

Making Apps More Human

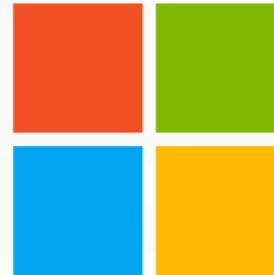
AN INTRO TO MICROSOFT'S
COGNITIVE SERVICES



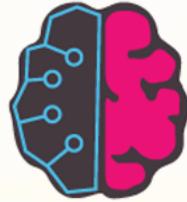
Matthew Soucoup
PRINCIPAL
@codemillmatt codemilltech.com



THANK YOU, THAT CONFERENCE SPONSORS!



Microsoft



nexosis®



CUNA
MUTUAL
GROUP

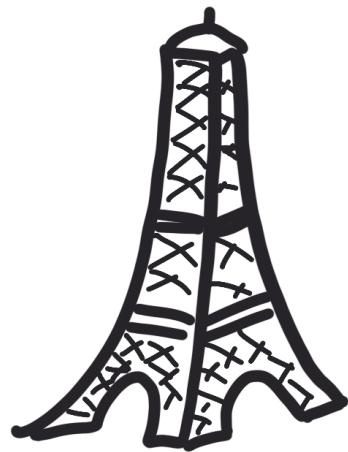
SKYLINE
see beyond your it



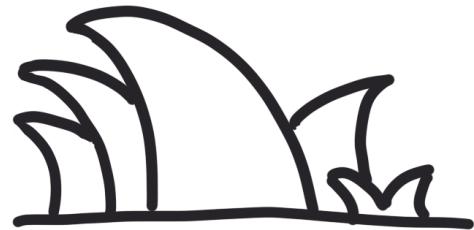
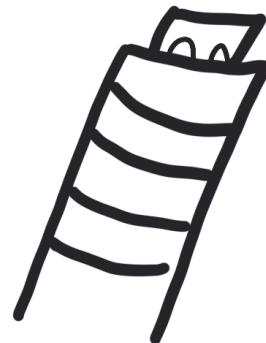
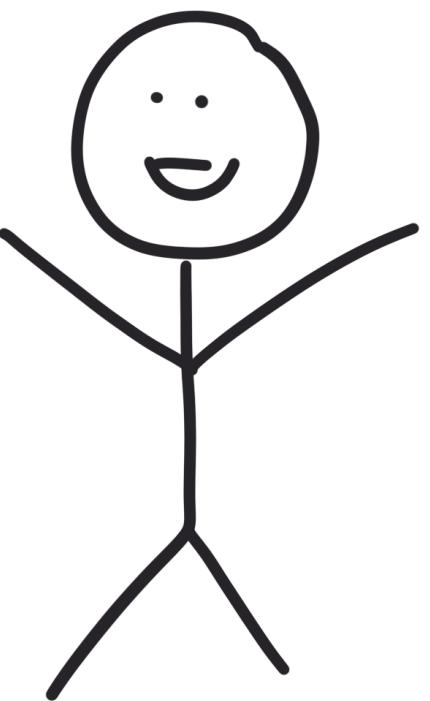
Northwestern
Mutual®

ZYMO
INTERACTIVE

GrapeCity®

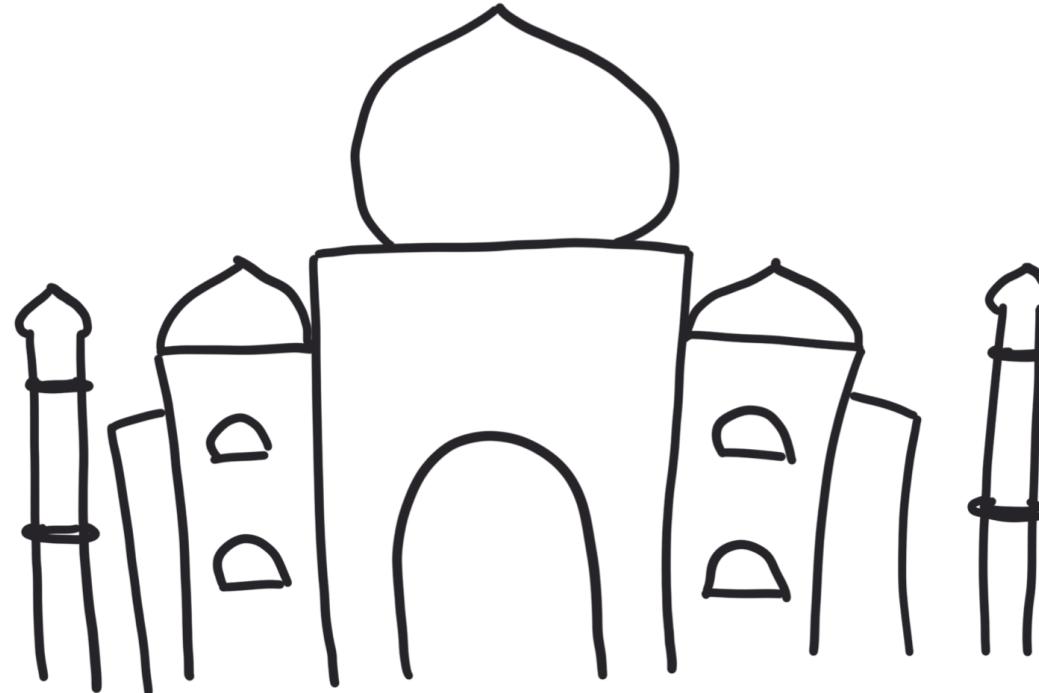
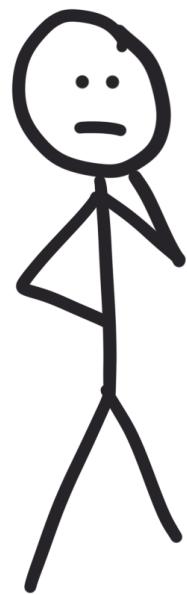


I WANT
TO SEE THE WORLD!!



Unfamiliar places...

THAT
LOOKS SO
FAMILIAR...

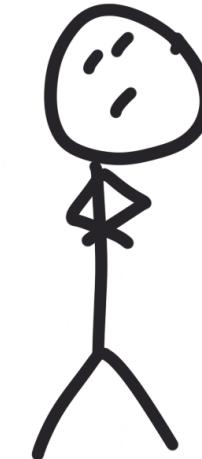
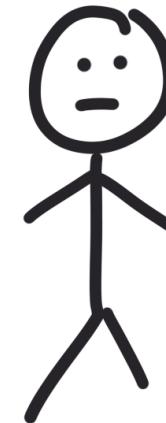
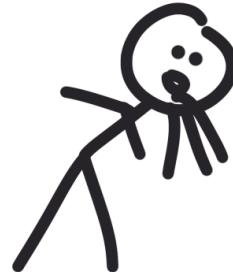
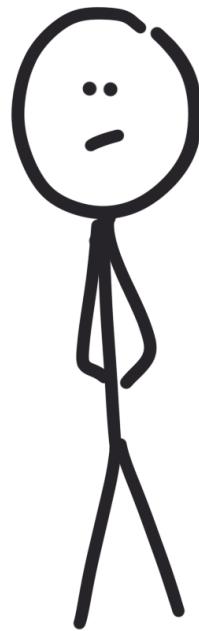


Different languages...



Who to ask questions to...

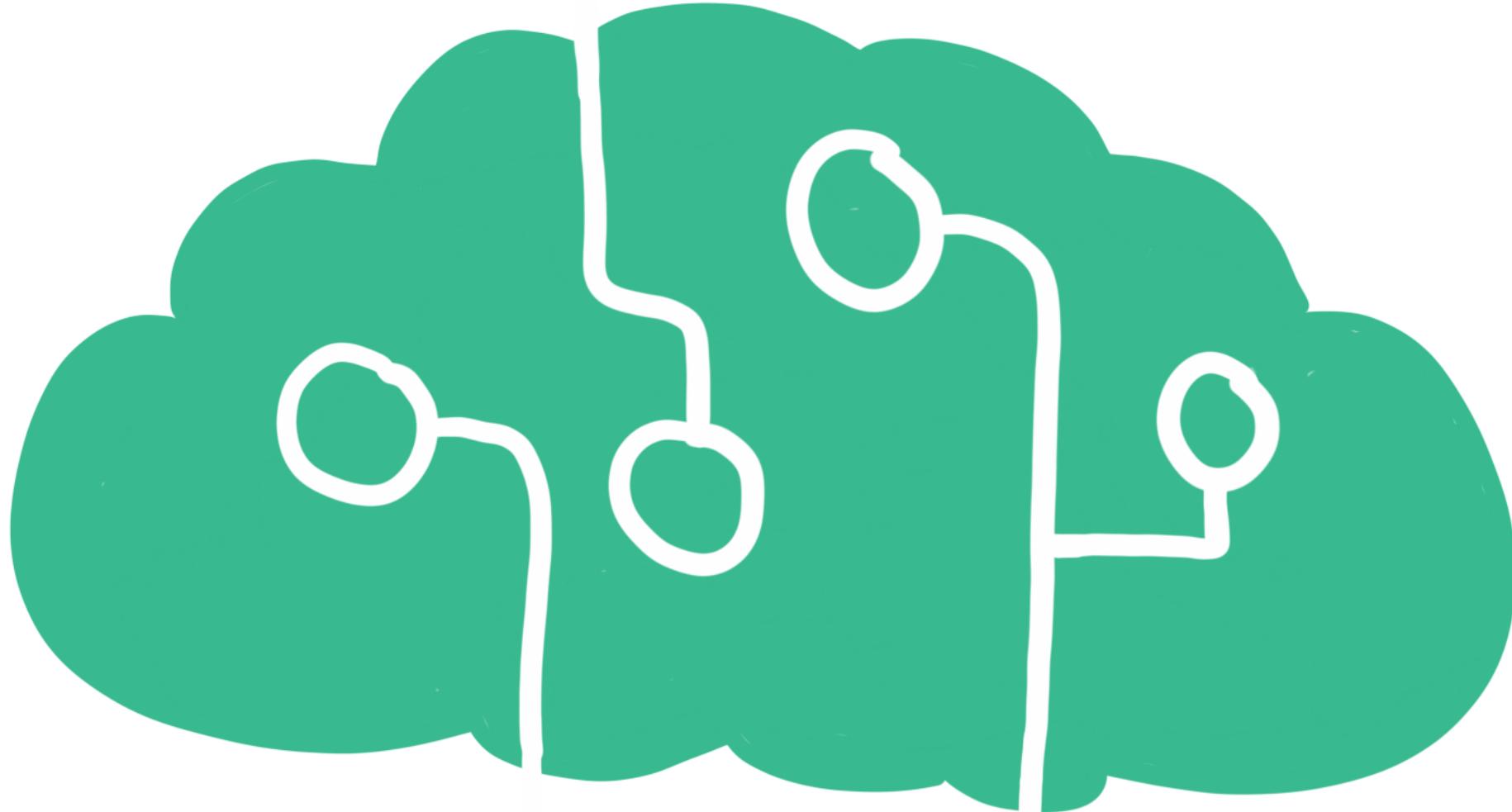
WHERE'S THE
BATHROOM?!?



