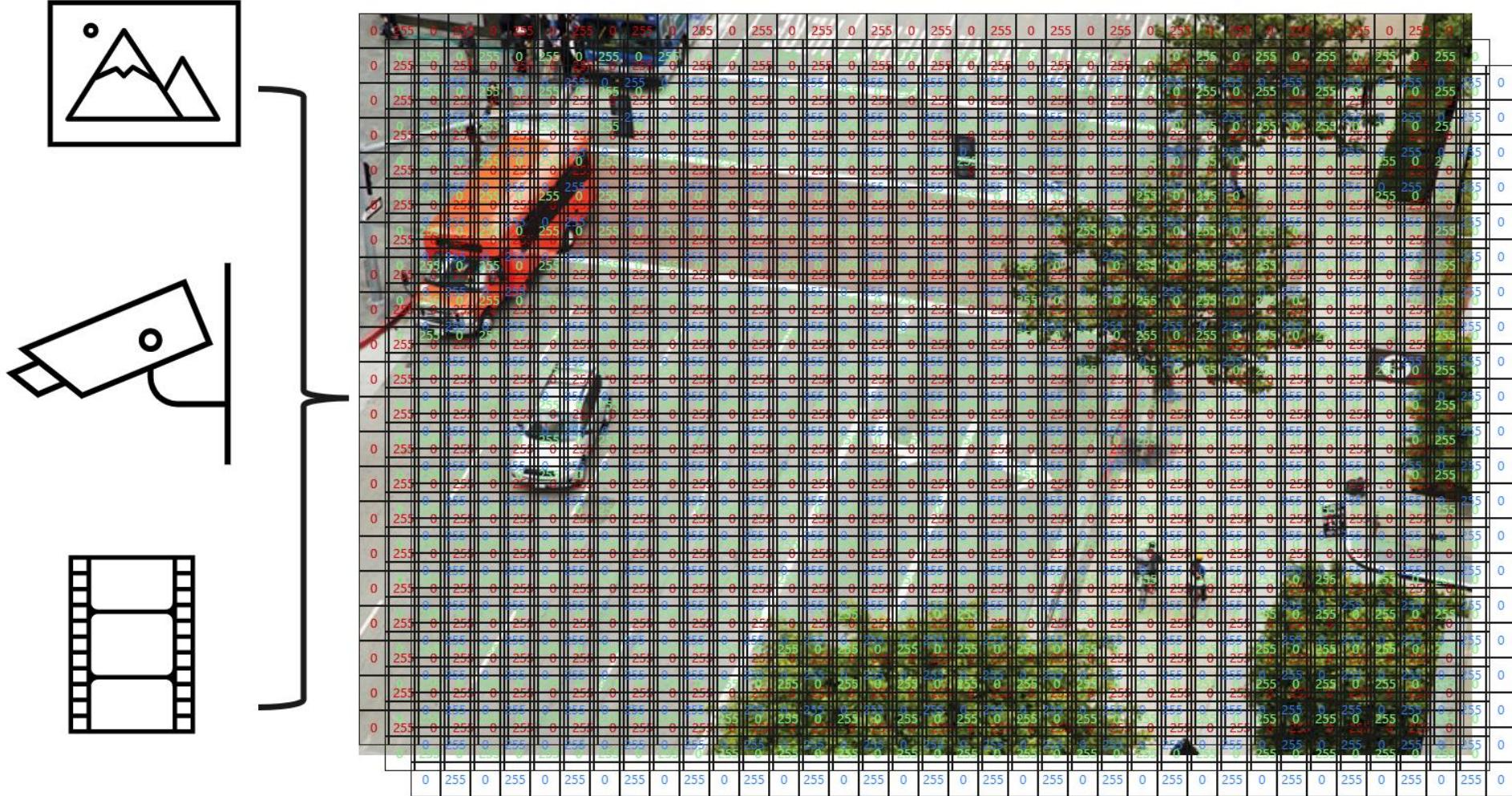
```
docker run --rm -it -p 5000:5000 --memory {MEMORY_SIZE} --cpus {NUMBER_CPUS} \
-v {LICENSE_MOUNT} \
-v {OUTPUT_PATH} \
{IMAGE} \
eula=accept \
Mounts:License={CONTAINER_LICENSE_DIRECTORY}
Mounts:Output={CONTAINER_OUTPUT_DIRECTORY}
```

Vision

Computer Vision
Custom Vision
Face



What is Computer Vision?

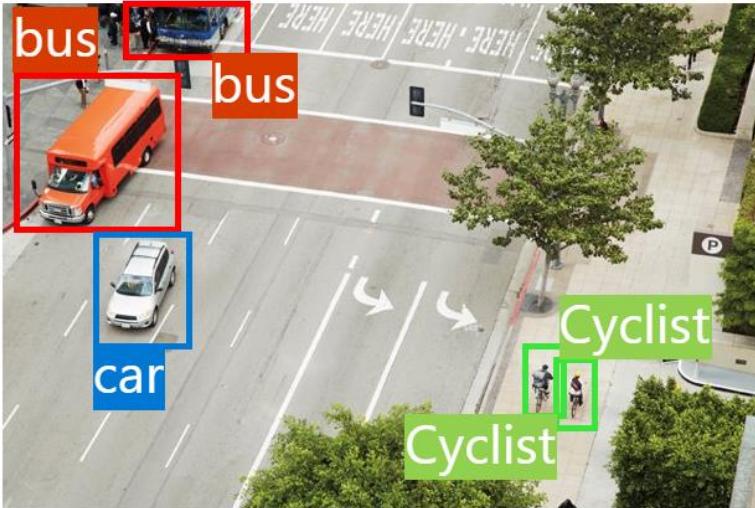


Applications of Computer Vision

Image Classification



Object Detection



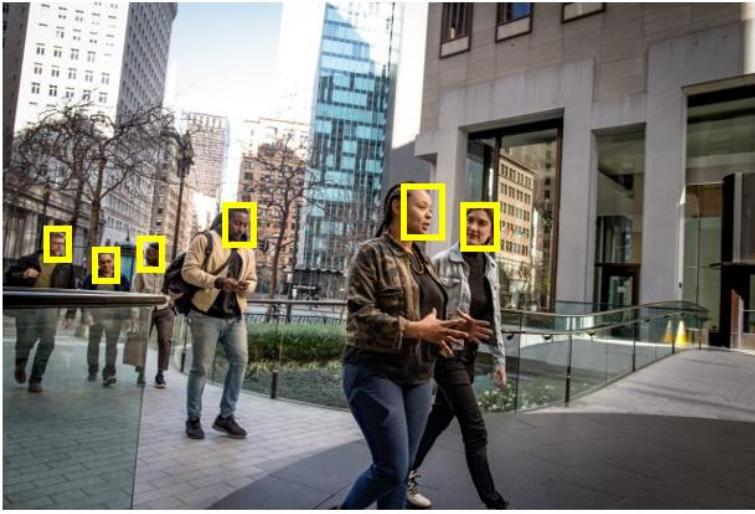
Semantic Segmentation



Image Analysis



Face Detection & Recognition



Optical Character Recognition

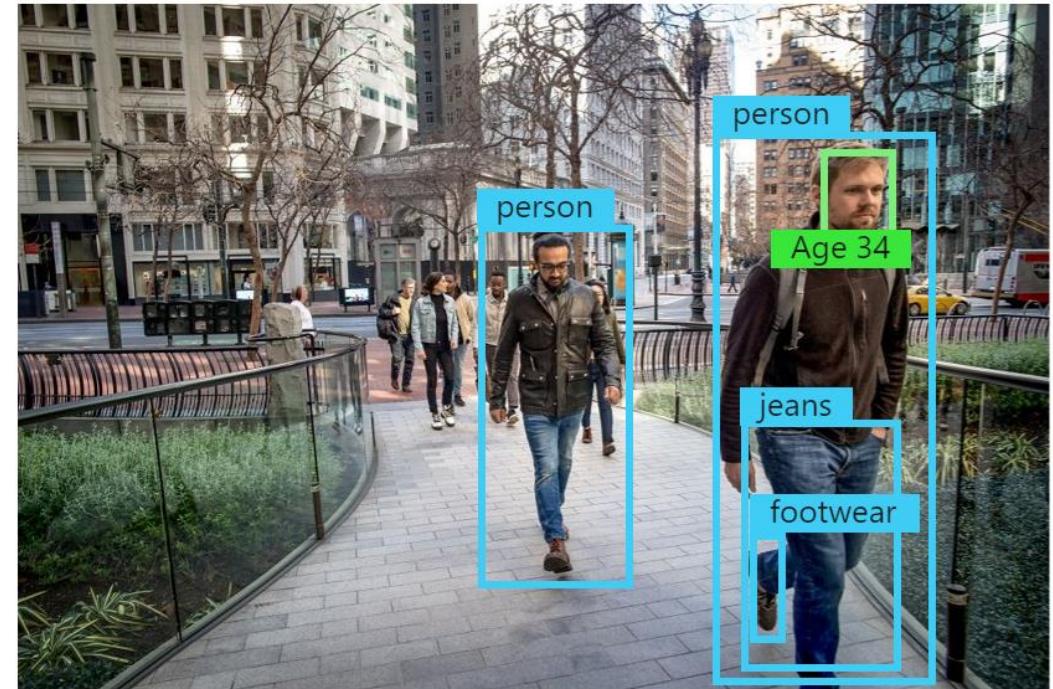


A person with a dog on a street

The Toronto Dominion Bank

Image Analysis with the *Computer Vision Service*

- Pre-trained computer vision model
- Object detection for over 10,000 predefined classes
- Image description and tag generation
- Face detection and analysis
- Content moderation
- Text detection and OCR



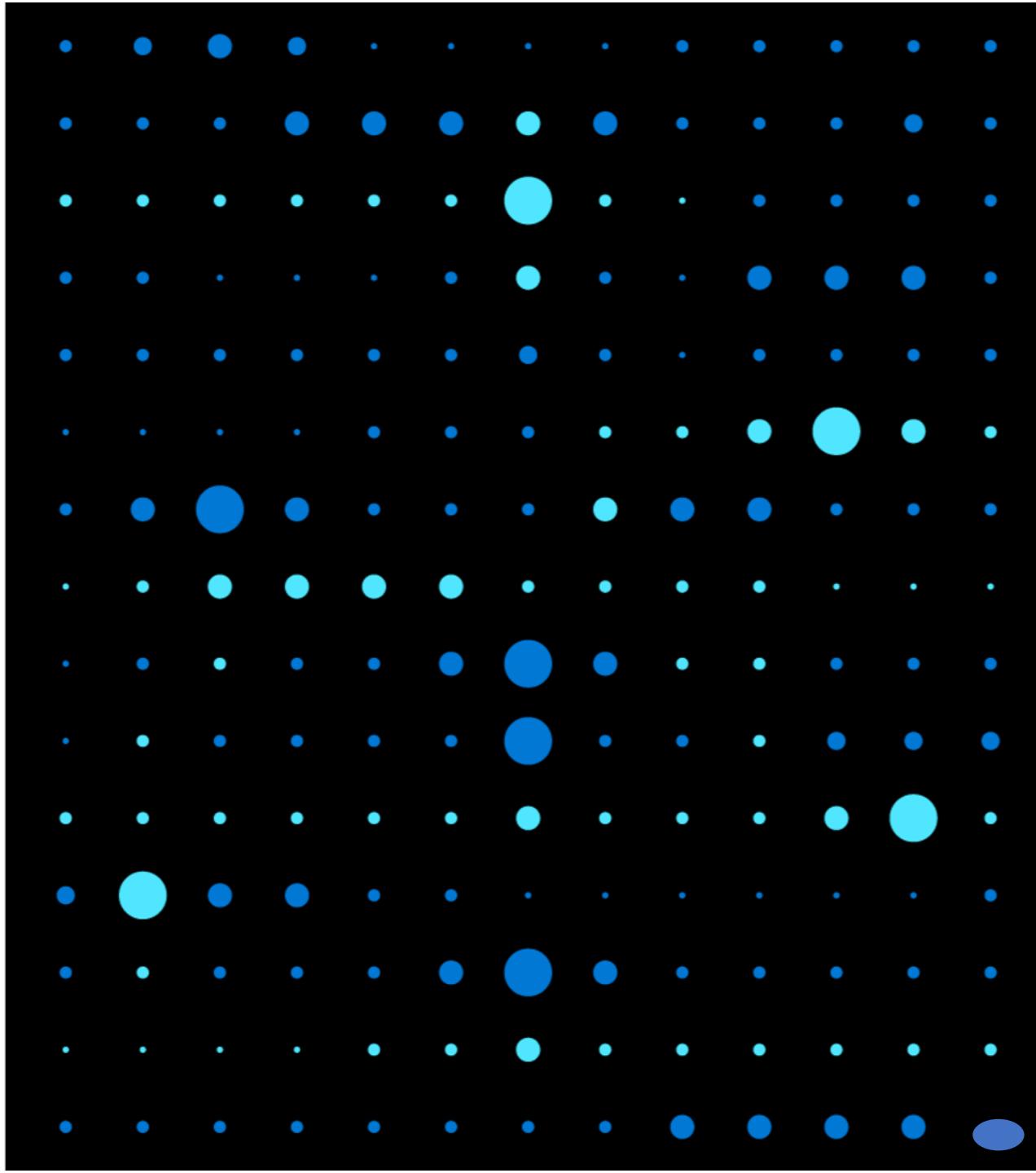
Caption: a group of people walking on a sidewalk

