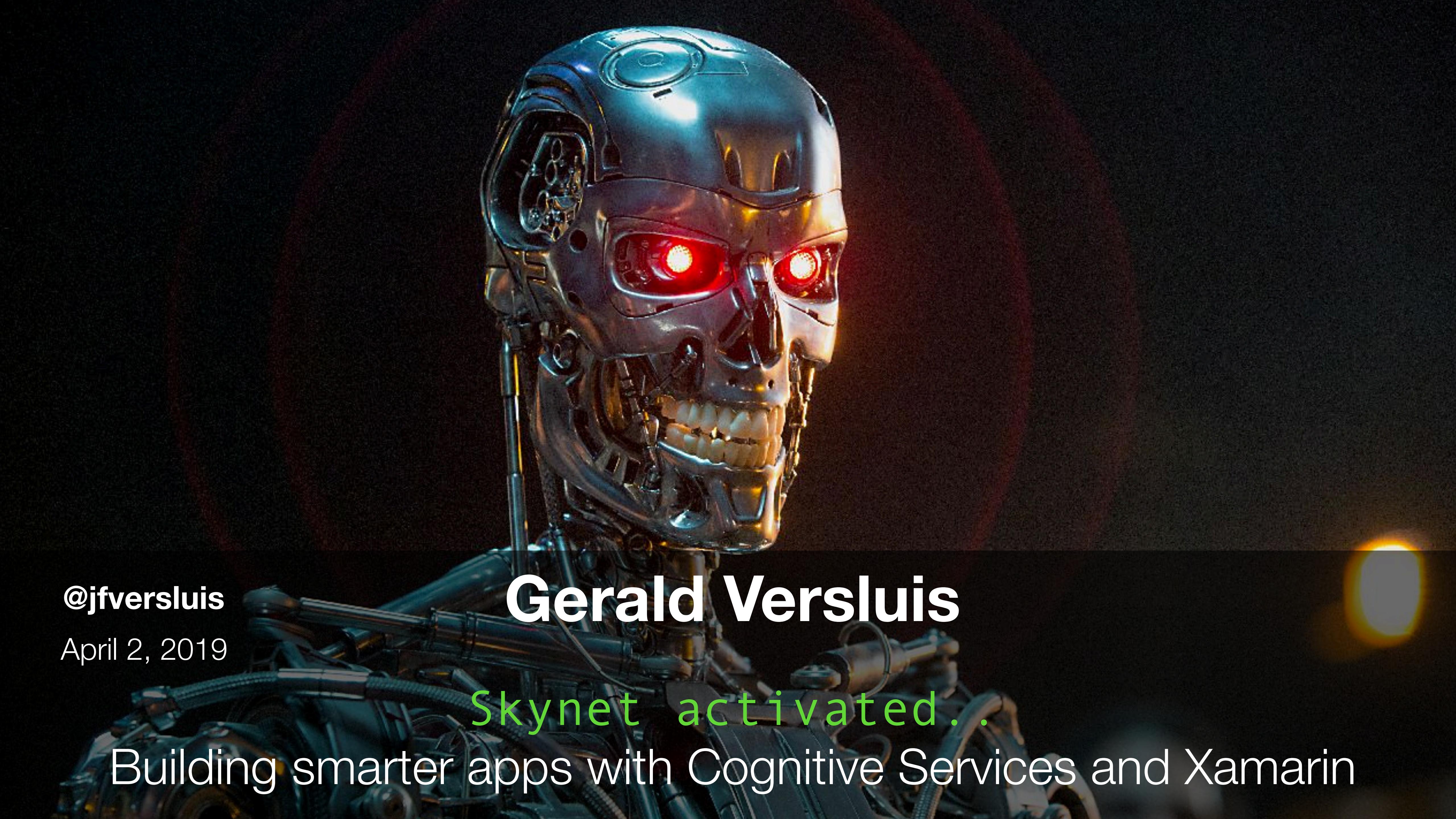




Maastricht, the Netherlands

A close-up, low-angle shot of the head and upper torso of a Terminator T-800 endoskeleton. The metallic, chrome-plated skull has glowing red eyes. The background is dark and moody.

@jfversluis

April 2, 2019

Gerald Versluis

Skynet activated..