An app ... that can be human?

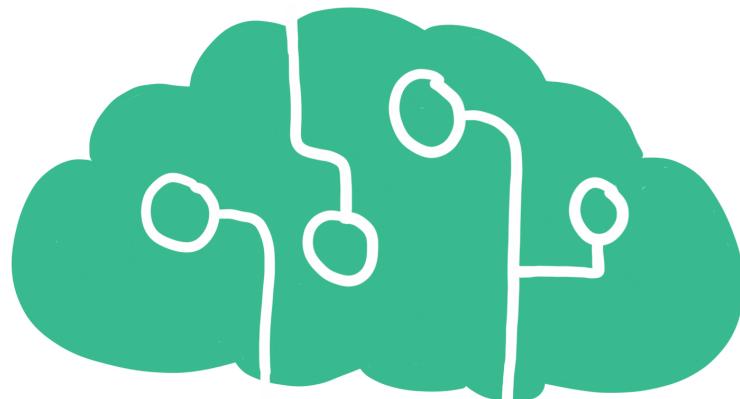


Microsoft Cognitive Services



@codemillmatt

Cognitive Services - REST APIs



- Hosted in Azure
- Machine Learning
- Vision
- Speech
- Language
- Knowledge
- Search

Vision



Video API



Emotion



Computer Vision



Custom Vision
Service



Content
Moderator



Video Indexer



Face API

Speech



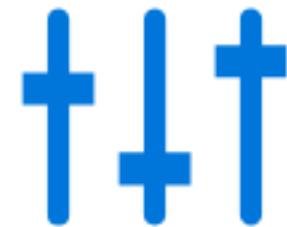
Bing Speech API



Translator API



Speaker
Recognition



Custom Speech
Service

Language



Web Language
Model



Language
Understanding



Translator API



Text Analytics API



Bing Spell Check



Linguistics
Analysis

Knowledge



Recommendations
API



Entity Linking



Explorations



Academic
Knowledge API



Custom Decision



QnA

Search



Bing News API



Video API



Custom Search
API



Entity



Search API

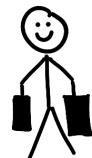


Bing
Autosuggest API

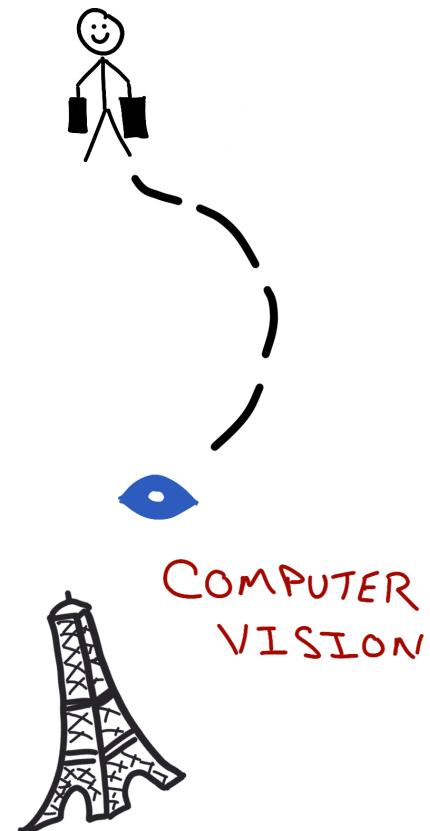


Image API

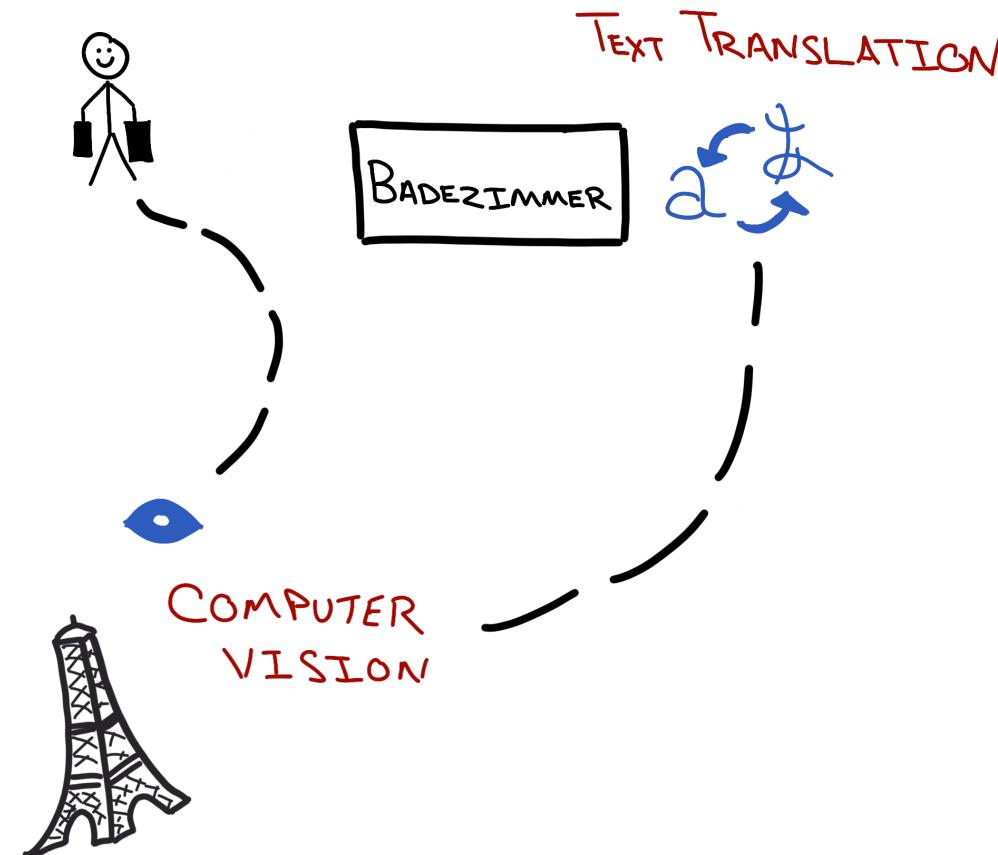
The Vacation Itinerary...



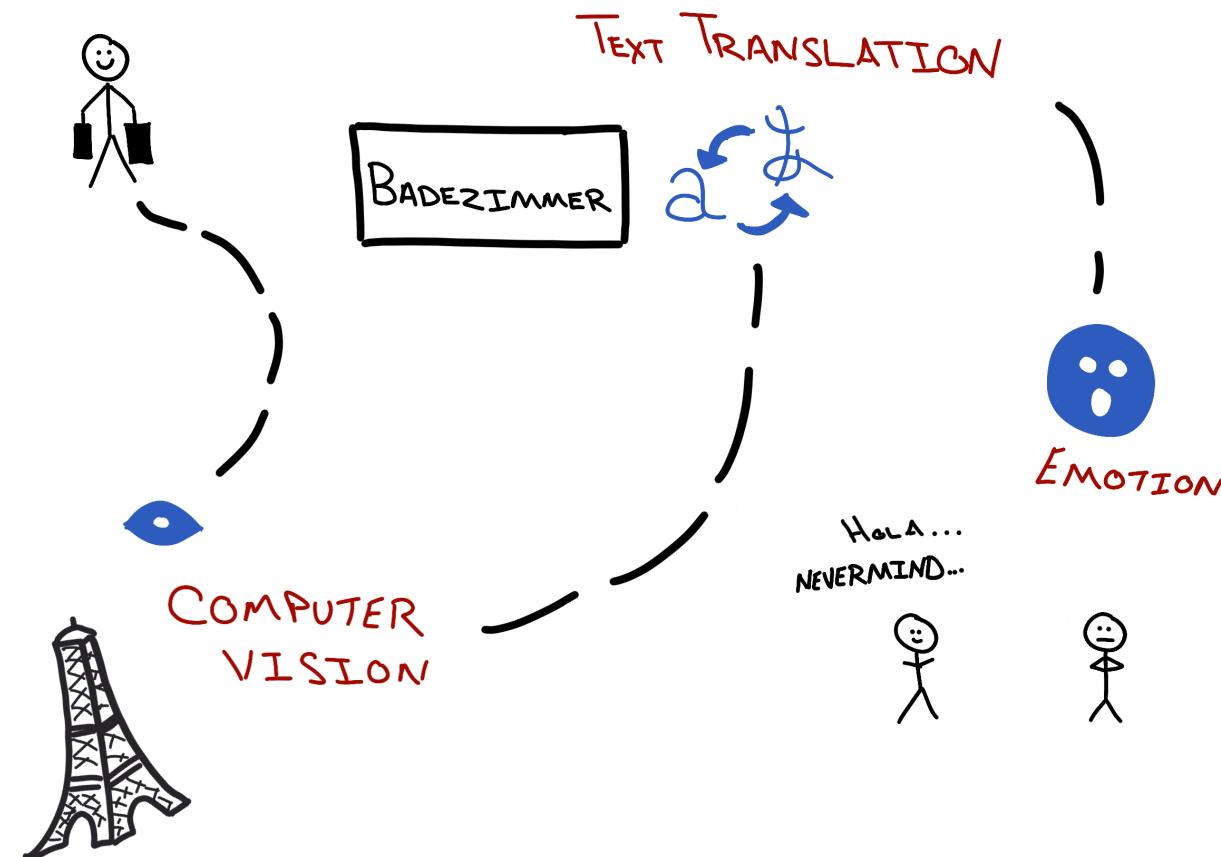
The Vacation Itinerary...



The Vacation Itinerary...