Tags: building, jeans, street, outdoor, jacket, city, person

Ratings: Adult: False, Racy: False, Gore: False

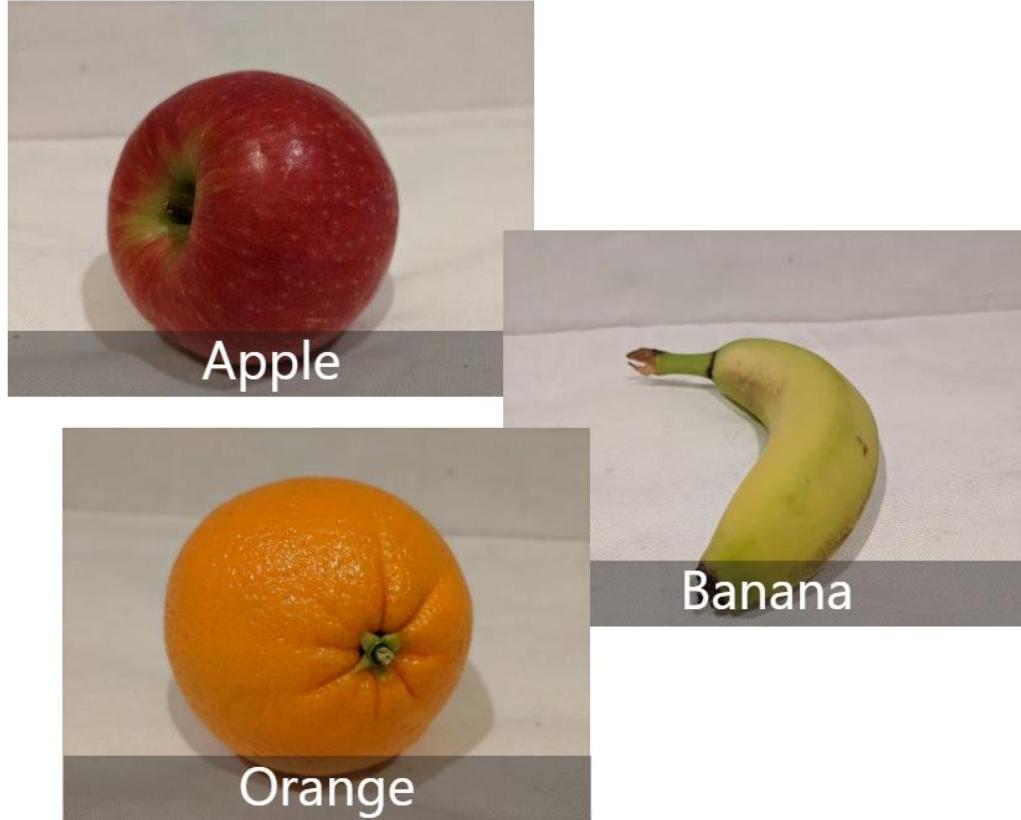
Demo:

Computer Vision

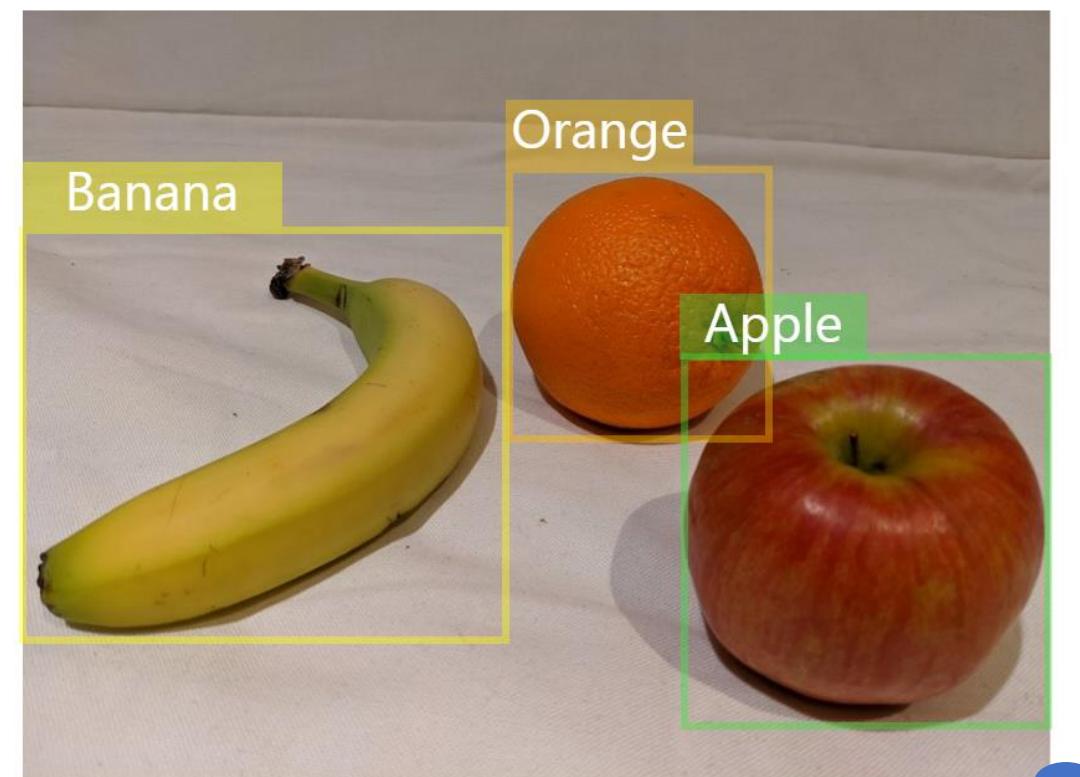


Training Models with the *Custom Vision Service*

Image Classification

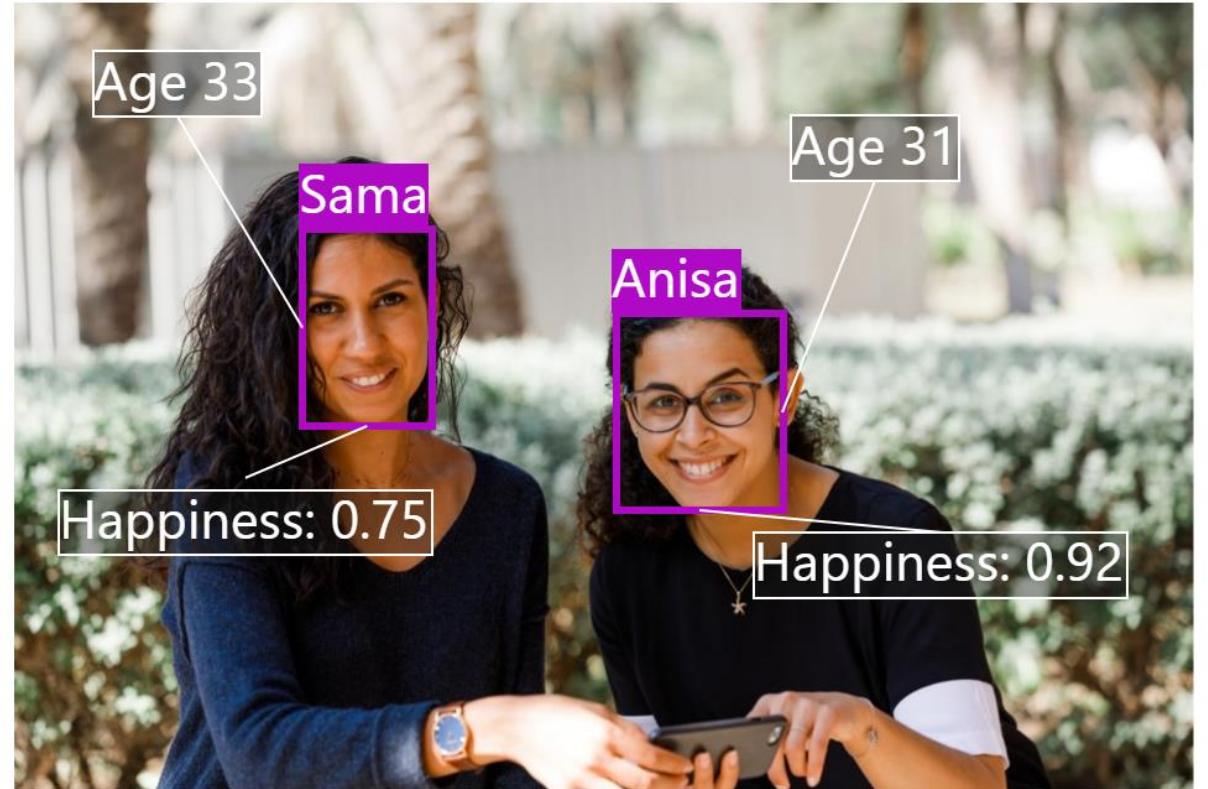


Object Detection



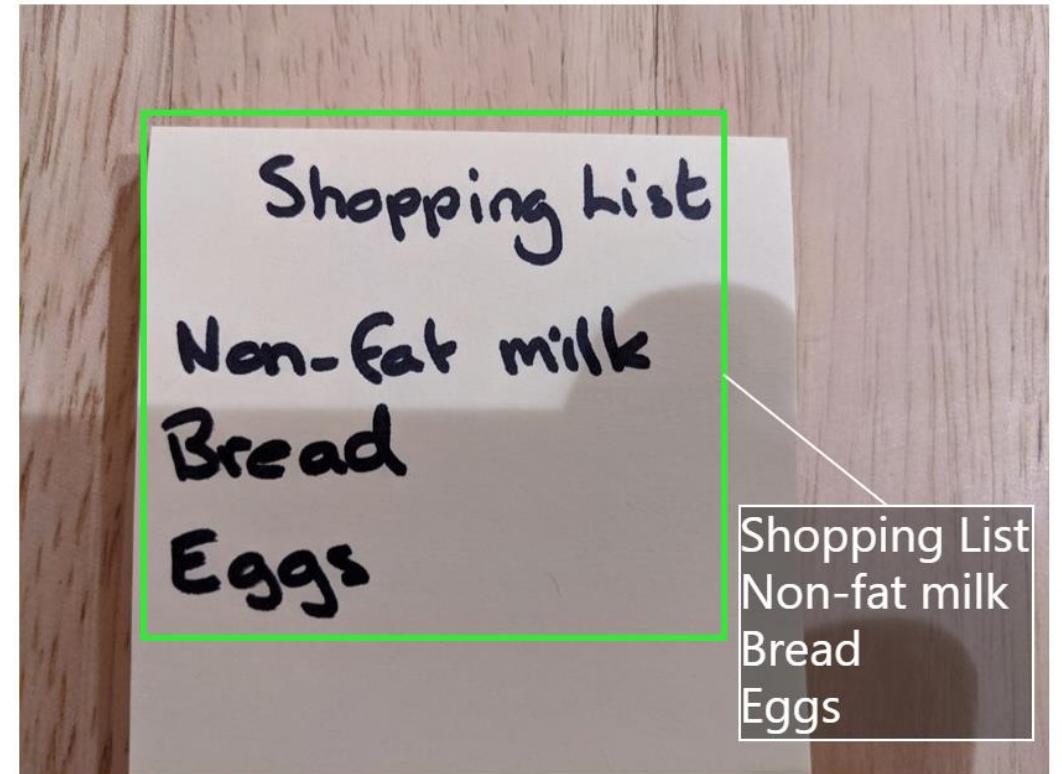
Analyzing Faces with the *Face Service*

- More facial analysis functionality than the *Computer Vision* service, including:
 - Facial attributes:
 - Age
 - Emotions
 - Facial recognition:
 - Similarity matching
 - Identity verification



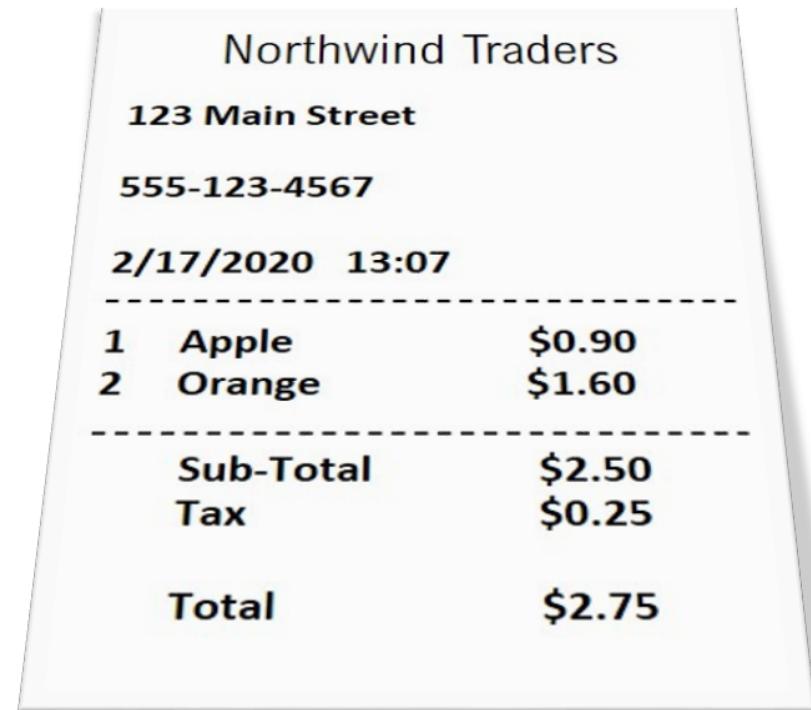
Reading Text with the *Computer Vision Service*

- Detect the location of text:
 - Printed
 - Handwritten
- Options for quick text extraction from images, or asynchronous analysis of larger scanned documents



Analyzing Forms with the *Form Recognizer* Service

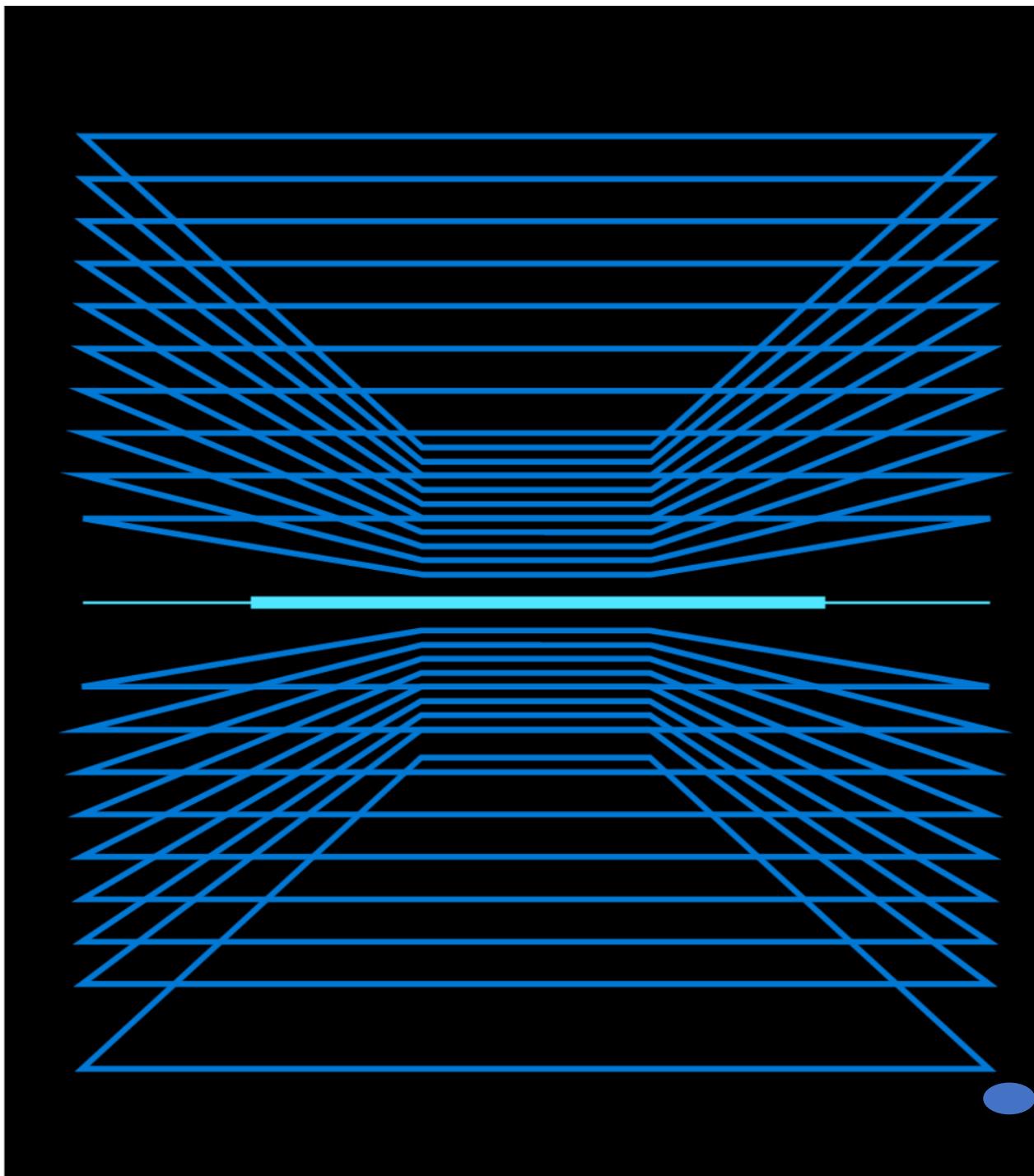
- Extract information from scanned forms in image or PDF format
 - Train a custom model using your own forms
 - Use the pre-trained receipt model
- Models perform semantic recognition of form fields – not just text extraction



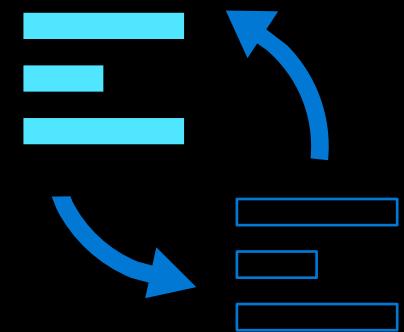
Lab

Image Classification

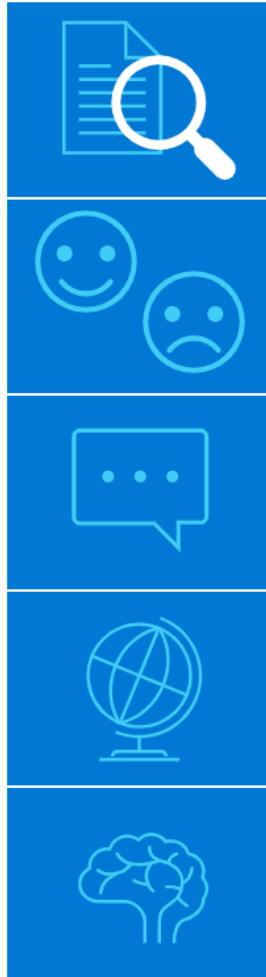
1. Go to the Microsoft Learn module at
<https://aka.ms/learn-image-classification>
2. Follow the instructions in the **Exercise – Create an image classification solution** unit



Language



What is Natural Language Processing?



Text analysis and entity recognition

Sentiment analysis

Speech recognition and synthesis

Machine translation

Semantic language modeling

Natural Language Processing in Azure



Cognitive Services

Text Analytics

- Language detection
- Key phrase extraction
- Entity detection
- Sentiment analysis

Speech

- Text to speech
- Speech to text
- Speech translation

Translator Text

- Text translation

Language Understanding

- Custom language modeling

Text Analytics

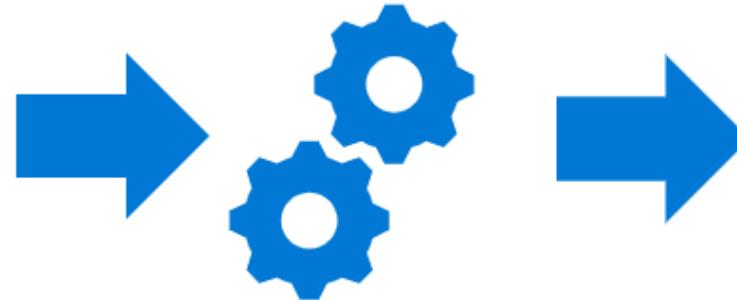
I had a wonderful vacation in France.