Building smarter apps with Cognitive Services and Xamarin



Gerald Versluis



@jfversluis



gerald.verslu.is

blog.verslu.is

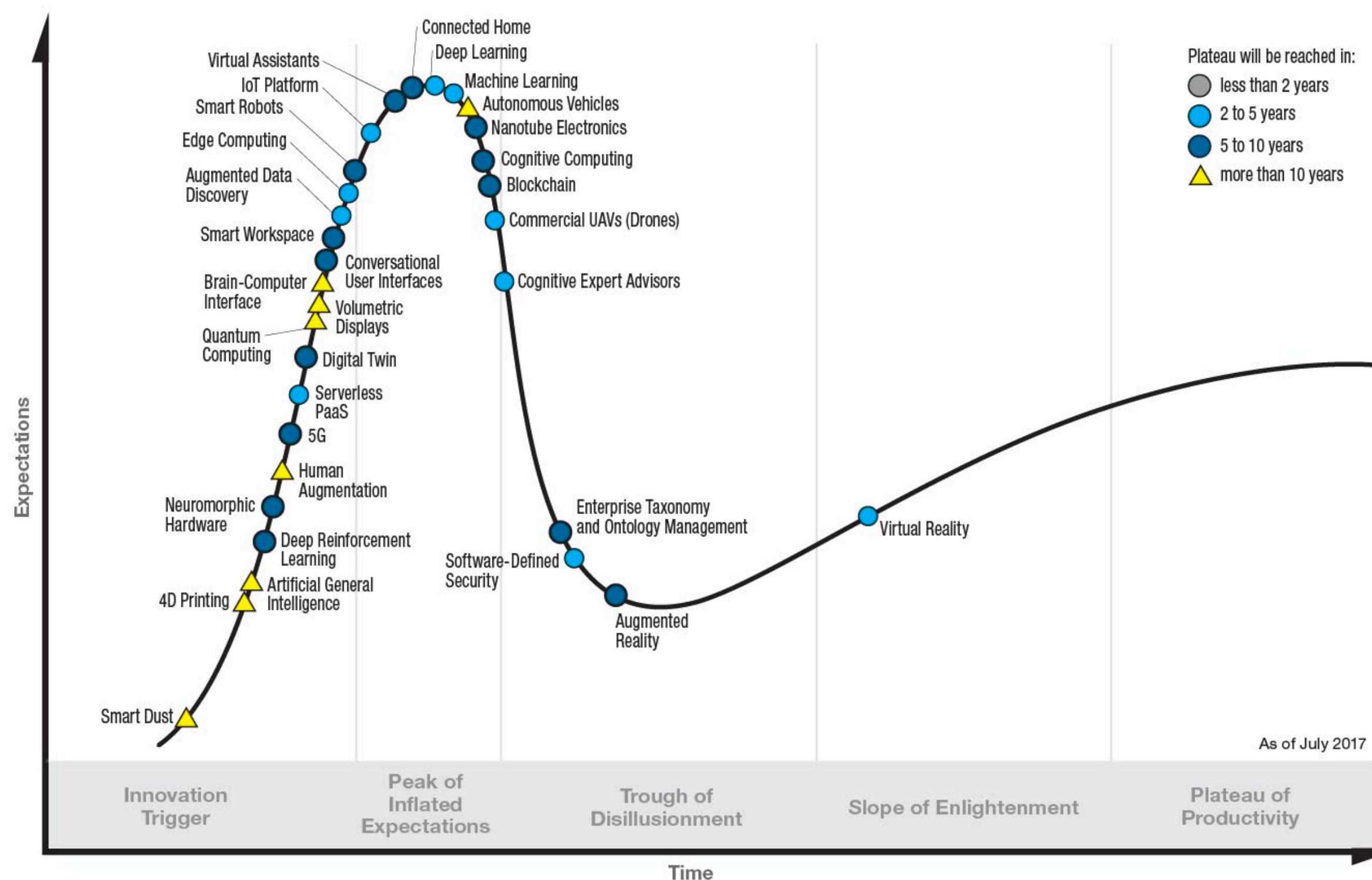


gerald@verslu.is

DOT
CONT
ROL.

HYPE OVERLOAD

Gartner Hype Cycle for Emerging Technologies, 2017



gartner.com/SmarterWithGartner

Source: Gartner (July 2017)
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Gartner