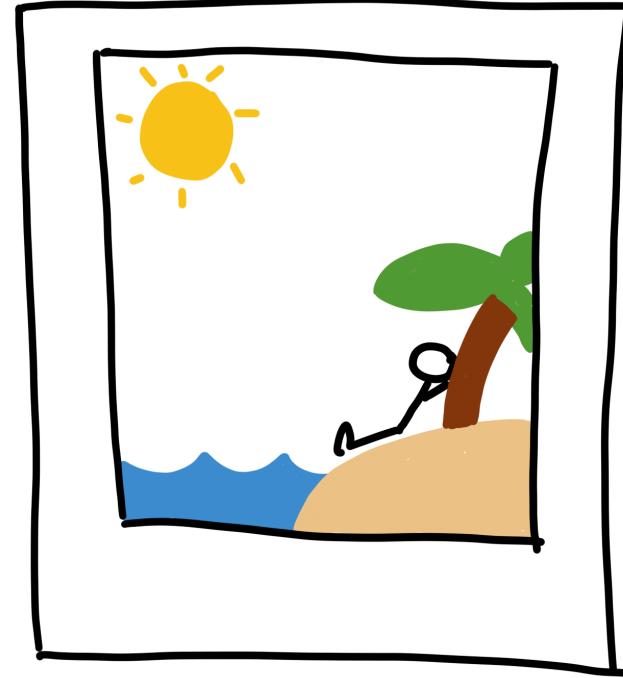


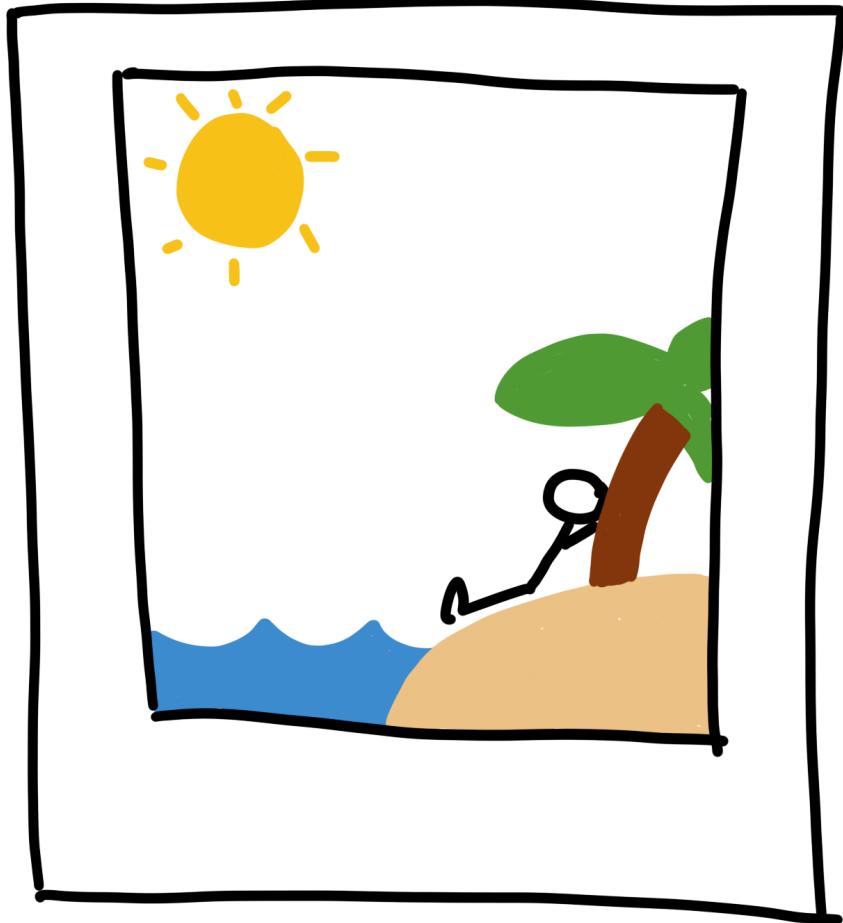
The Vacation Itinerary...



Computer Vision API

What's in a photo??





Inspection Endpoints

- Analyze
- Recognize
 - Celebrities
 - Landmarks
- Describe
- Tag

Analyze - POST

[https://api.cognitive.microsoft.com/vision/v1.0/analyze\[?visualFeatures\]\[&details\]](https://api.cognitive.microsoft.com/vision/v1.0/analyze[?visualFeatures][&details])

Visual Features

- Categories
- Tags
- Description
- Faces
- ImageType
- Color
- Adult

Details

- Celebrity
- Landmark

Body

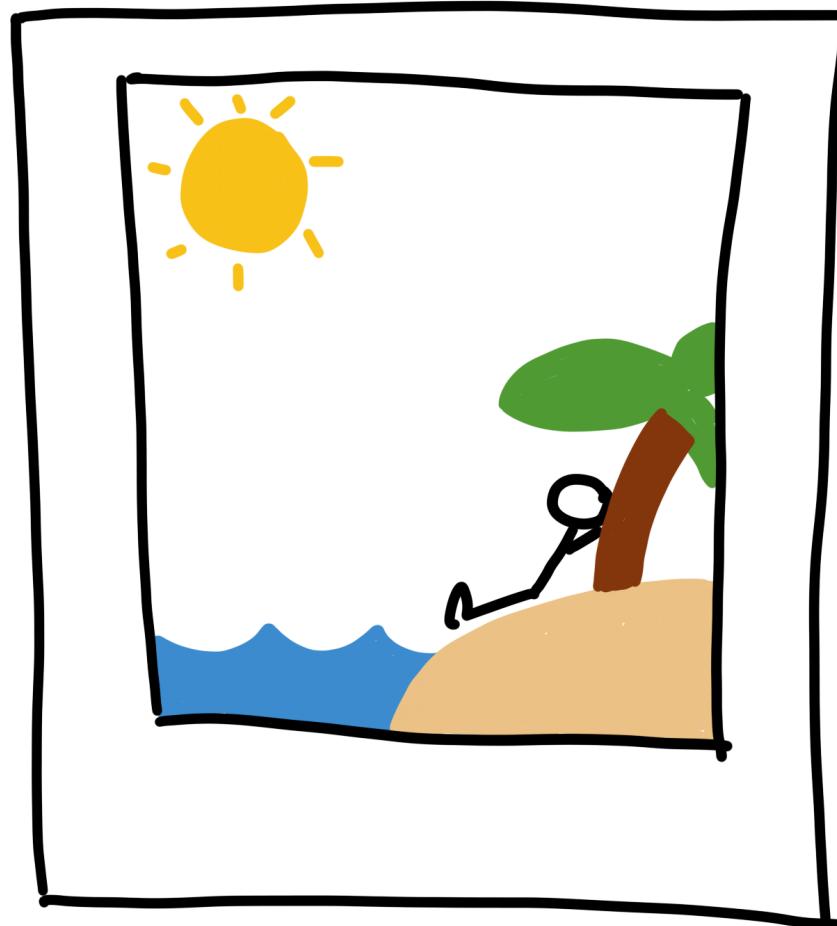
- URL to image
- Binary of image

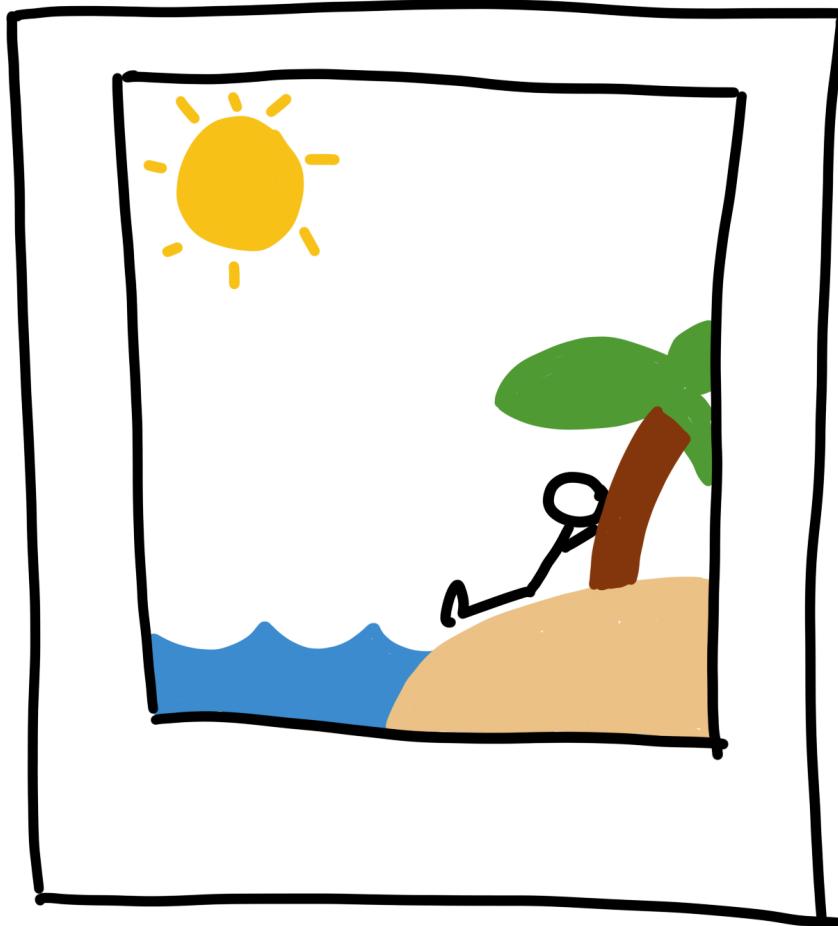
Analyze – return values

- Description
 - Tags
- Category array
- Tags array
- Faces array
- Adult score
- Color
- Metadata
- ImageType

Description...