- **Predominant Language:** English
- **Sentiment:** 88% (positive)
- **Key Phrases:** "wonderful vacation"
- **Entities:** France

Translation

Translator Text service

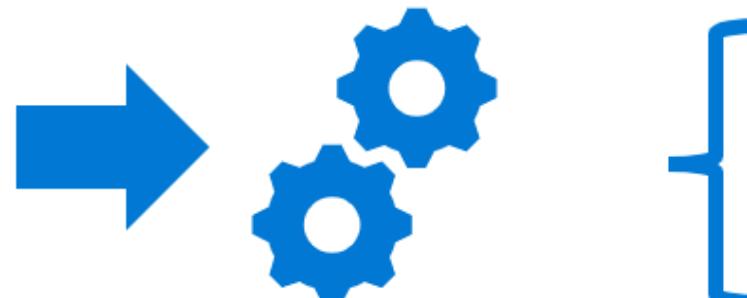
Bonjour



Hello

Speech service

Hello

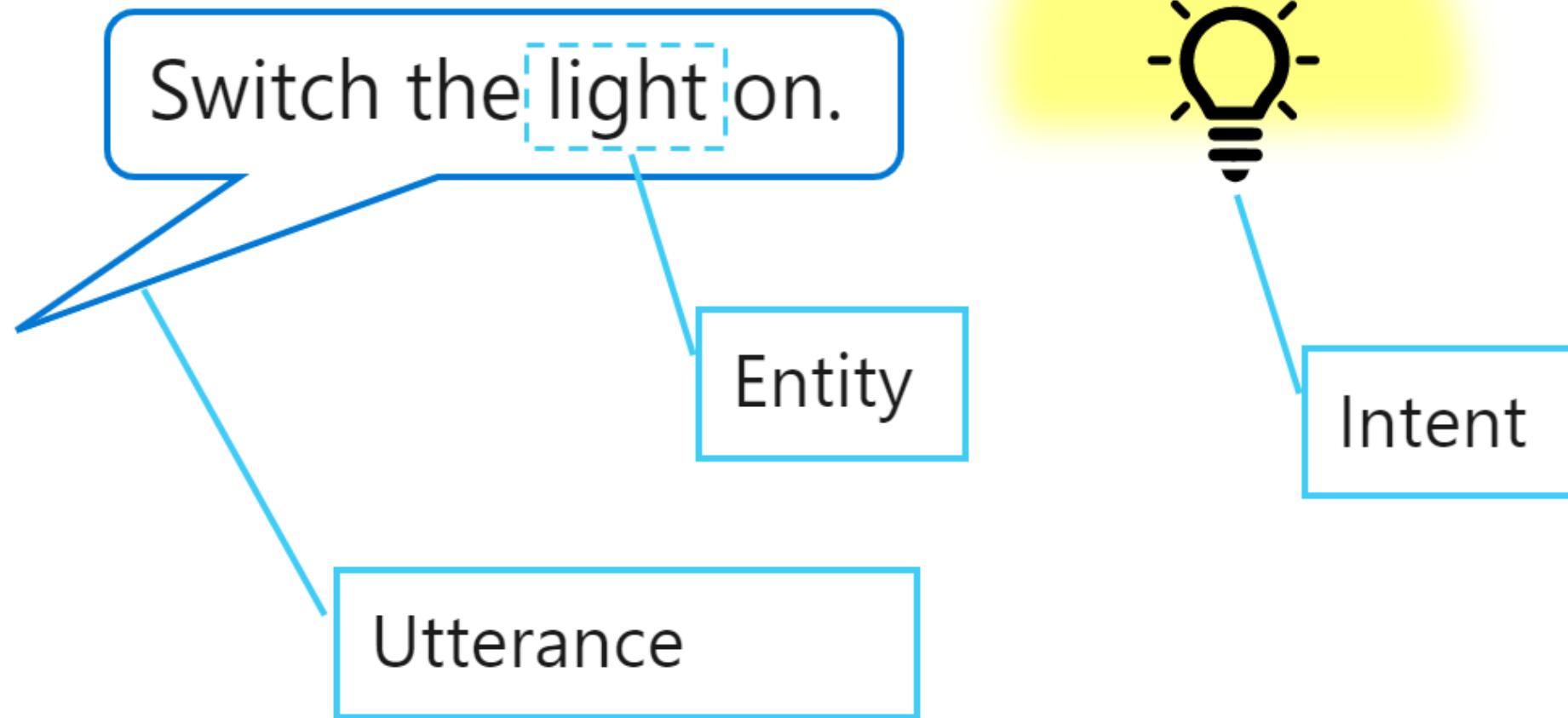


Hola

你好



Language Understanding



LUIS – Construire le schéma

Example schema — Determine your bot's capabilities.

Bot action:

Purchase airline tickets

Reserve rental cars

Make hotel reservations

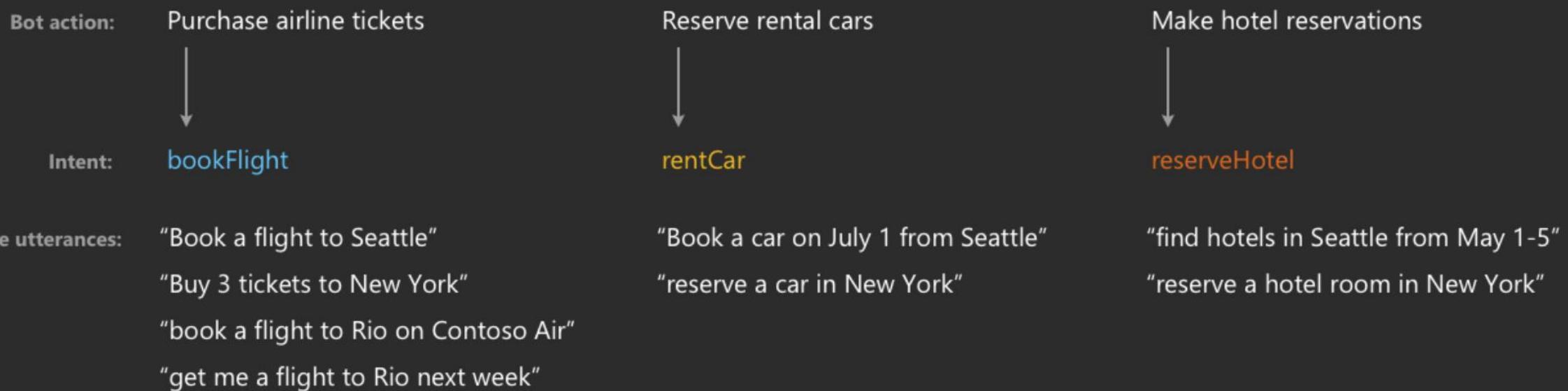
LUIS – Construire le schéma

Example schema — Determine your bot's capabilities; create corresponding intents.



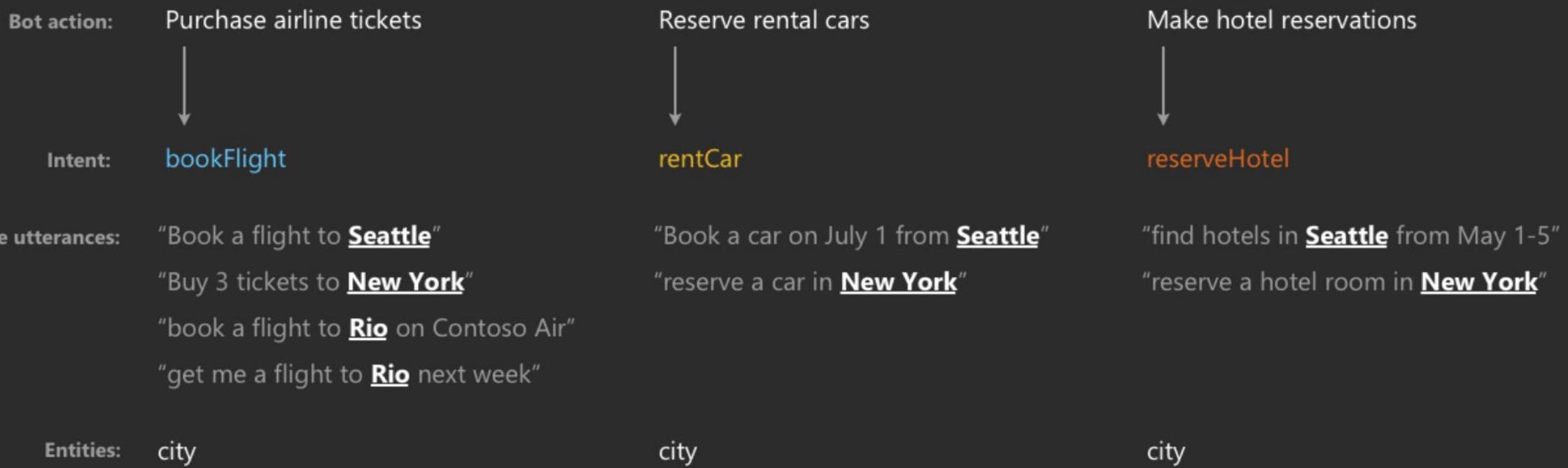
LUIS – Construire le schéma

Example schema — Determine your bot's capabilities; create corresponding intents; add example utterances.



LUIS – Construire le schéma

Example schema — Determine your bot's capabilities; create corresponding intents; add example utterances, and create entities to collect data.



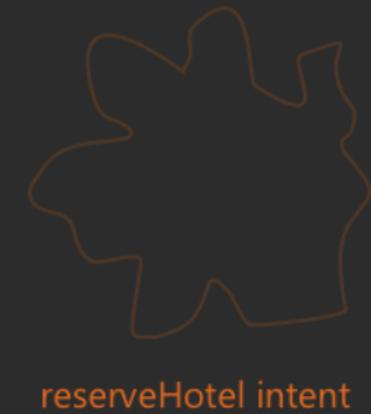
LUIS – Construire le modèle

Positive examples — LUIS learns how a user might express a given intent from example utterances in this intent.



"Book a car from Seattle"
"reserve a car in New York"

rentCar intent



LUIS – Construire le modèle

Negative examples — LUIS learns how a user would *not* express a given intent from example utterances in *other* intents.



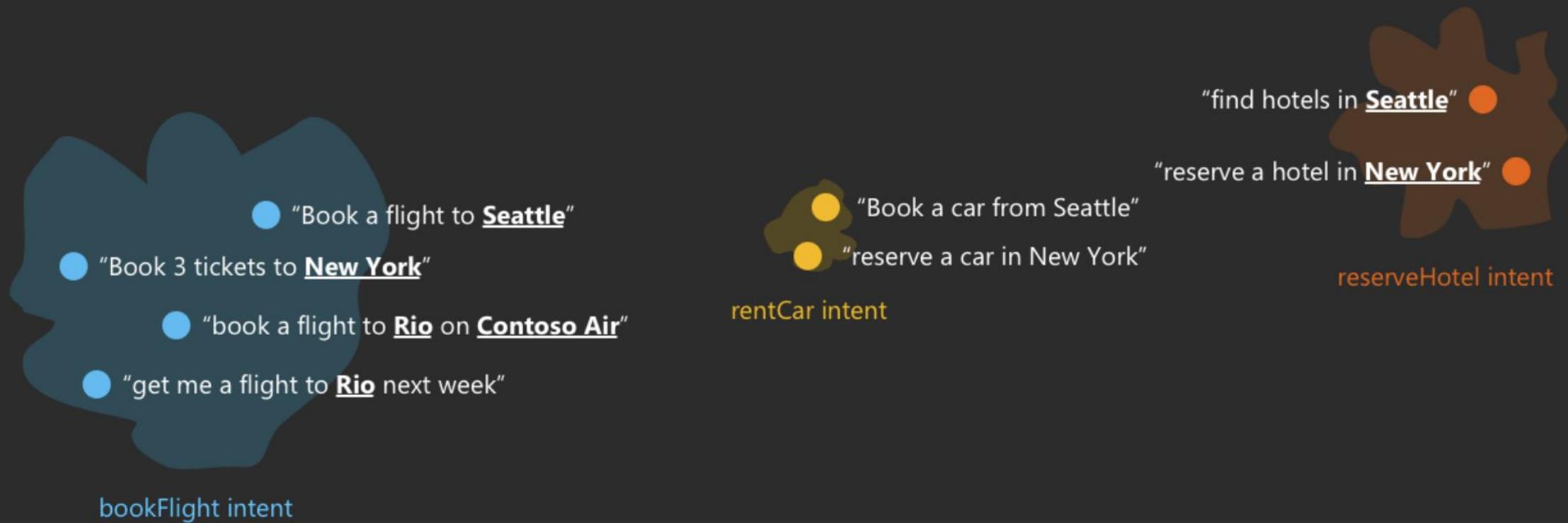
LUIS – Construire le modèle

Negative examples — LUIS learns how a user would *not* express a given intent from example utterances in *other* intents.