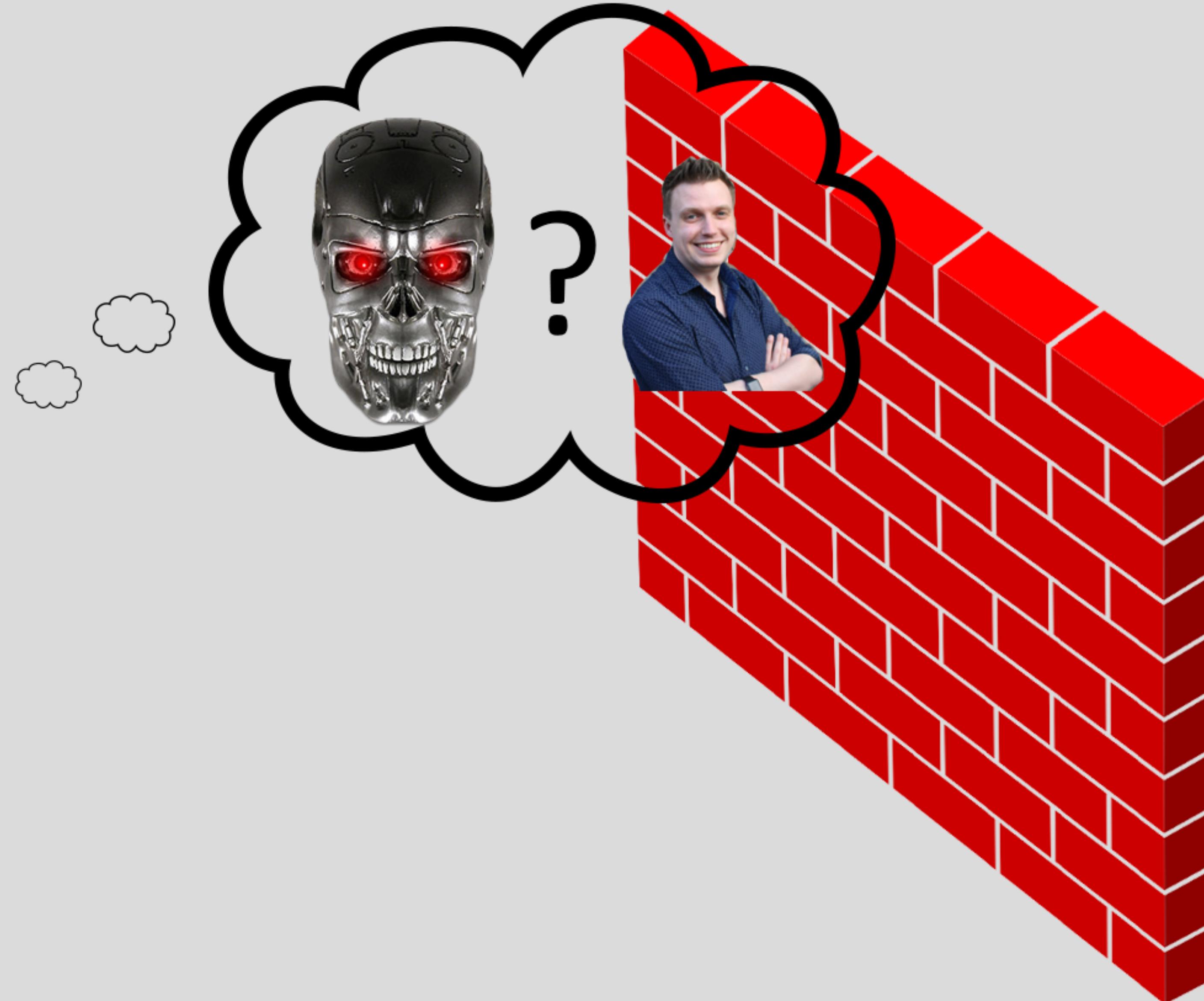
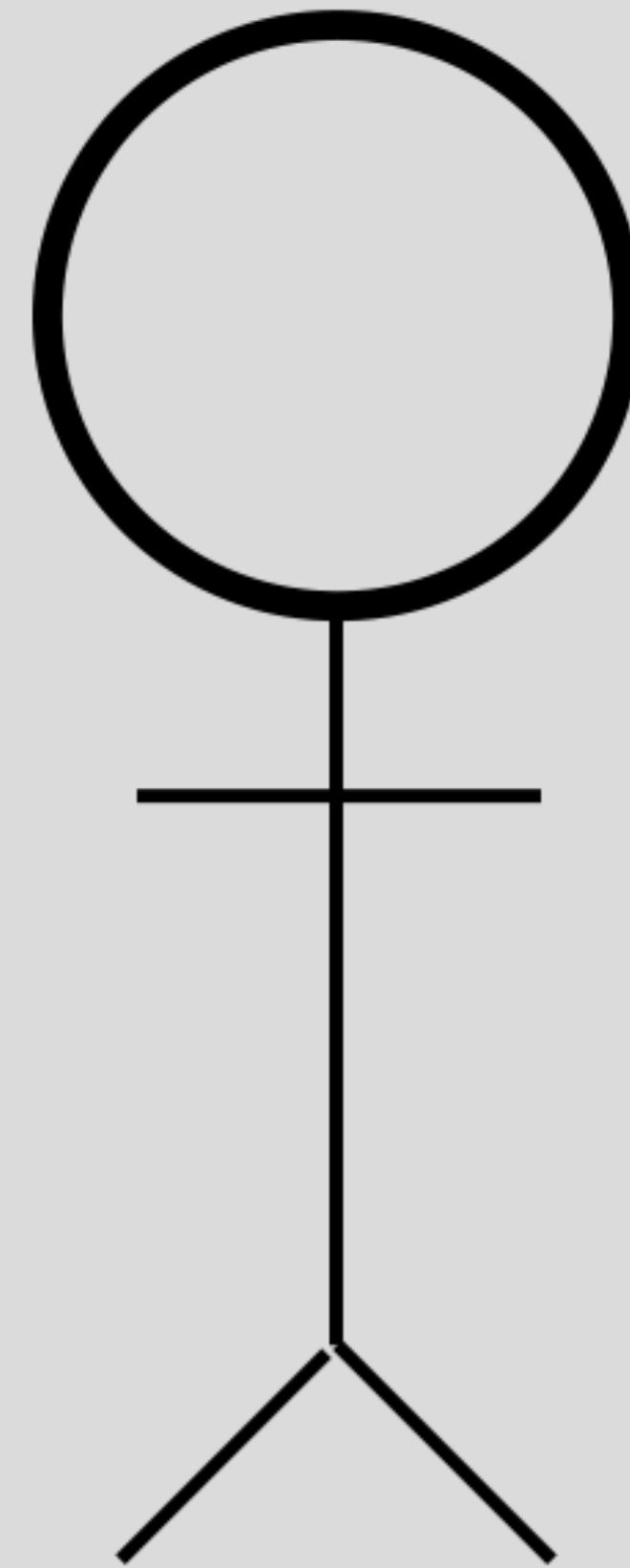
ALAN TURING