- Full sentences
- Person laying on the beach



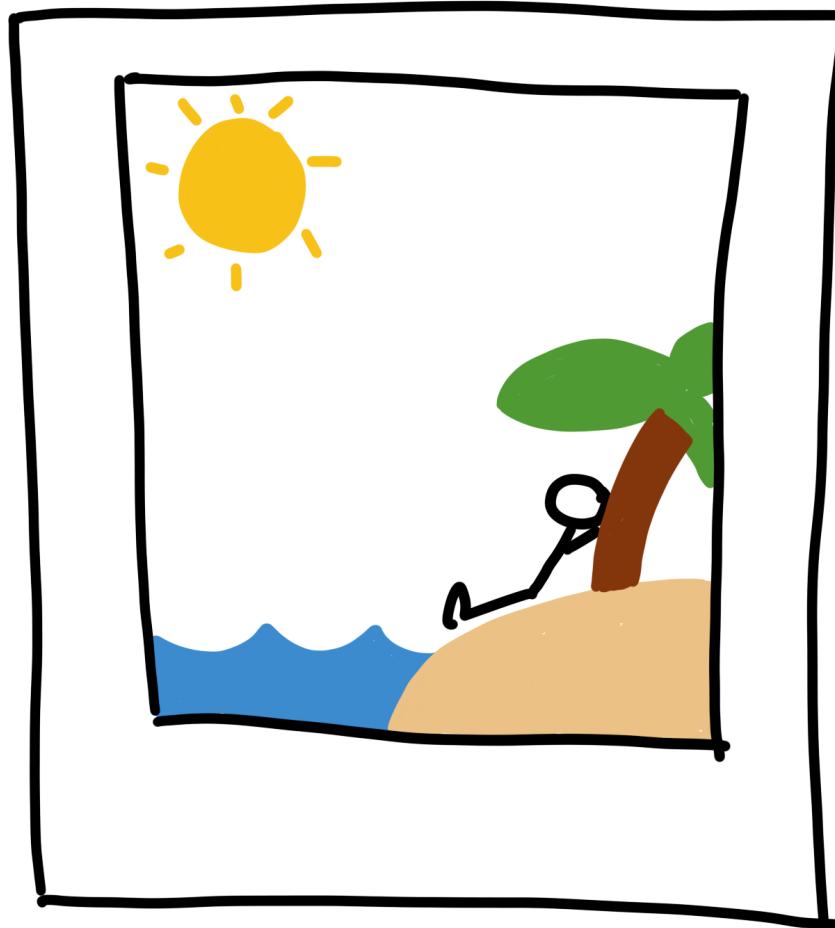


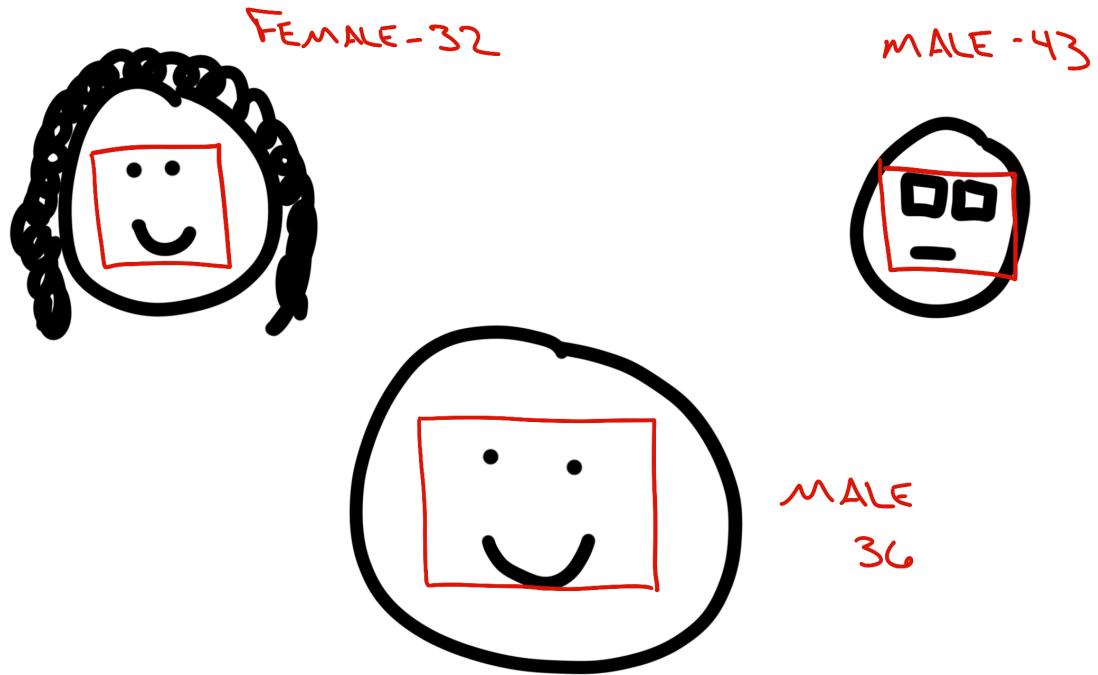
Categories array...

- 86 predefined
- Outdoor->Ocean/Beach
- Outdoor->Water
- Scene->Sky->Sun
- Object->Plant->Tree
- People

Tags array...

- Sunny
- Outside
- Tree
- Person
- Water





Faces array...

- Up to 64 faces
- Gender
- Age
- Coordinates in image

Describe & Tag - POST

<https://api.cognitive.microsoft.com/vision/v1.0/describe>[?maxCandidates]

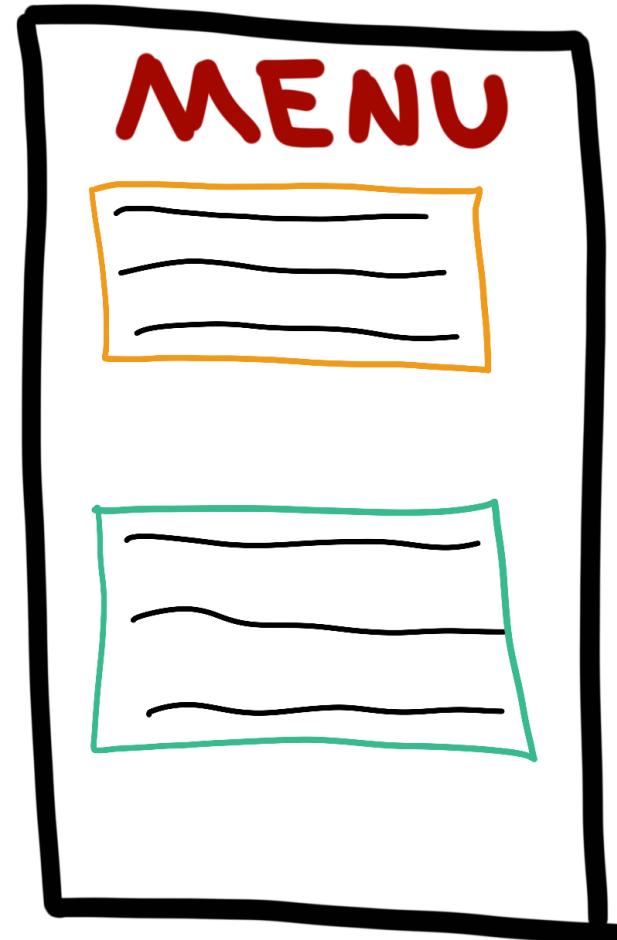
<https://api.cognitive.microsoft.com/vision/v1.0/tag>

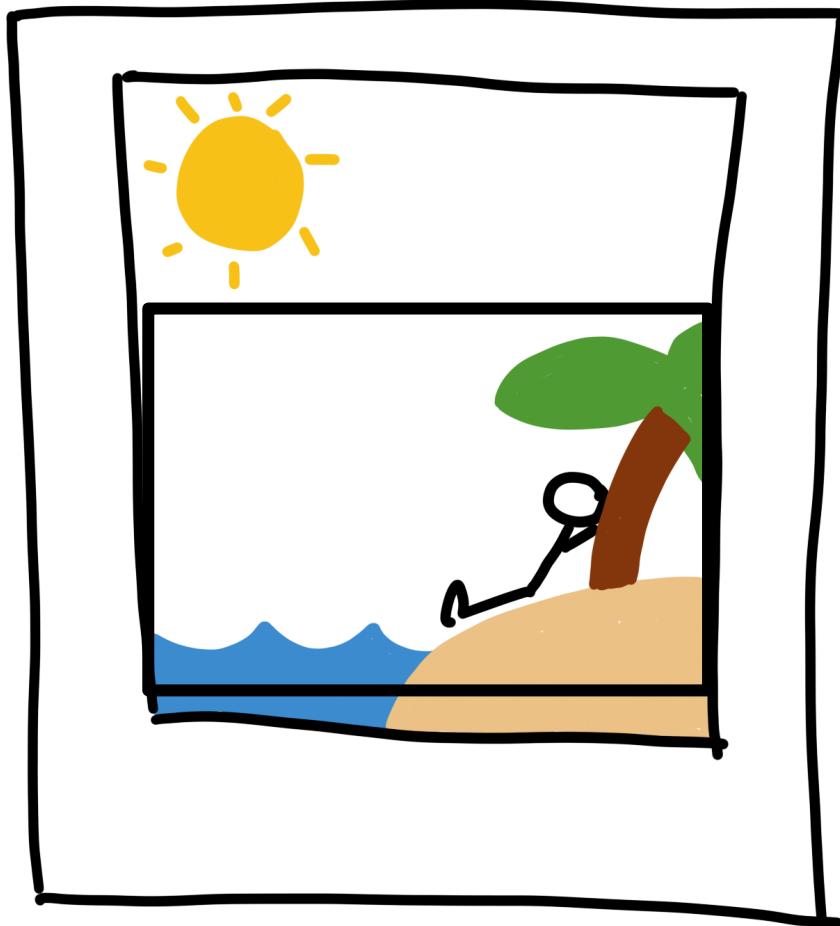
Body

- URL to image
- Binary of image

OCR endpoint

- Recognize text in images
- Including handwritten
- Corrects rotation
- **Reads blocks**
- **Separately**





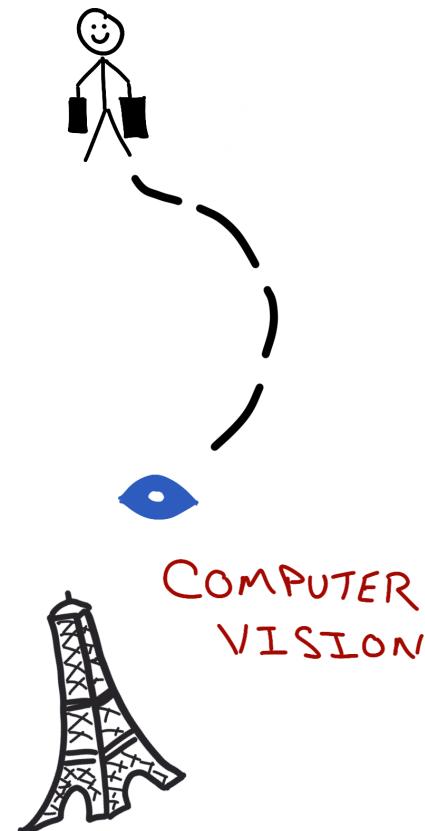
Thumbnails

- Create thumbnails
- Specify height & width
- Automatically detects "region of interest"