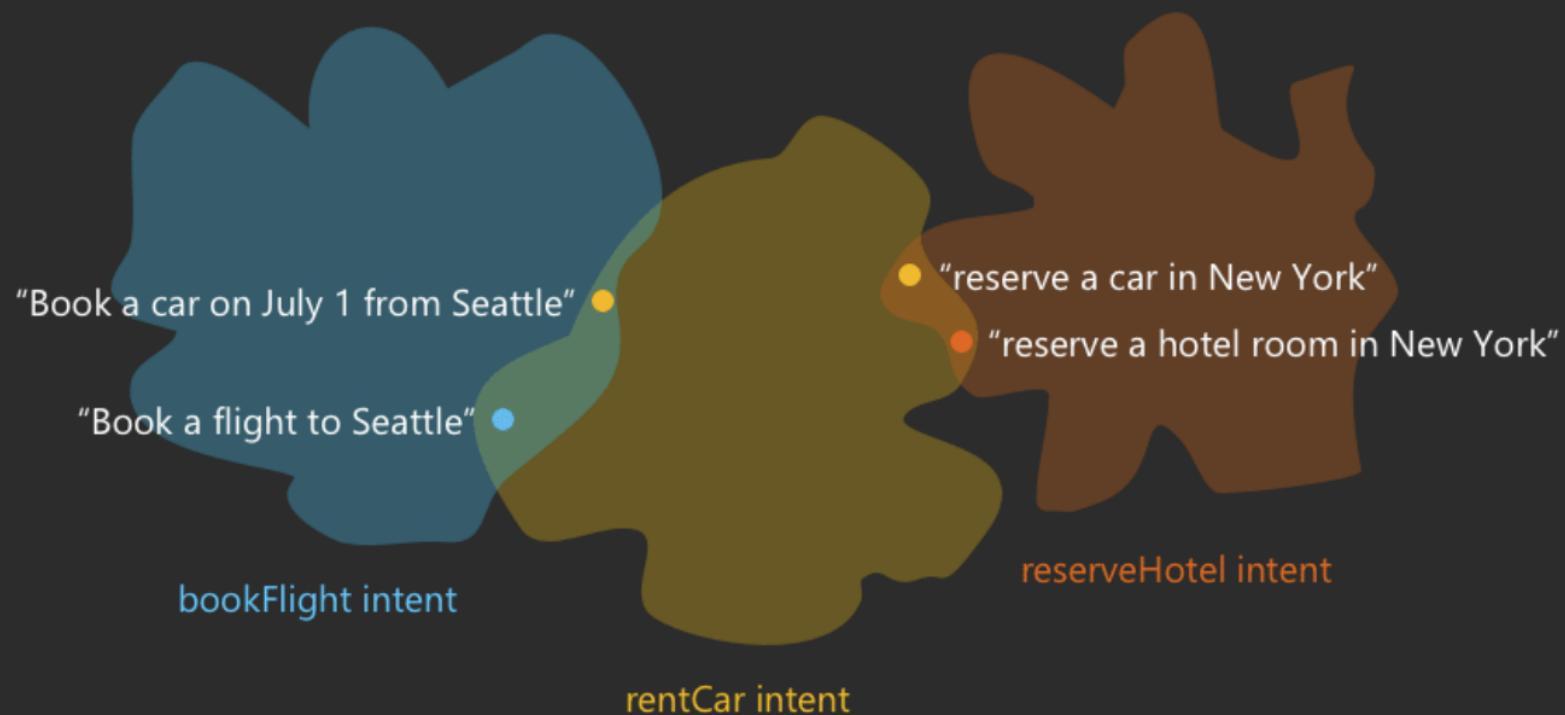
LUIS – Construire le modèle

Data imbalance — A model with a data imbalance will be biased toward intents with more example utterances.



LUIS – Construire le modèle

Overlap — A model with overlapping intents will have unclear predictions.



LUIS – Améliorer l'application

Apply active learning — Add real-world user utterances to your example data.



bookFlight intent



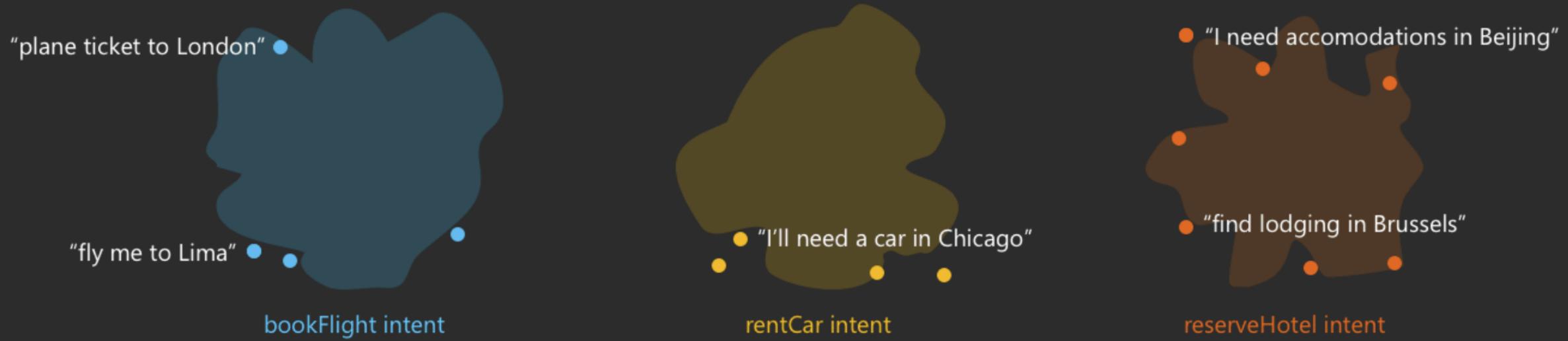
rentCar intent



reserveHotel intent

LUIS – Améliorer l'application

Apply active learning — Add real-world user utterances to your example data.

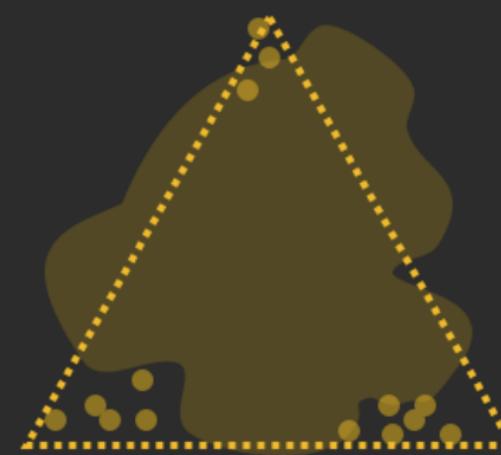


LUIS – Améliorer l'application

Apply phrase lists and patterns — Refine your intents with specialized vocabulary and patterns.