- ▲ Born in England in 1912
- ▲ Ultra-maga-super MATH GENIUS



@jfversluis

Copyright SciShow
<https://www.youtube.com/watch?v=Btqro3544p8>



@jfversluis

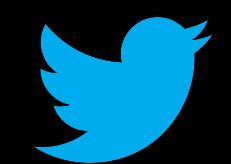
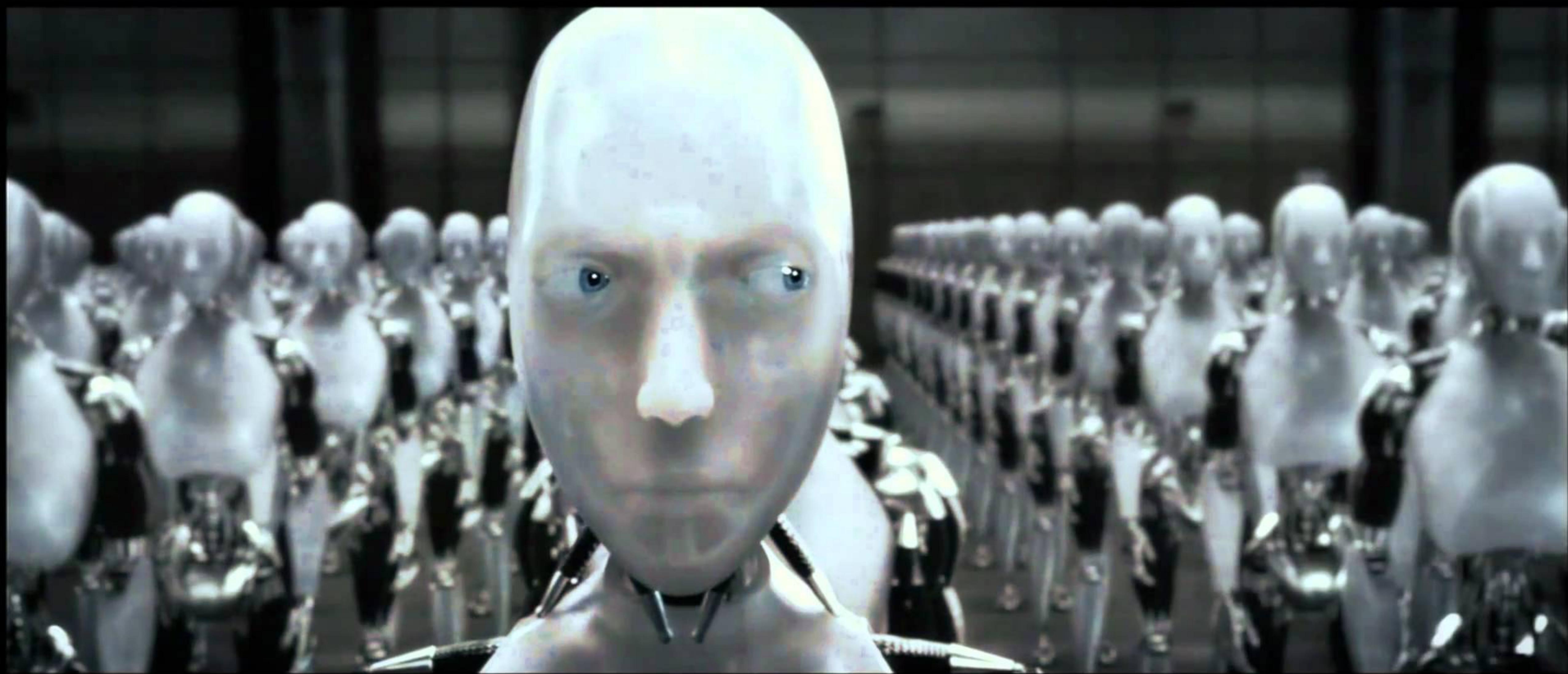


Dartmouth Project

Marvin Minsky



@jfversluis



@jfversluis

We train the AI!