DEMO

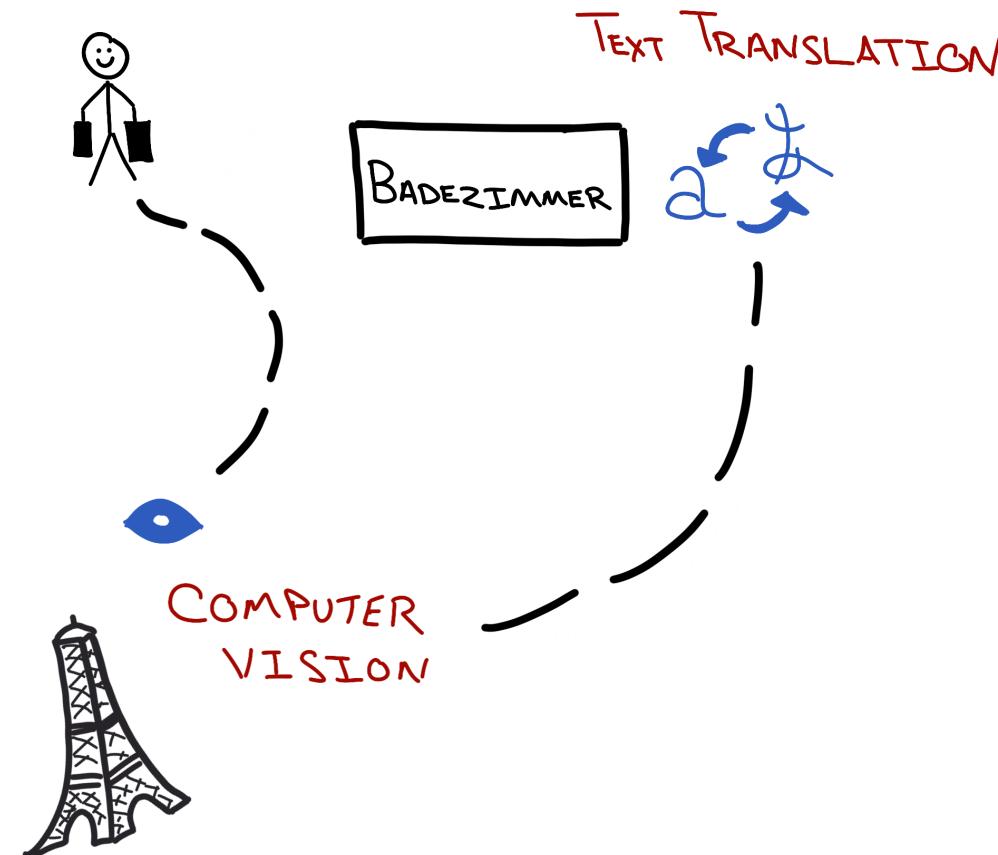


The Vacation Itinerary...



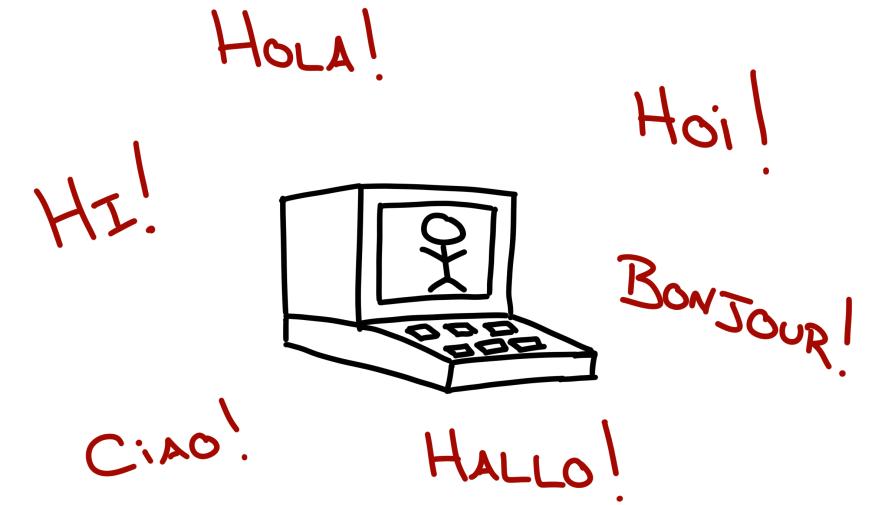
- Analyze
- OCR
- Thumbnails

The Vacation Itinerary...



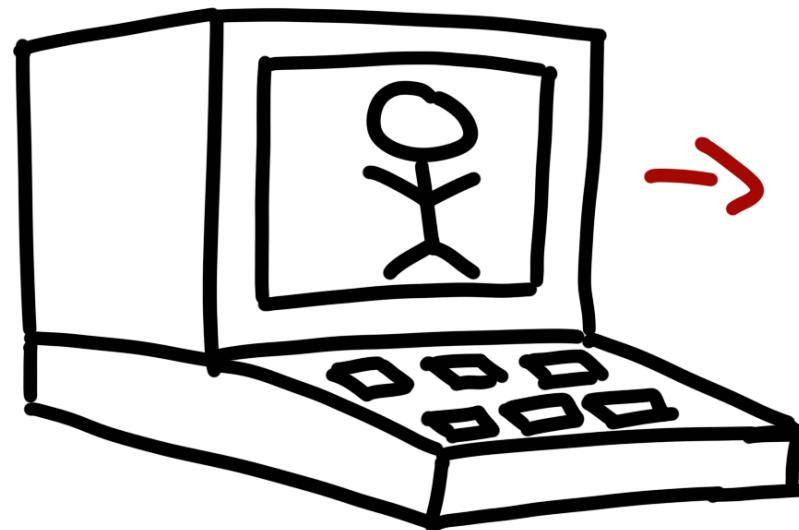
Translator API

The multilingual machine...



Translate text...

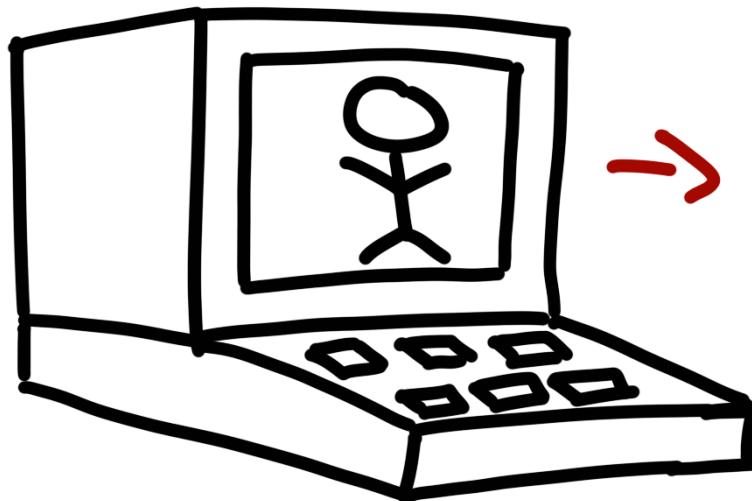
HALLO →



→ BonJOUR

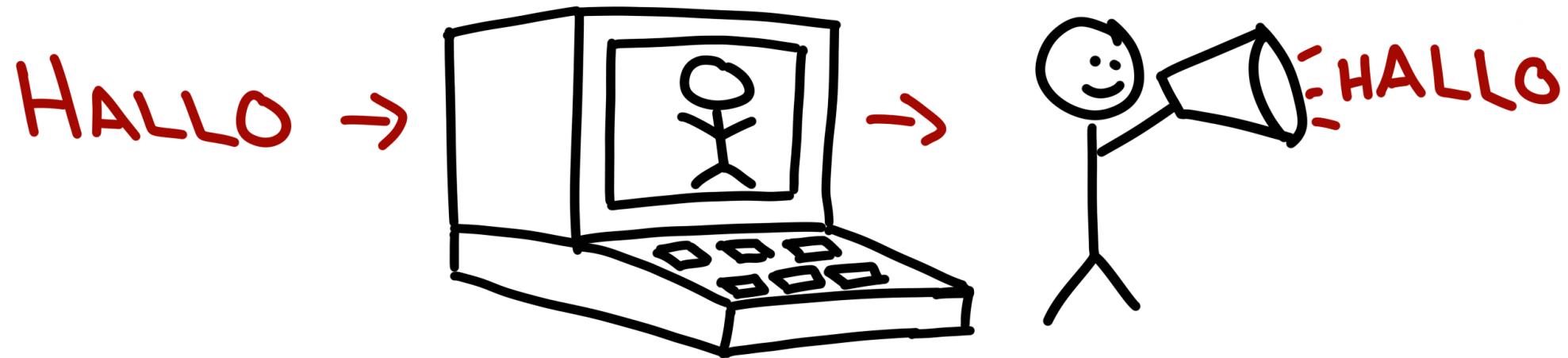
Detect language...

HALLO →



→ GERMAN

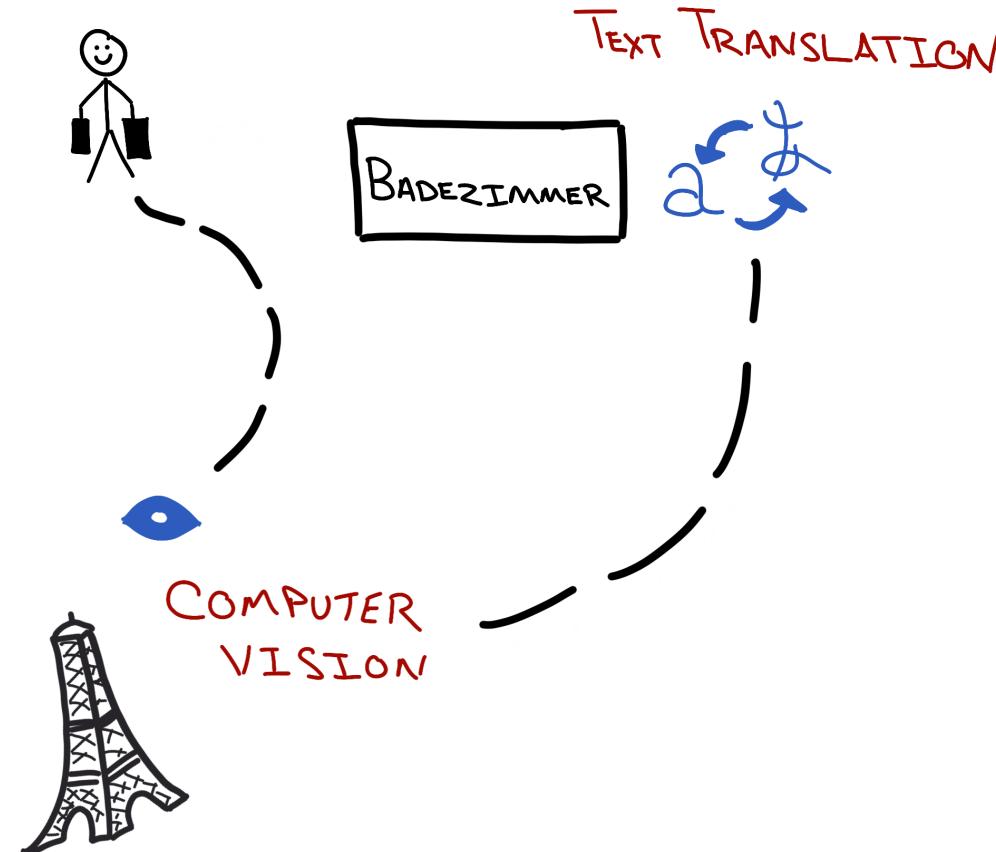
Speak!!!