bookFlight intent



rentCar intent

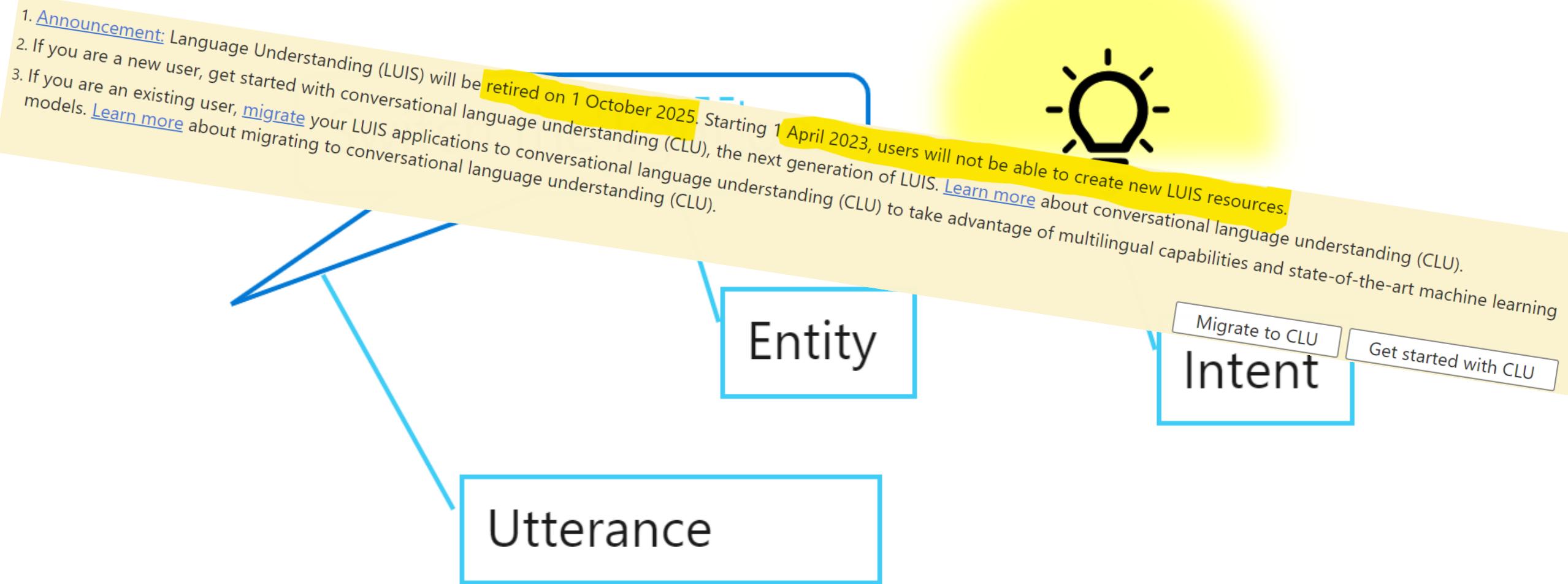


reserveHotel intent

DEMO
Luis

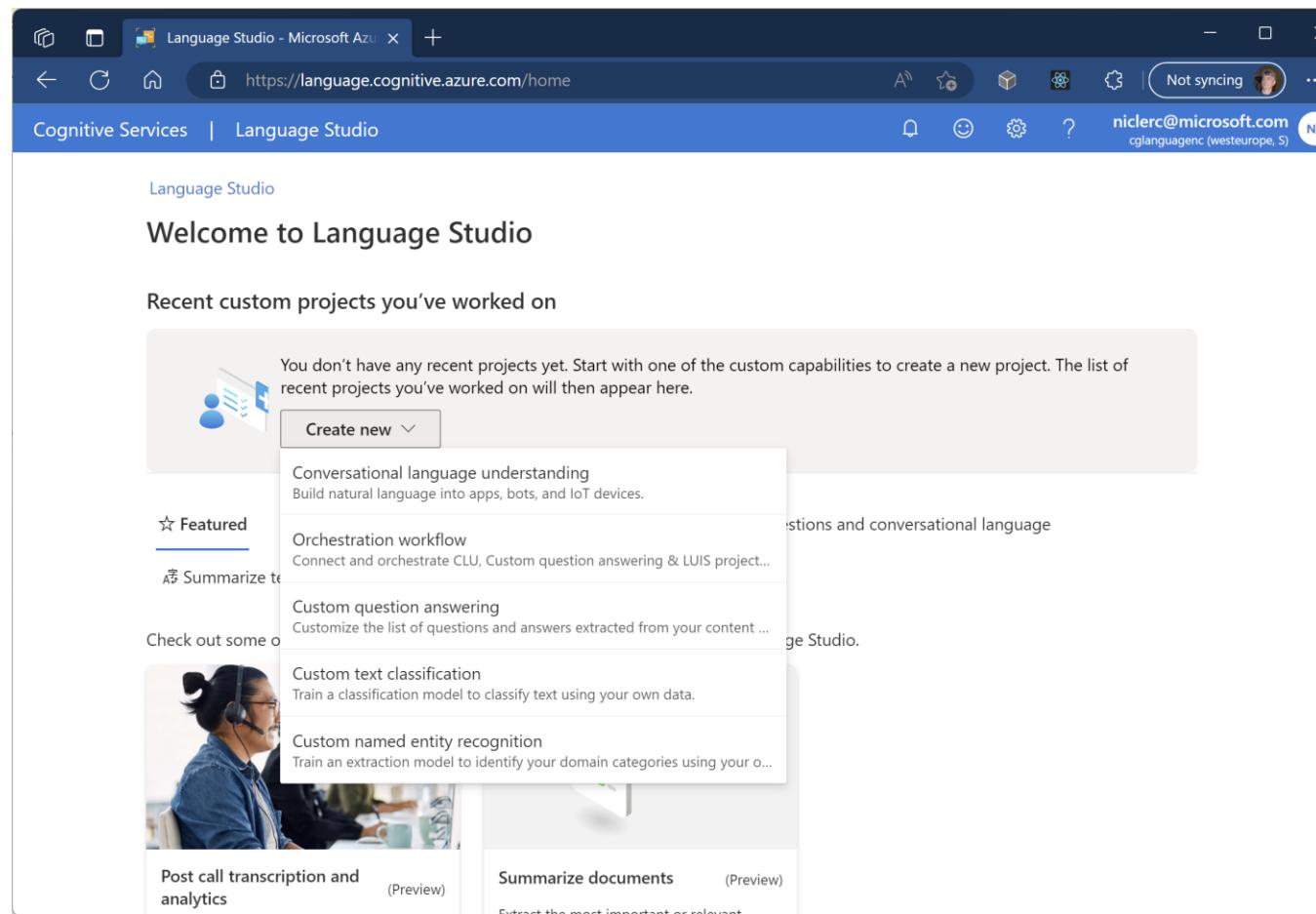


Language Understanding



Cognitive Services - Language Studio

<https://language.cognitive.azure.com/CLU/projects>





Extract PII

Identify sensitive entities in text that are associated with an individual

[Try it out](#)



Extract key phrases

Identify the most important points in a piece of text

[Try it out](#)



Find linked entities

Identify and disambiguate the identity of an entity found in text

[Try it out](#)



Extract named entities

Identify different entities in text and categorize them into pre-defined types

[Try it out](#)



Extract health information

Extract and label relevant health information from unstructured text

[Try it out](#)



Custom named entity recognition

Train an extraction model to identify your domain categories using your own data.

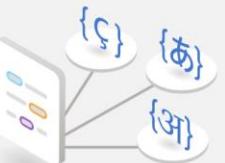
[Open custom named entity recognition](#)



Analyze sentiment and mine opinions

Detect positive, negative and neutral sentiment in text. Get more insights by mining opinions.

[Try it out](#)



Detect language

Evaluate text and detect a wide range of languages and variant dialects.

[Try it out](#)



Custom text classification

Train a classification model to classify text using your own data.

[Open Custom text classification](#)



Answer questions

Use the prebuilt question answering API to get answers to questions over unstructured text.

[Try it out](#)



Custom question answering

Next generation of QnAMaker

Customize the list of questions and answers extracted from your content corpus to provide a conversational experience that suits your needs.

[Open Custom question answering](#)



Conversational language understanding

Next generation of LUIS

Classify utterances into intents and extract information with entities to build natural language into apps, bots, and IoT devices.

[Open Conversational language understanding](#)



Orchestration workflow

Connect and orchestrate CLU, Custom question answering & LUIS projects together in one single project.

[Open Orchestration workflow](#)



Summarize documents (Preview)

Extract the most important or relevant information within a document

[Try it out](#)



Customize translation

Build neural translation systems that understand the terminology used in your own business and industry.

[Open Custom translation](#)

DEMO

Cognitive Studio





Speech



Speech Recognition and Synthesis

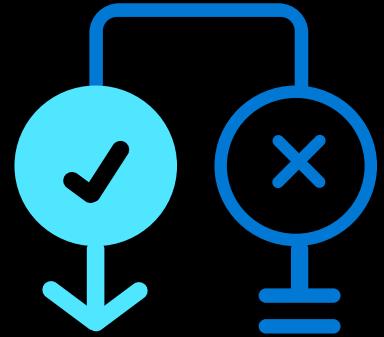


Use the *speech-to-text* capabilities of the **Speech** service to transcribe audible speech to text

Use the *text-to-speech* capabilities of the **Speech** service to generate audible speech from text



Decision



Make smarter decisions faster

Anomaly Detector

- Identify potential problems early on.

Content Moderator

- Detect potentially offensive or unwanted content.

Personalizer

- Create rich, personalized experiences for every user.



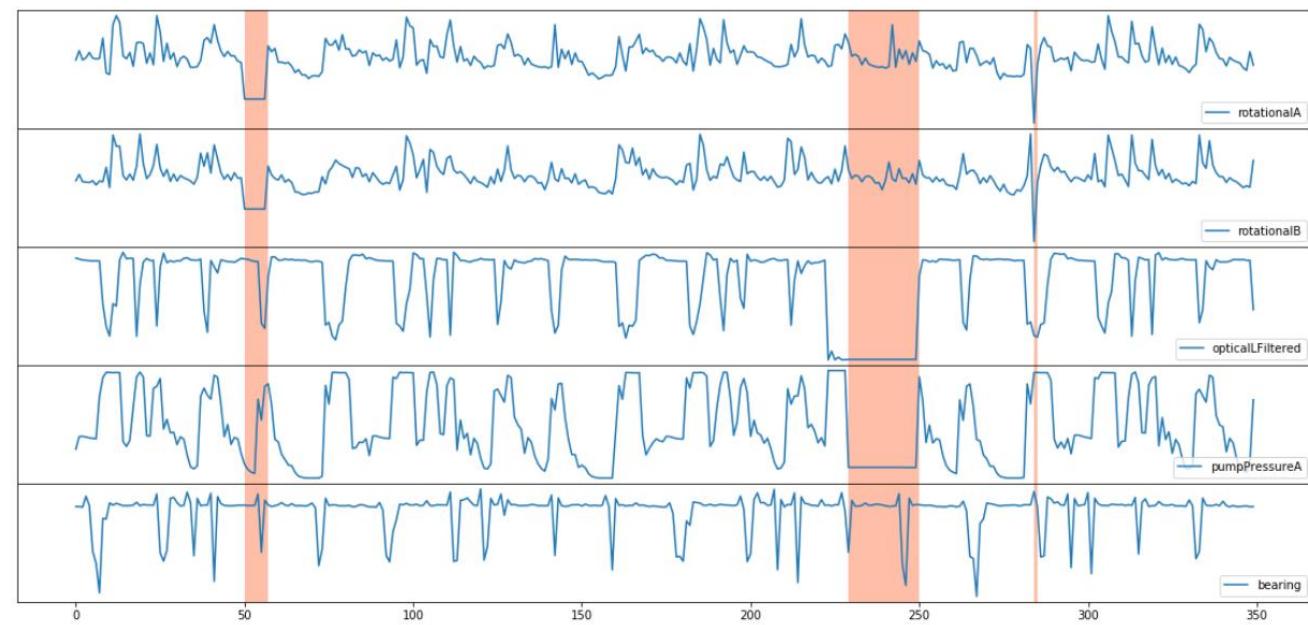
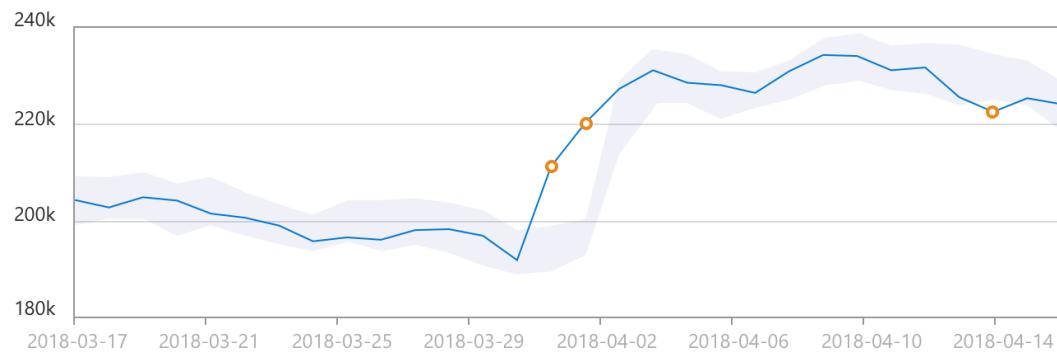
Anomaly Detector

The Anomaly Detector API enables you to **monitor and detect abnormalities in your time series** data without having to know machine learning.

The Anomaly Detector API's algorithms adapt by automatically identifying and applying the best-fitting models to your data, regardless of industry, scenario, or data volume.

Using your time series data, the API determines boundaries for anomaly detection, expected values, and which data points are anomalies.

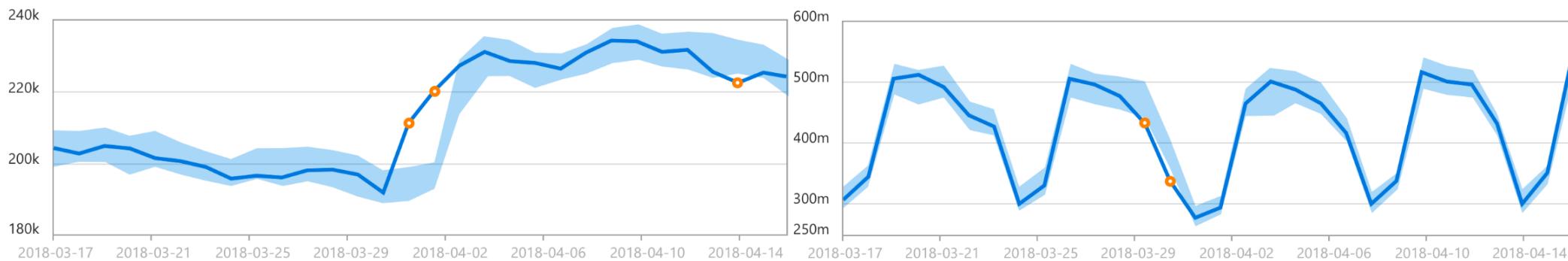
Univariate and Multivariate Time Series Anomaly Detection