Rob Lach
@lachrob

Follow

Hey @Google, exactly what kind of AI am I helping you guys train with this?

Select all squares that match the label:
Sarah Connor.
If there are none, click skip.



C i SKIP

RETWEETS LIKES
3,903 6,393

3:28 AM - 15 Feb 2017

106 3.9K 6.4K

Or did you think the images were just for *verification*...?

It is already among us...

Nsdefect
DEFECT @Nsdefect Following

@NS_online @ROVER_online wat doen die mini-cameratjes in die reclamezuil! Dit lijkt me geen beveiliging! Station amersfoort perron 6/7

Translate from Dutch

7:52 AM - 4 Sep 2017

29 Retweets 12 Likes

NS online @NS_online · 4h

Replying to @Nsdefect @ROVER_online

Met die camera's kijken adverteerders of passanten de advertentie bekijken en hoe lang: bit.ly/2x4td5S. ^JJ

Translate from Dutch

Camera in reclamebord legt kijkgedrag vast

Adverteerders hebben een manier gevonden om te bepalen hoeveel en hoe lang mensen naar reclames kijken. Door kleine camera's in ...

security.nl

18 28 10

But I develop apps..?

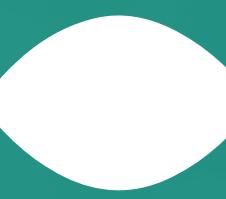


Image source:

<http://igadgetkart.com/closer-look-advantages-disadvantages-cross-platform-mobile-development/>

Microsoft Cognitive Services

Give your apps
a human side



Vision

From faces to feelings, allow your apps to understand images and video



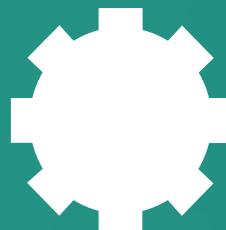
Speech

Hear and speak to your users by filtering noise, identifying speakers, and understanding intent



Language

Process text and learn how to recognize what users want



Knowledge

Tap into rich knowledge amassed from the web, academia, or your own data



Search

Access billions of web pages, images, videos, and news with the power of Bing APIs

Vision

Speech

Language

Knowledge

Search



Computer Vision API

Distill actionable information from images

[Try Computer Vision API](#) | Use with an Azure subscription



Face API

Detect, identify, analyze, organize, and tag faces in photos

[Try Face API](#) | Use with an Azure subscription



Content Moderator

Automated image, text, and video moderation

[Use with an Azure subscription](#)



Emotion API PREVIEW

Personalize user experiences with emotion recognition



Custom Vision Service PREVIEW

Easily customize your own state-of-the-art computer vision models for your unique use case

[Try Custom Vision Service](#) | Use with an Azure subscription



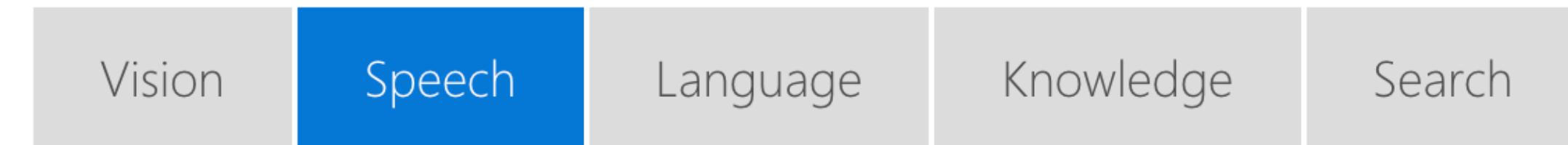
Video Indexer PREVIEW

Unlock video insights

[Try Video Indexer](#)



@jfversluis



Translator Speech API

Easily conduct real-time speech translation with a simple REST API call

[Use with an Azure subscription](#)



Speaker Recognition API PREVIEW

Use speech to identify and authenticate individual speakers

[Try Speaker Recognition API](#) | [Use with an Azure subscription](#)



Bing Speech API

Convert speech to text and back again to understand user intent

[Try Bing Speech API](#) | [Use with an Azure subscription](#)



Custom Speech Service PREVIEW

Overcome speech recognition barriers like speaking style, background noise, and vocabulary

[Try Custom Speech Service](#) | [Use with an Azure subscription](#)



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Language Understanding (LUIS)

Teach your apps to understand commands from your users

[Try Language Understanding \(LUIS\) | Use with an Azure subscription](#)



Bing Spell Check API

Detect and correct spelling mistakes in your app

[Try Bing Spell Check API | Use with an Azure subscription](#)