DEMO

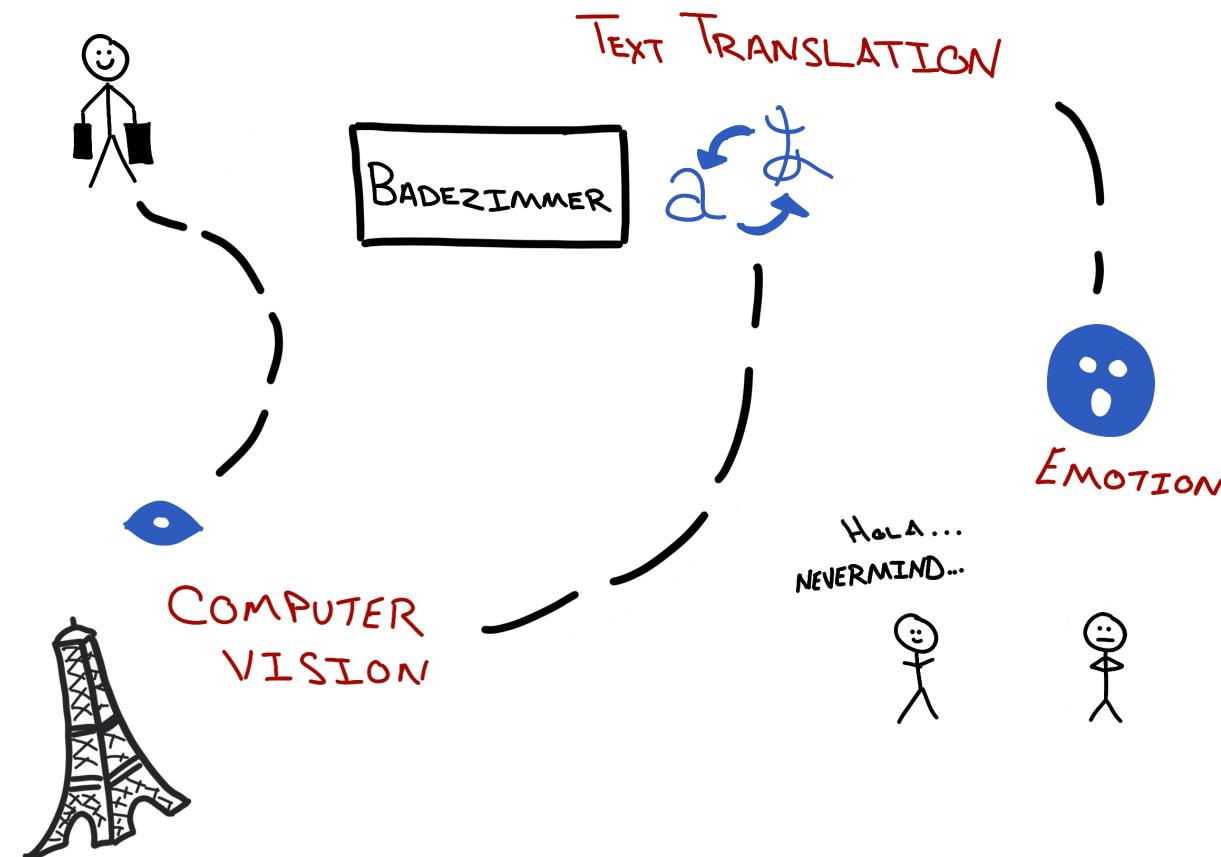


The Vacation Itinerary...



- Translate
- Detect
- Speak

The Vacation Itinerary...



Emotion API

The feeling cloud...