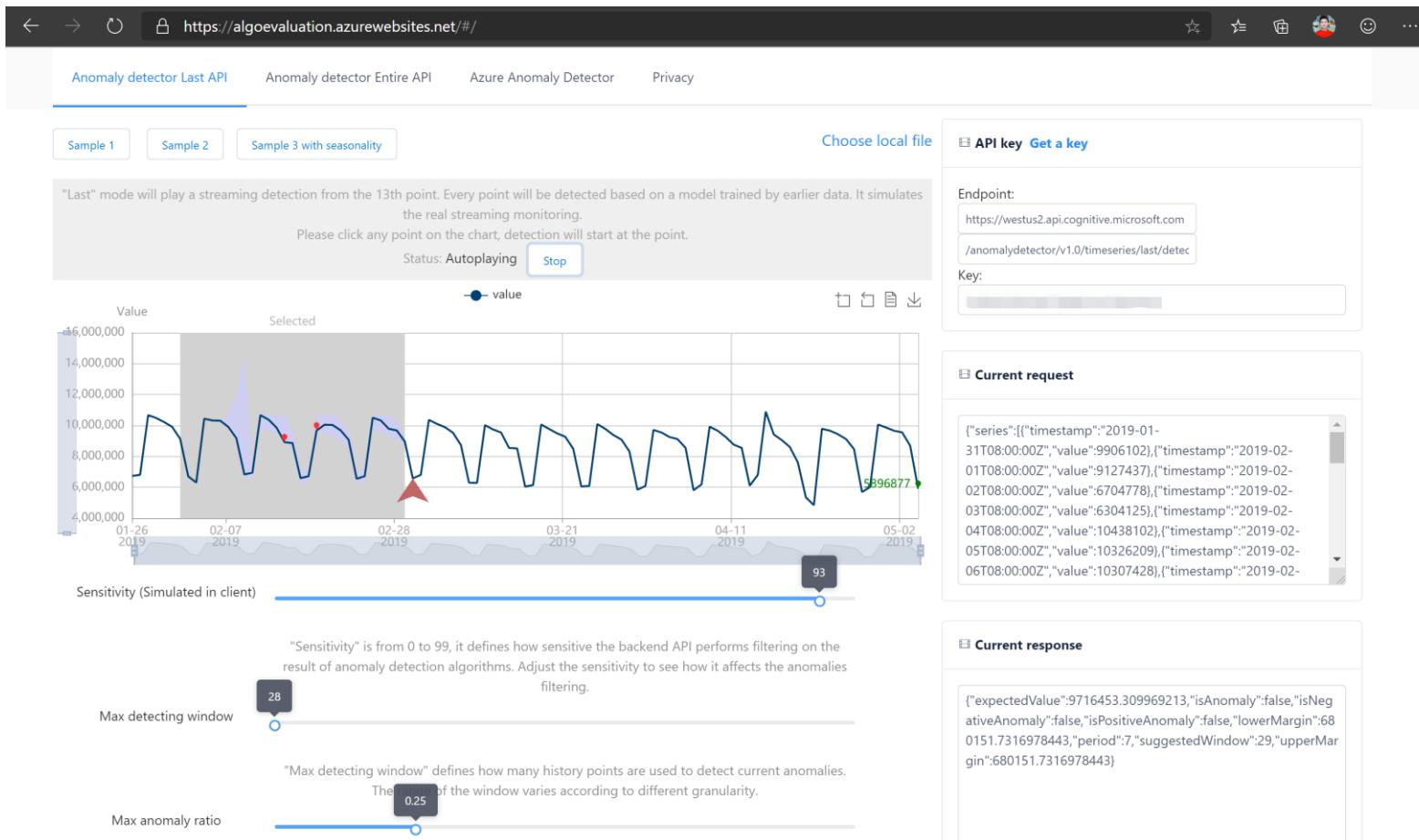
Overview

3 APIs as **hosted APIs** and **container** on Azure Cognitive Services platform

API Endpoint	Functionality
<code>https://{{endpoint}}/anomalydetector/v1.0/timeseries/last/detect</code>	Detect anomaly status of the latest point in time series.
<code>https://{{endpoint}}/anomalydetector/v1.0/timeseries/entire/detect</code>	Find anomalies for the entire series in batch.
<code>https://{{endpoint}}/anomalydetector/v1.0/timeseries/changepoint/detect</code>	Find trend change point for the entire series in batch.



Demo: <https://aka.ms/AnomalyDetector/demo>



Resources for Anomaly Detector

Anomaly Detector

– <https://aka.ms/AnomalyDetector>

Technical Docs

– <https://aka.ms/addoc> (Best Practices – <https://aka.ms/adbest>)

Demo app

– <https://aka.ms/AnomalyDetector/Demo>

Sample Notebooks

– <https://aka.ms/adnotebook>

Join the Anomaly Detector Advisors community on Teams & stay connected:

<https://aka.ms/ADAdvisorsJoin>

Content Moderator

Detect potentially offensive or unwanted content.

Automated image, text, and video moderation



Image moderation

Enhance your ability to detect potentially offensive or unwanted images through machine learning-based classifiers, custom lists, and optical character recognition (OCR).



Text moderation

Use content filtering to detect potential profanity in more than 100 languages, flag text that may be deemed inappropriate depending on context (in public preview), and match text against your custom lists. Content Moderator also helps check for personally identifiable information (PII).



Video moderation

Enable machine-assisted detection of possible adult and racy content in videos. The video moderation service (in public preview) is available as part of Azure Media Services.



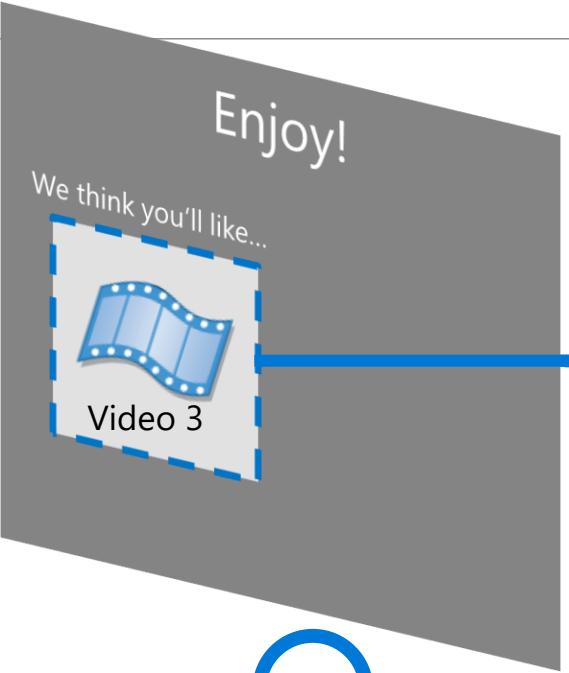
Human review tool

The best content moderation results come from humans and machines working together. Use the review tool when prediction confidence can be improved or tempered with a real-world context.

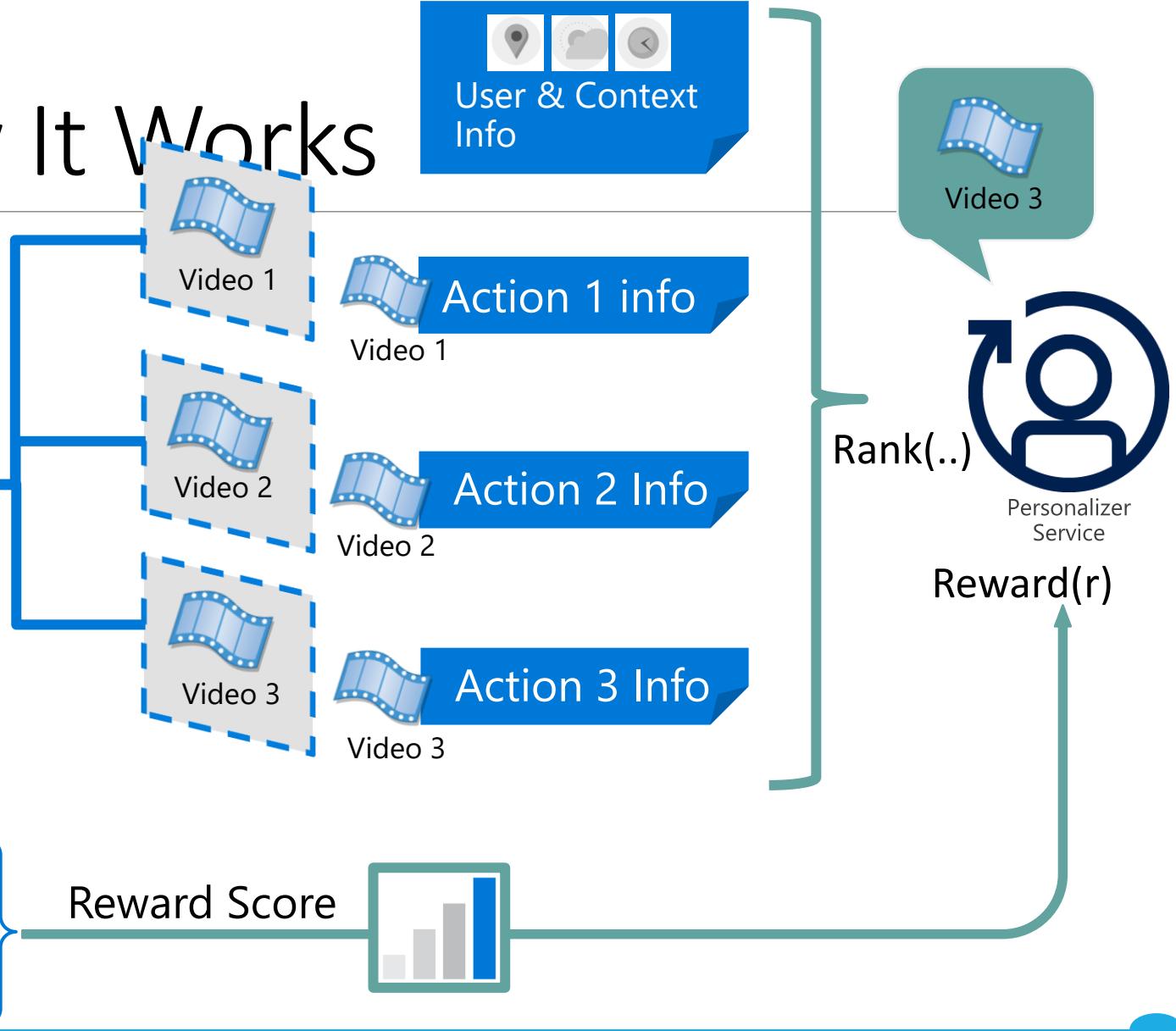
Personalizer

Boost conversion and engagement, and add real-time relevance to product recommendations, with reinforcement learning-based capabilities available only through Azure. Select hero content, optimize layouts, and personalize offers with two API calls. Use Personalizer, part of Azure Cognitive Services, as a standalone personalization solution or to complement existing ranking engines—with no machine learning expertise required.