Web Language Model API PREVIEW

Use the power of predictive language models trained on web-scale data



Text Analytics API

Easily evaluate sentiment and topics to understand what users want

[Try Text Analytics API | Use with an Azure subscription](#)



Translator Text API

Easily conduct machine translation with a simple REST API call

[Use with an Azure subscription](#)



Linguistic Analysis API PREVIEW

Simplify complex language concepts and parse text with the Linguistic Analysis API



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Vision

Speech

Language

Knowledge

Search



[QnA Maker API](#) PREVIEW

Distill information into conversational, easy-to-navigate answers

[Try QnA Maker API](#)



[Custom Decision Service](#) PREVIEW

A cloud-based, contextual decision-making API that sharpens with experience

[Try Custom Decision Service](#)



[Project Knowledge Exploration](#)

Enable interactive search experiences over structured data via natural language inputs



[Project Academic Knowledge](#)

Tap into the wealth of academic content in the Microsoft Academic Graph



[Project Entity Linking](#)

Power your app's data links with named entity recognition and disambiguation



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Vision

Speech

Language

Knowledge

Search

Bing Autosuggest API

Give your app intelligent autosuggest options for searches

[Try Bing Autosuggest API](#) | Use with an Azure subscription



Bing Image Search API

Search for images and get comprehensive results

[Try Bing Image Search API](#) | Use with an Azure subscription

Bing News Search API

Search for news and get comprehensive results

[Try Bing News Search API](#) | Use with an Azure subscription



Bing Video Search API

Search for videos and get comprehensive results

[Try Bing Video Search API](#) | Use with an Azure subscription

Bing Web Search API

Get enhanced search details from billions of web documents

[Try Bing Web Search API](#) | Use with an Azure subscription



Bing Custom Search API

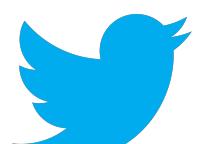
An easy-to-use, ad-free, commercial-grade search tool that lets you deliver the results you want

[Try Bing Custom Search API](#) | Use with an Azure subscription

Bing Entity Search API

Enrich your experiences by identifying and augmenting entity information from the web

[Try Bing Entity Search API](#) | Use with an Azure subscription



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Why Microsoft Cognitive Services?

Easy

Roll your own with REST APIs

Simple to add: just a few lines of code required

Flexible

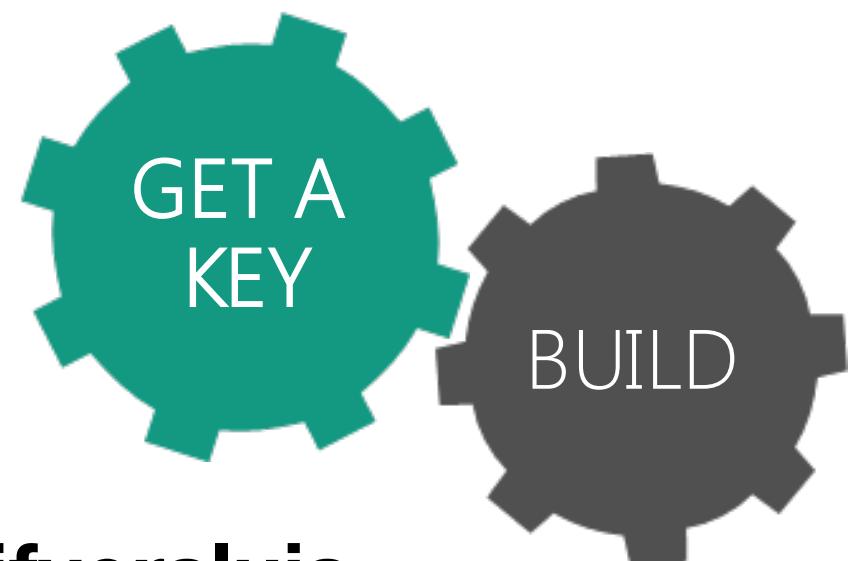
Integrate into the language and platform of your choice

Breadth of offerings helps you find the right API for your app

Tested

Built by experts in their field from Microsoft Research, Bing, and Azure Machine Learning