Score emotions in photos



HAPPINESS

Score emotions in photos



HAPPINESS



ANGER

Score emotions in photos



CONTEMPT



ANGER

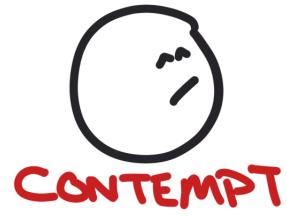


HAPPINESS

Score emotions in photos



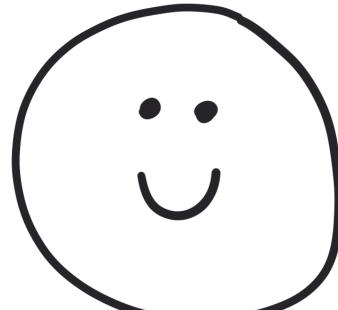
DISGUST



CONTEMPT

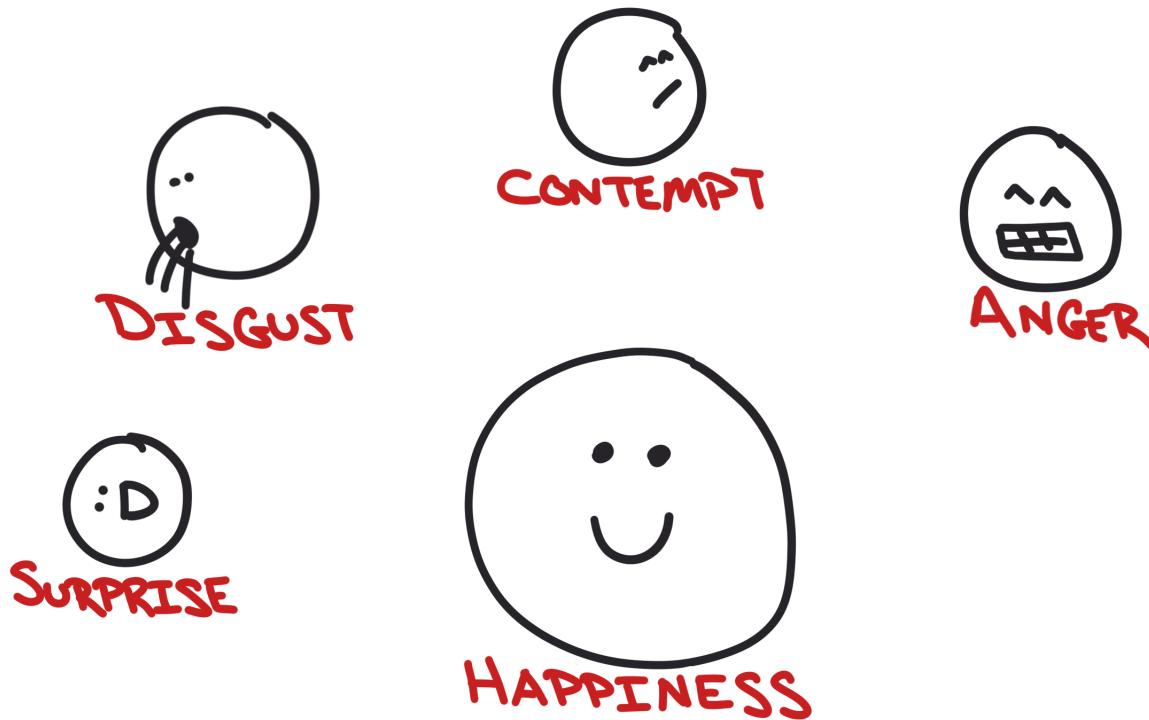


ANGER

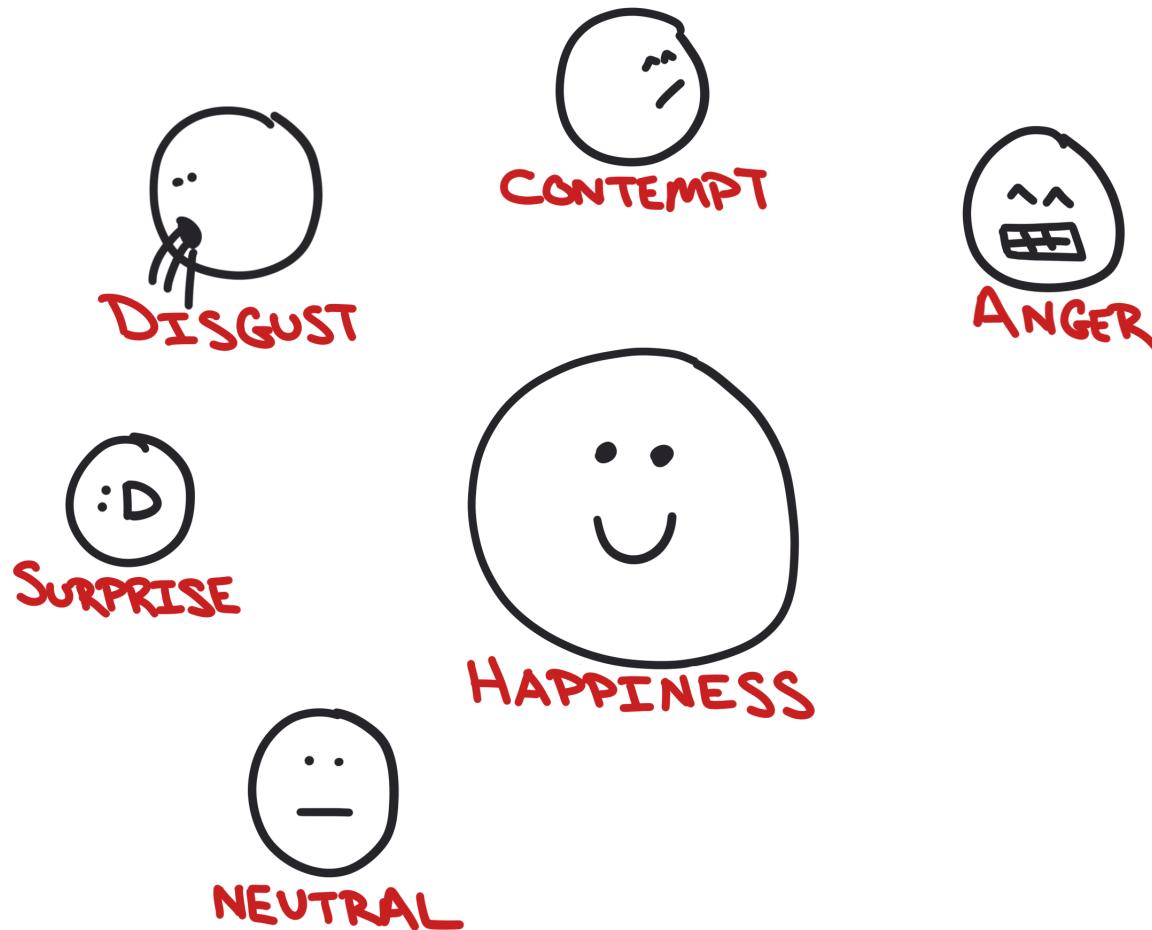


HAPPINESS

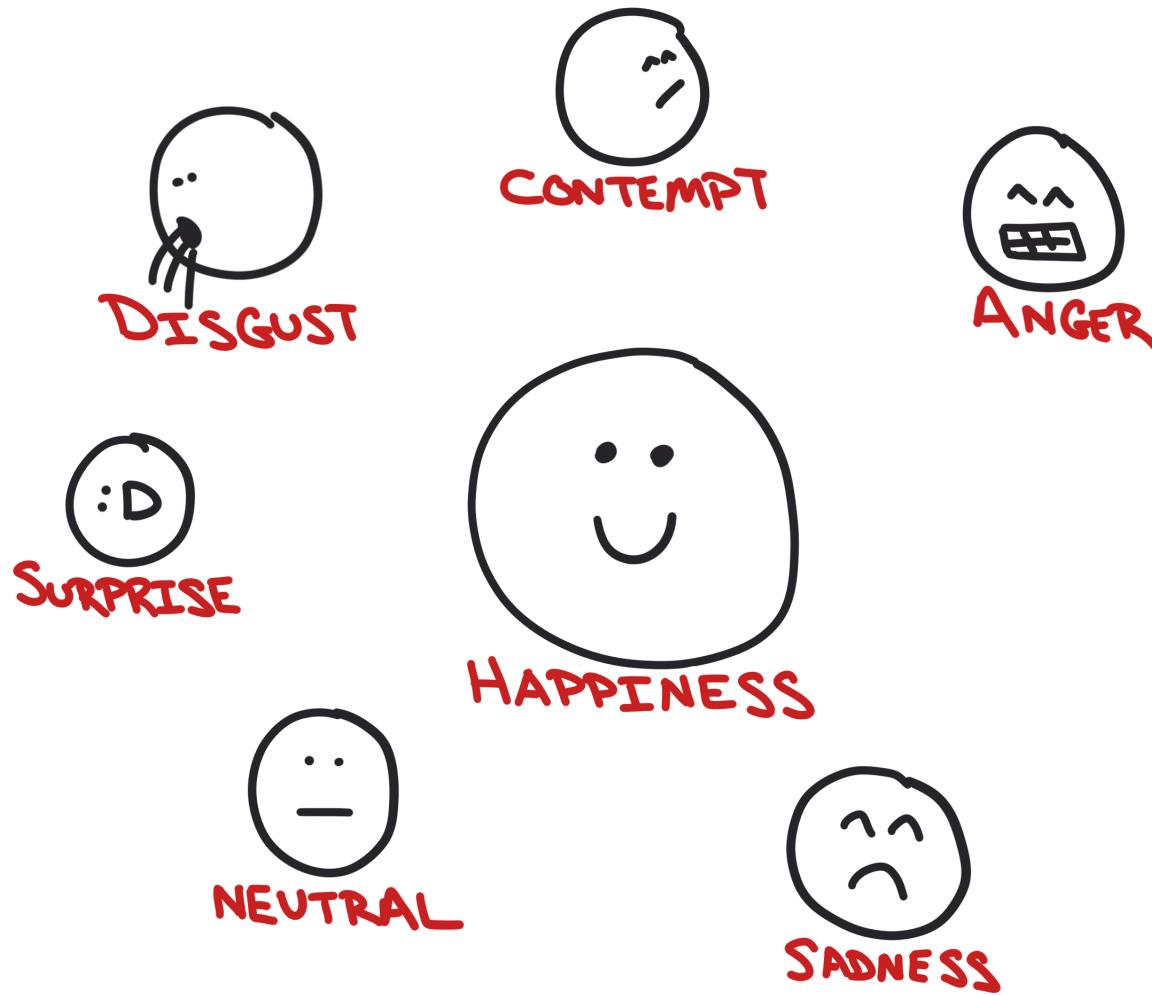
Score emotions in photos



Score emotions in photos



Score emotions in photos



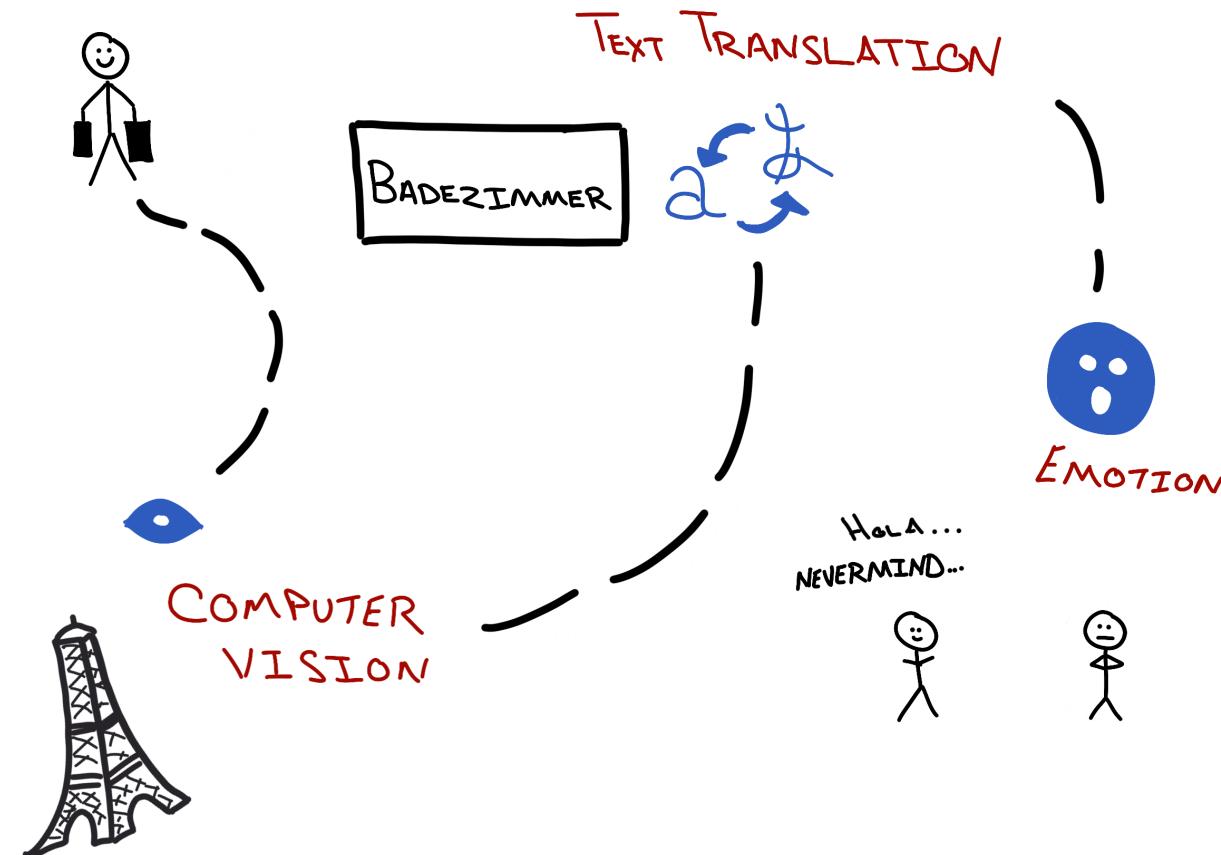
Score emotions in photos



DEMO

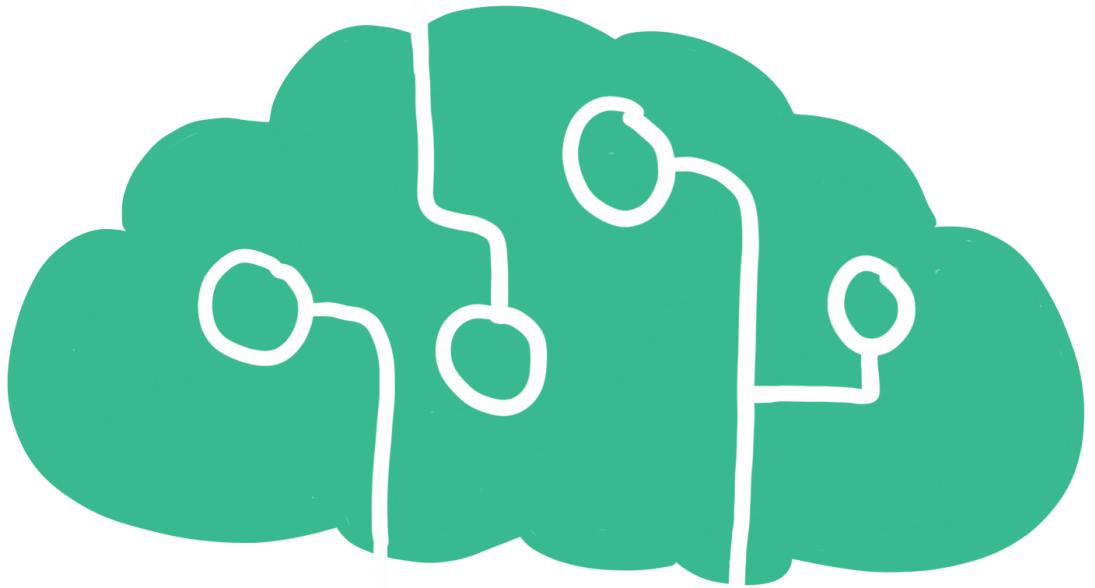


The Vacation Itinerary...