Personalizer: How It Works



Your business logic
observing & evaluating
user behavior

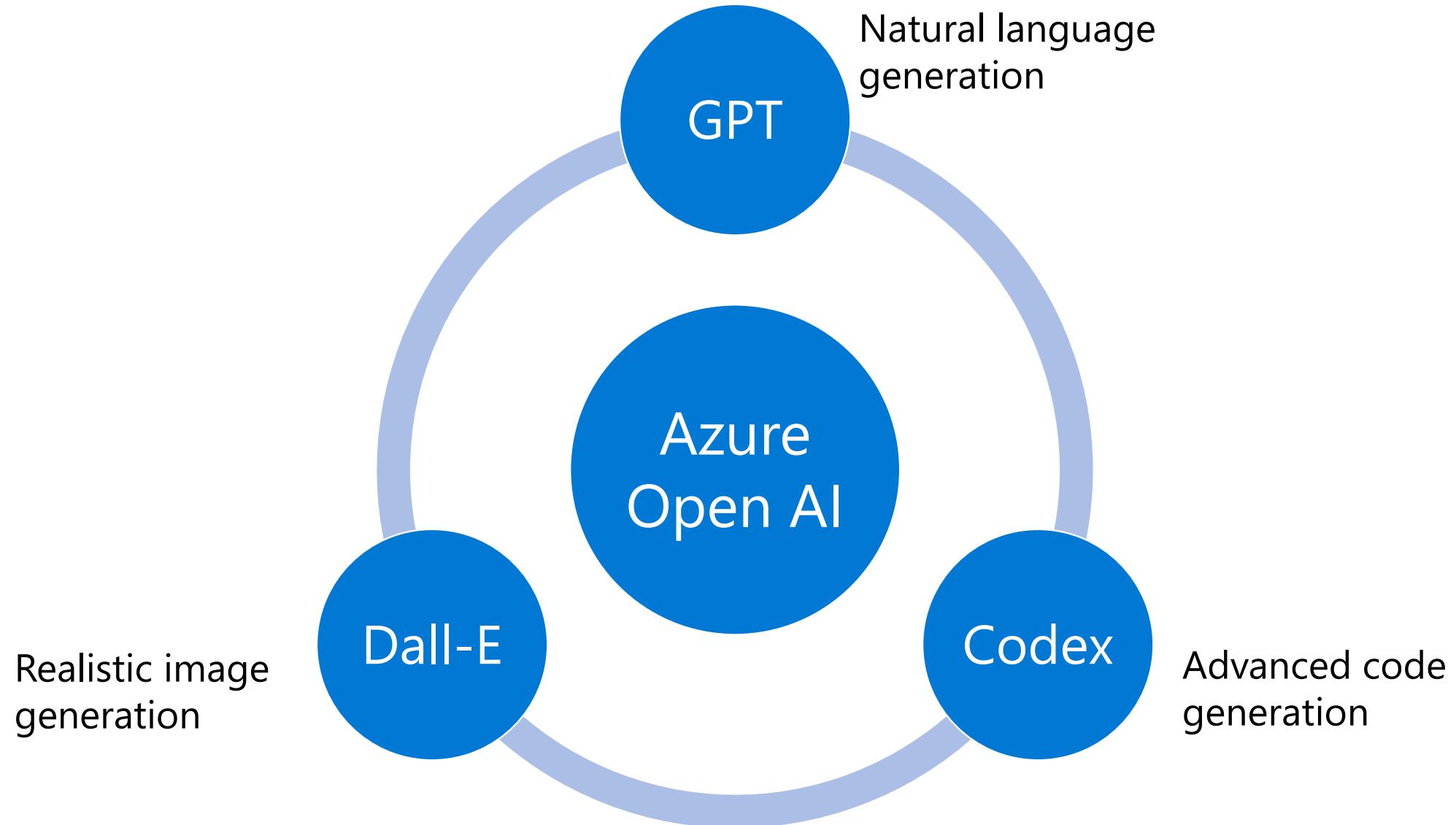




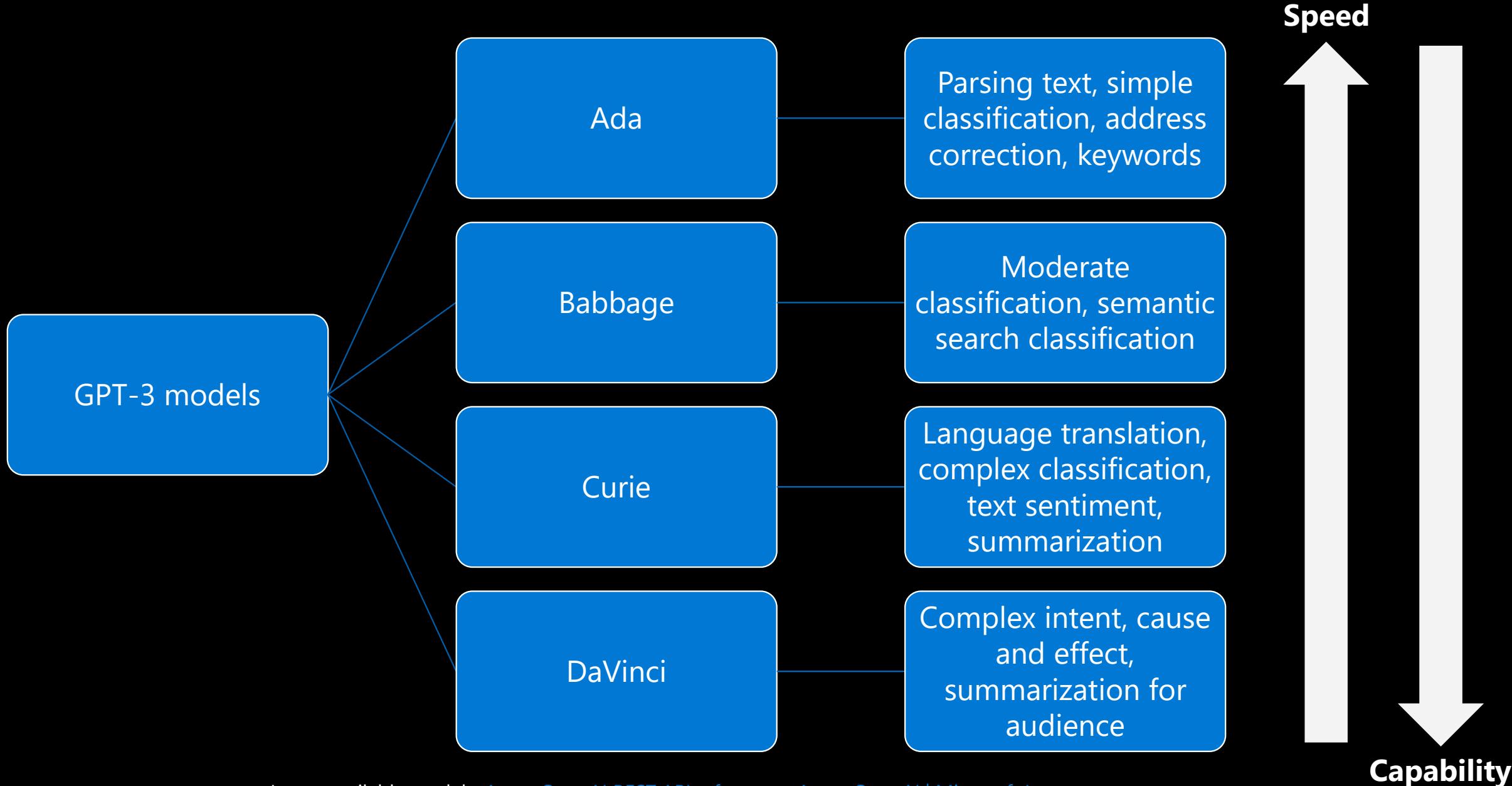
Azure Open AI



Open AI models in Azure



Open AI models in Azure



GPT-3: What makes it special?

- It is the 3rd generation of **G**enerative **P**re-**T**rained transformer model – from Open AI
- Large language prediction model that uses deep learning NN to predict the next token. Generative in nature i.e., it will continue to produce text from the generated token.
- Trained with 175B+ parameters. Trained with data from web scraping (Common Crawl), Books, Wikipedia etc.
- First use case is NLP – generating human understandable text, in multiple languages.
- Create content, essays, summary, articles, poetry, haiku.
 - Codex, Image generation (Dall-E), and others– we are just getting started.

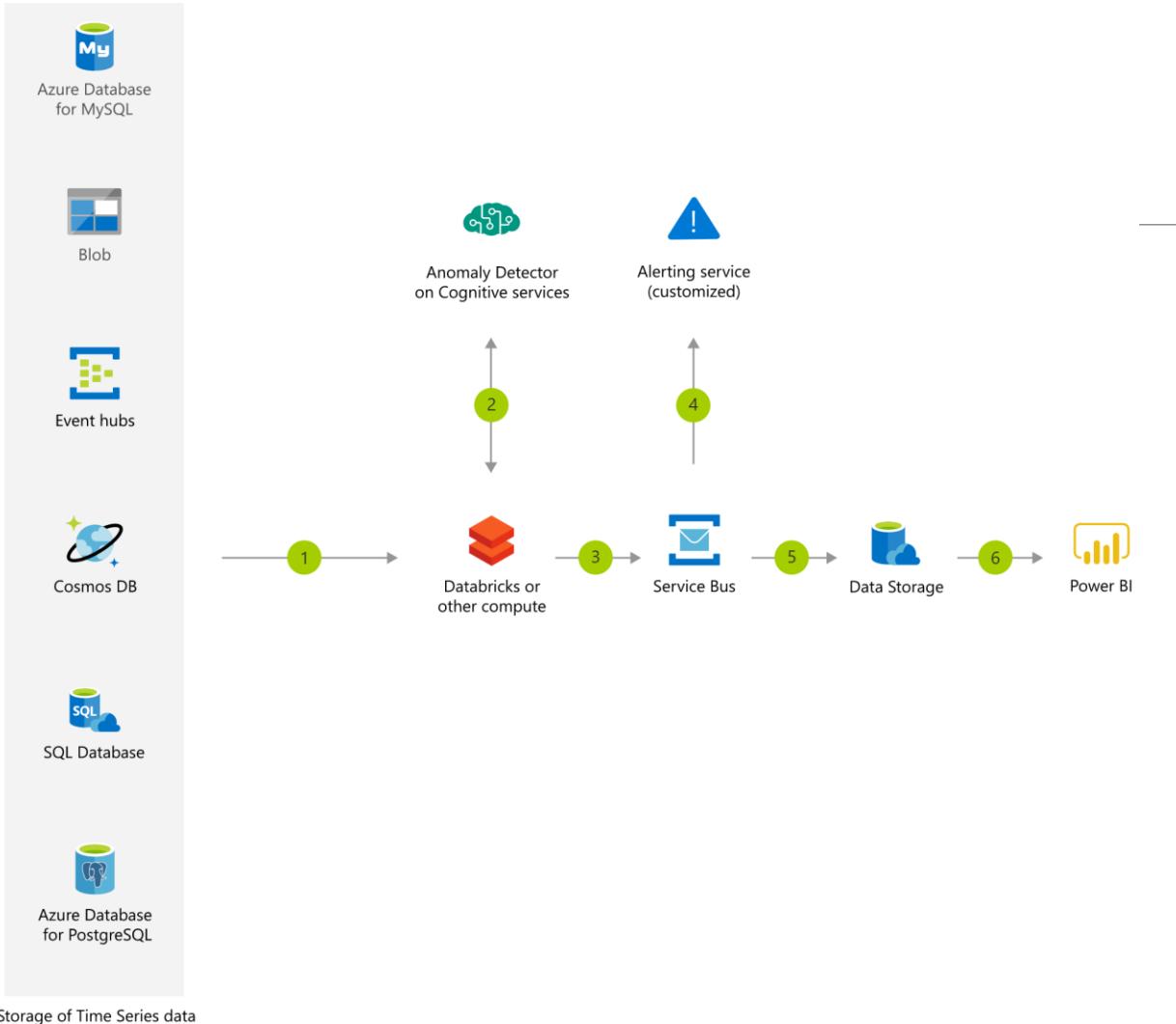
Demo OPEN AI

- [microsoft/Build2022-AI-examples: A central place to link to all the repositories of AI examples for Build 2022 \(github.com\)](#)
- [\(5\) How to build Codex solutions | OD45 – YouTube](#)
- [GitHub Copilot · Your AI pair programmer](#)
- [DALL-E Demo: Try Free online AI Image Generator in your browser \(dalleddemo.com\)](#)

“Best Practices” et Architectures de référence

Reference solution architecture

- Ingests data from the various stores that contain raw data to be monitored by Anomaly Detector.
- Aggregates, samples, and computes the raw data to generate the time series, or calls the Anomaly Detector API directly if the time series are already prepared and gets a response with the detection results.
- Queues the anomaly related meta data.
- Based on the anomaly related meta data, calls the customized alerting service.
- Stores the anomaly detection meta data.
- Visualizes the results of the time series anomaly detection.



<https://docs.microsoft.com/en-us/azure/architecture/browse/>



MERCI !