Quality documentation, sample code, and community support



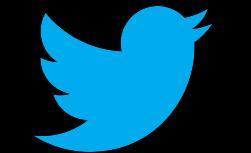
@jfversluis



Working with Cognitive Services

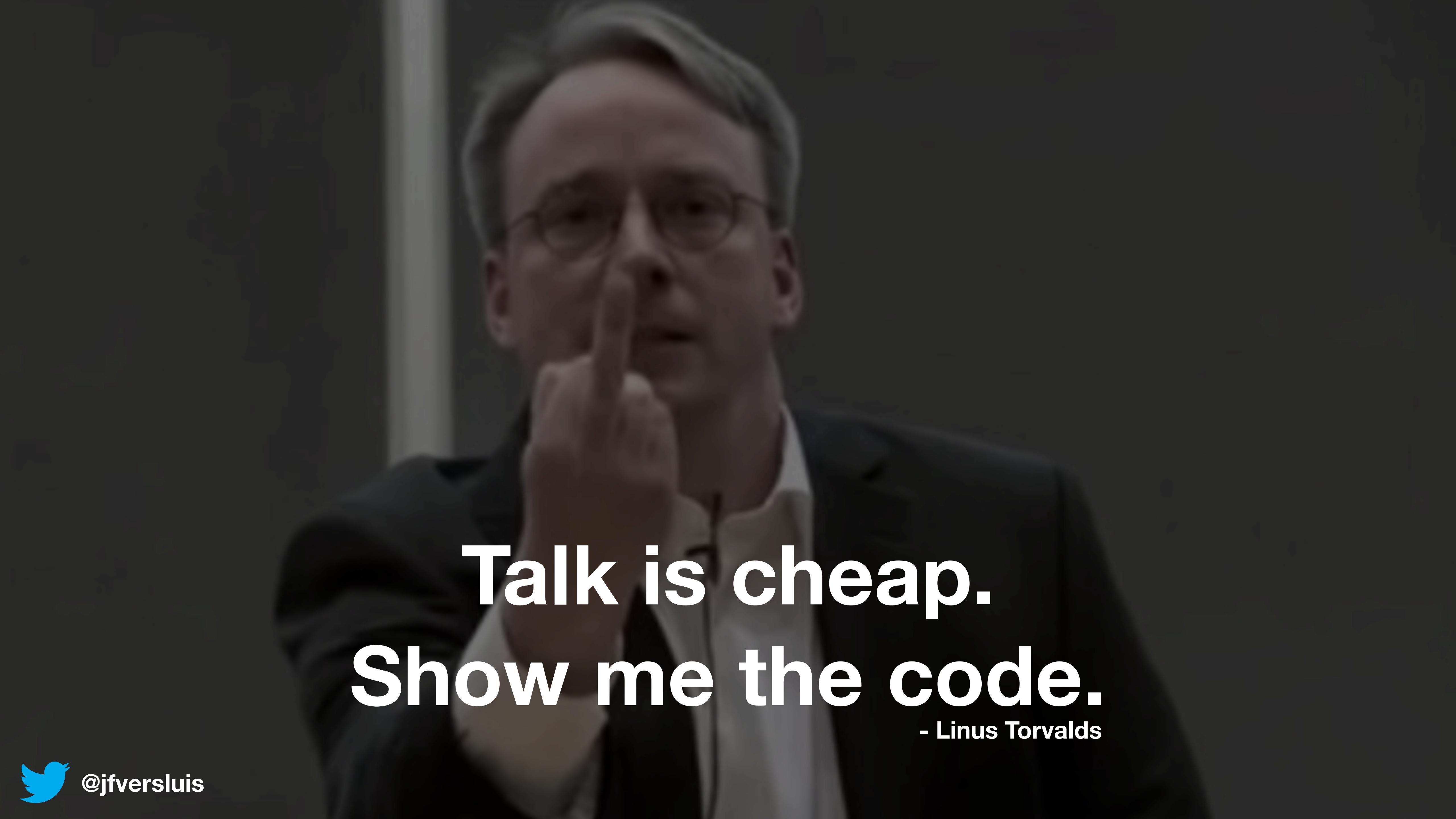
```
using Microsoft.ProjectOxford.Vision;
using Microsoft.ProjectOxford.Vision.Contract;
AnalysisResult analysisResult;
var features = new VisualFeature[] { VisualFeature.Tags, Vi
using (var fs = new FileStream(@“C:\Skynet\T-800.jpg”, FileMode.Open))
{
    analysisResult = await visionClient.AnalyzeImageAsync(fs)
}
POST https://api.projectoxford.ai/vision/v1/analyze
visualFeatures=Description,Tags
&subscription-key=<Your subscription key>
```

```
{
    "tags": [
        { "name": "Terminator",
          "score": 0.976 },
        { "name": "Arnold",
          "score": 0.95 } ],
    "description": {
        "tags": [
            [ "terminator", "arnold" ] ],
        "captions": [
            { "text": "Killer robot
from the future",
              "confidence": 0.96 }
        ]
    }
}
```