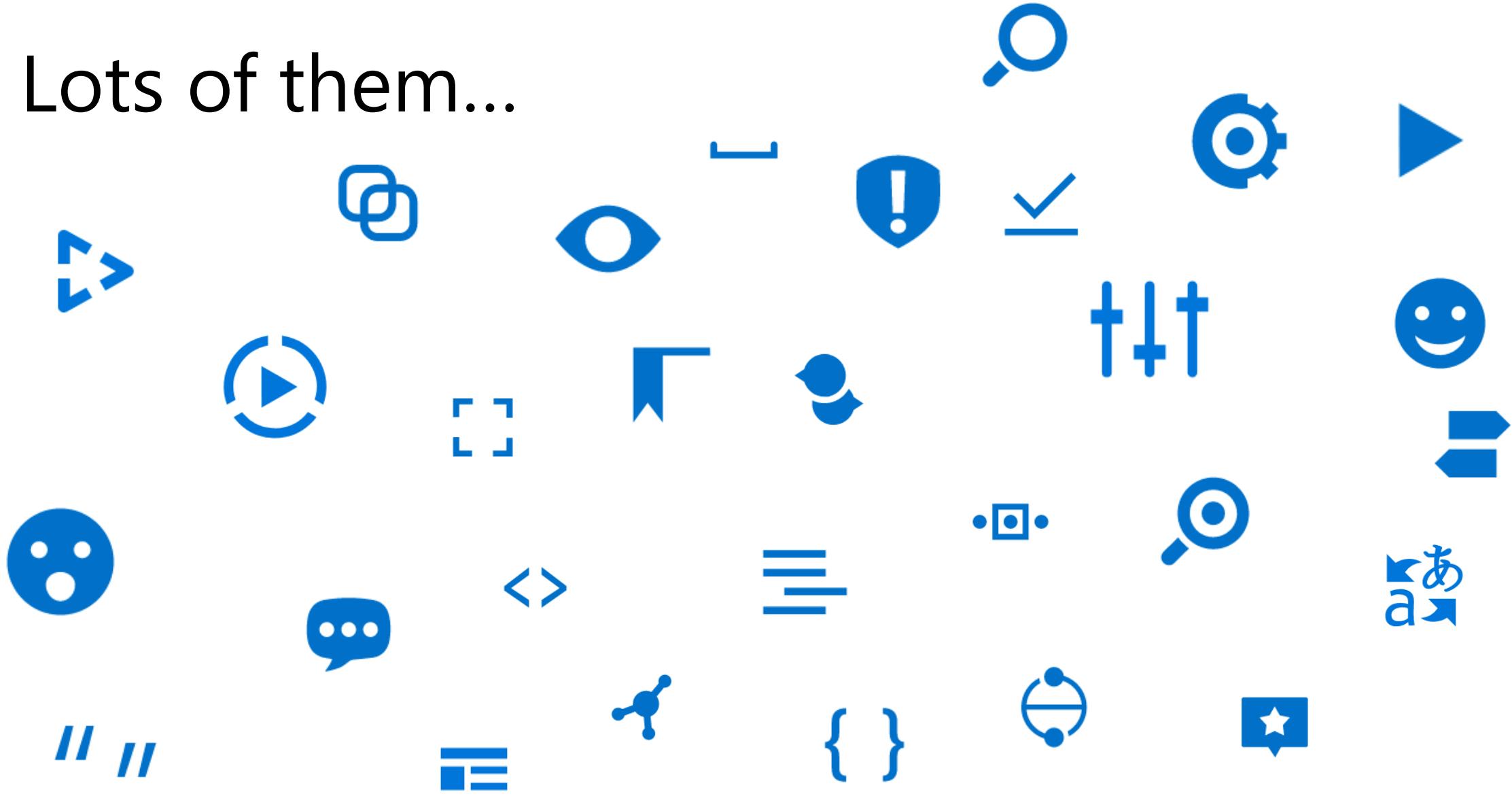


Cognitive Services

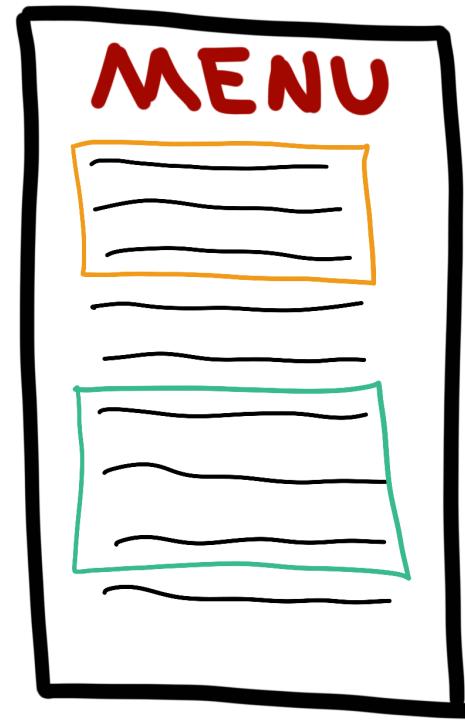
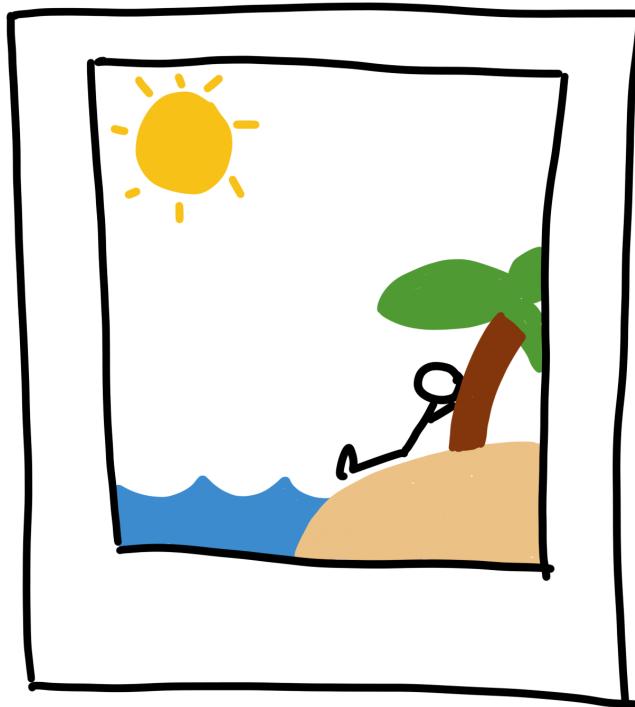
- Hosted in Azure
- Machine learning
- REST APIs



Lots of them...

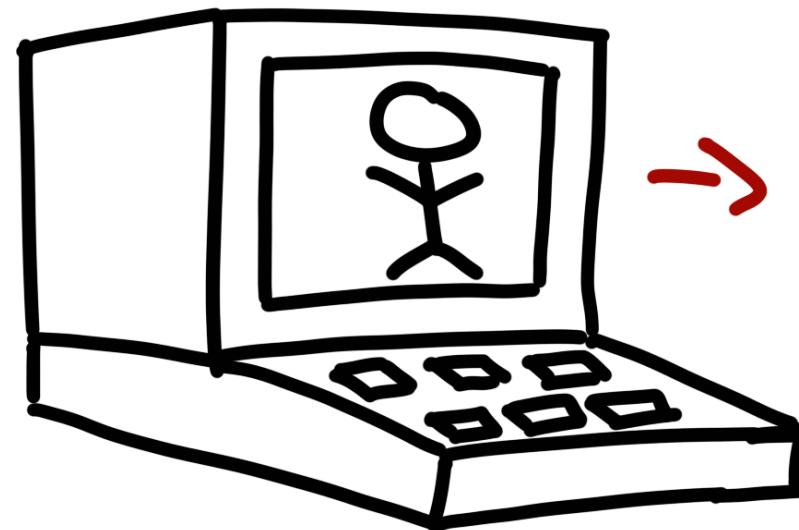


Vision and OCR



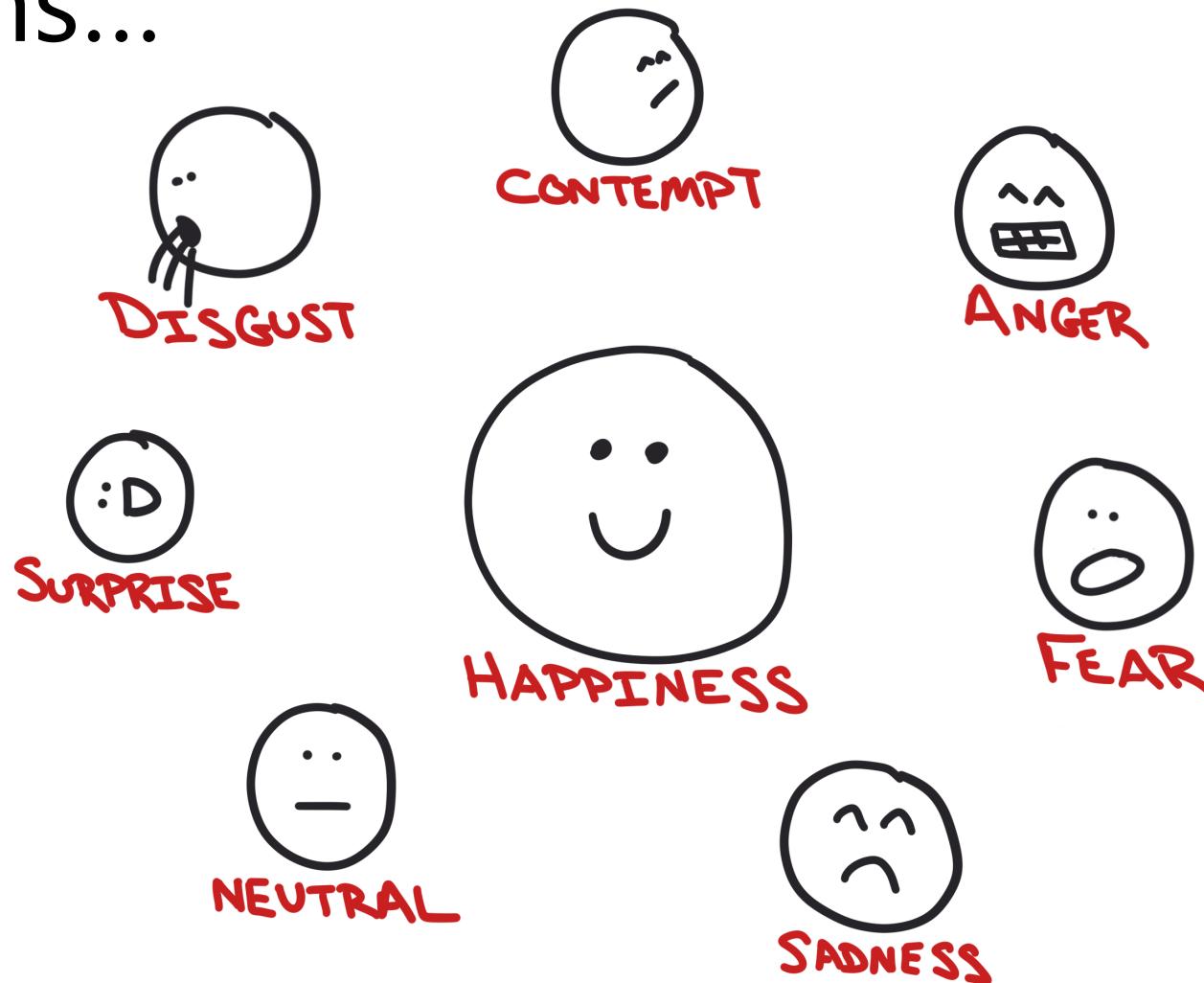
Translation...

HALLO →



→ Bonjour

Emotions...





SEE YOU NEXT YEAR!

AUGUST 6 - 8, 2018



Making Apps More Human

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COGNITIVE SERVICES



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