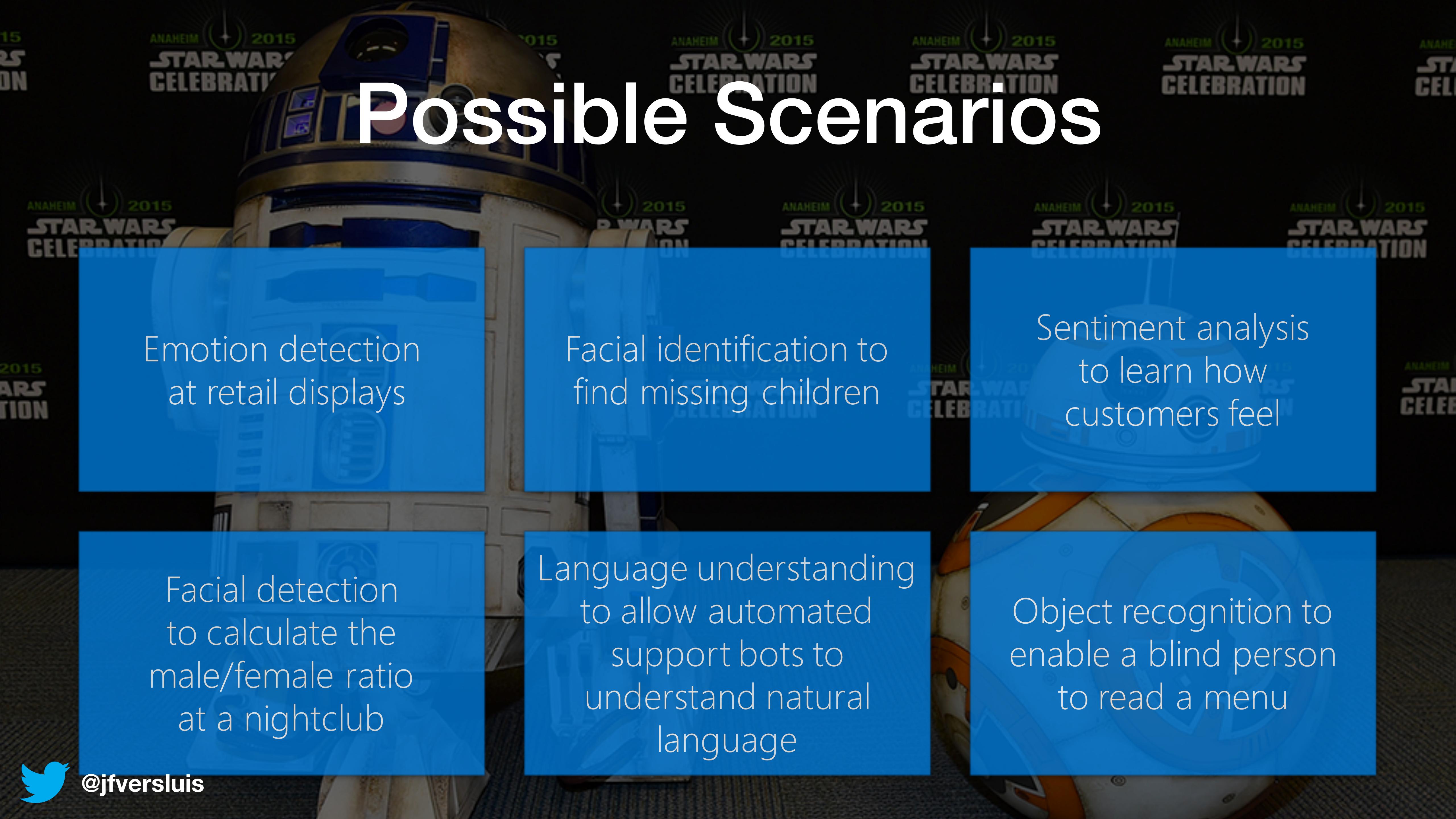
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HBO®



Talk is cheap.
Show me the code.

- Linus Torvalds



Possible Scenarios

Emotion detection
at retail displays

Facial identification to
find missing children

Sentiment analysis
to learn how
customers feel

Facial detection
to calculate the
male/female ratio
at a nightclub

Language understanding
to allow automated
support bots to
understand natural
language

Object recognition to
enable a blind person
to read a menu





Bringing it all together

The Seeing AI App

Computer Vision, Image, Speech Recognition, NLP,
and ML from Microsoft Cognitive Services

<https://www.microsoft.com/en-us/seeing-ai/>

Some Fun Implementations



CaptionBot.ai



Celebslike.me



ProjectMurphy.net

Some Fun Implementations

The Mojifier

CATEGORY: Azure DATE: April 09, 2018 AUTHOR:  Asim [Follow @jawache](#) 7,266 followers



<https://codecraft.tv/blog/2018/04/09/mojifier/>

Get started for free at
microsoft.com/cognitive

Or, if you don't like manuals;
[https://docs.microsoft.com/en-us/
azure/#pivot=products&panel=ai](https://docs.microsoft.com/en-us/azure/#pivot=products&panel=ai)



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Now it's your turn!



<https://aka.ms/ai-nights-beginner>

Win a Surface Laptop! <https://aka.ms/globalainight>