



Think ahead. Act now.

Making AI easy with Azure Cognitive Services

Geert van der Cruisen

2018
Global Azure
BOOTCAMP



Geert van der Cruisen

Mobile First Cloud First Architect

Xpirit Netherlands

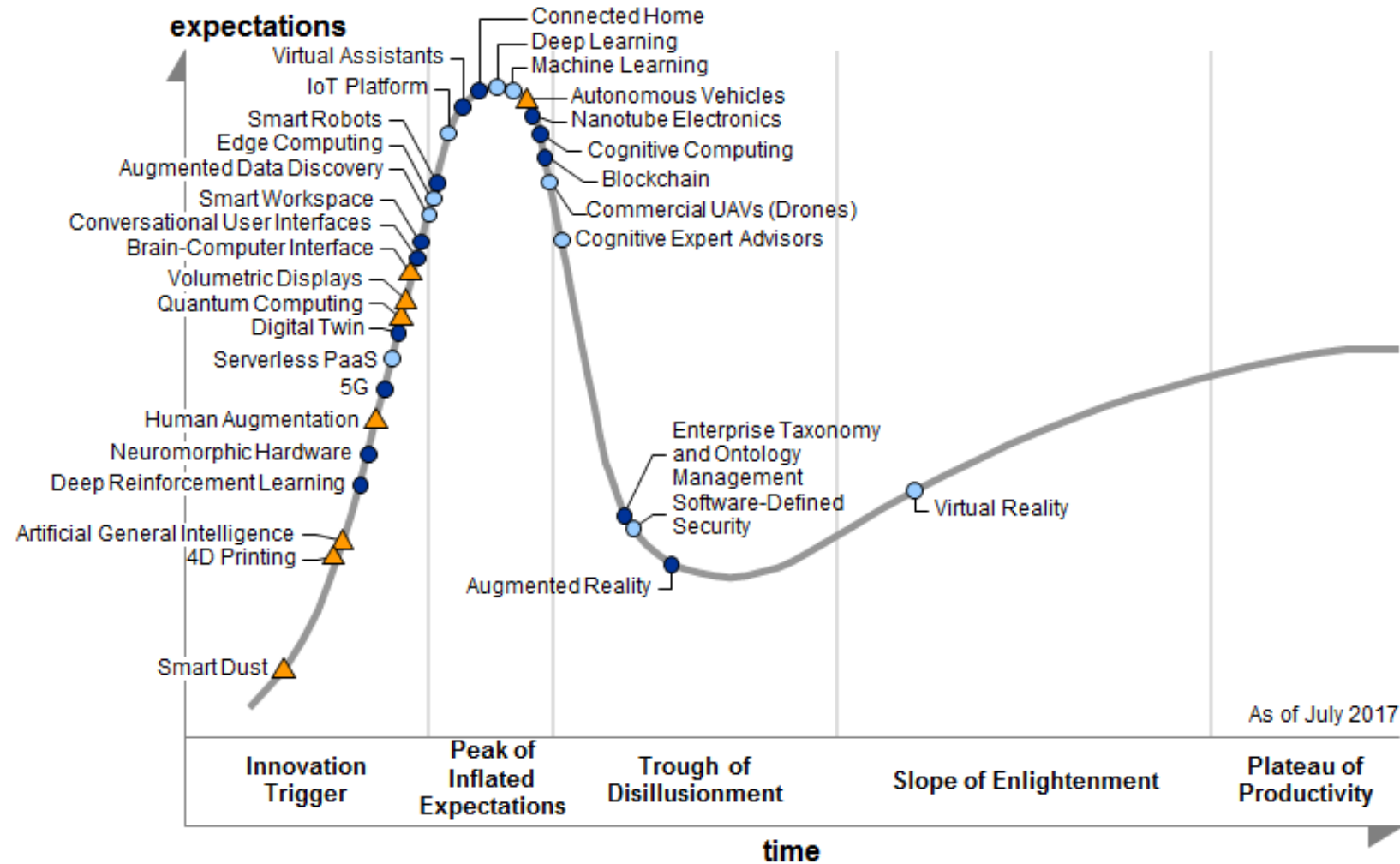
@geertvdc – geert@vdcruisen.net



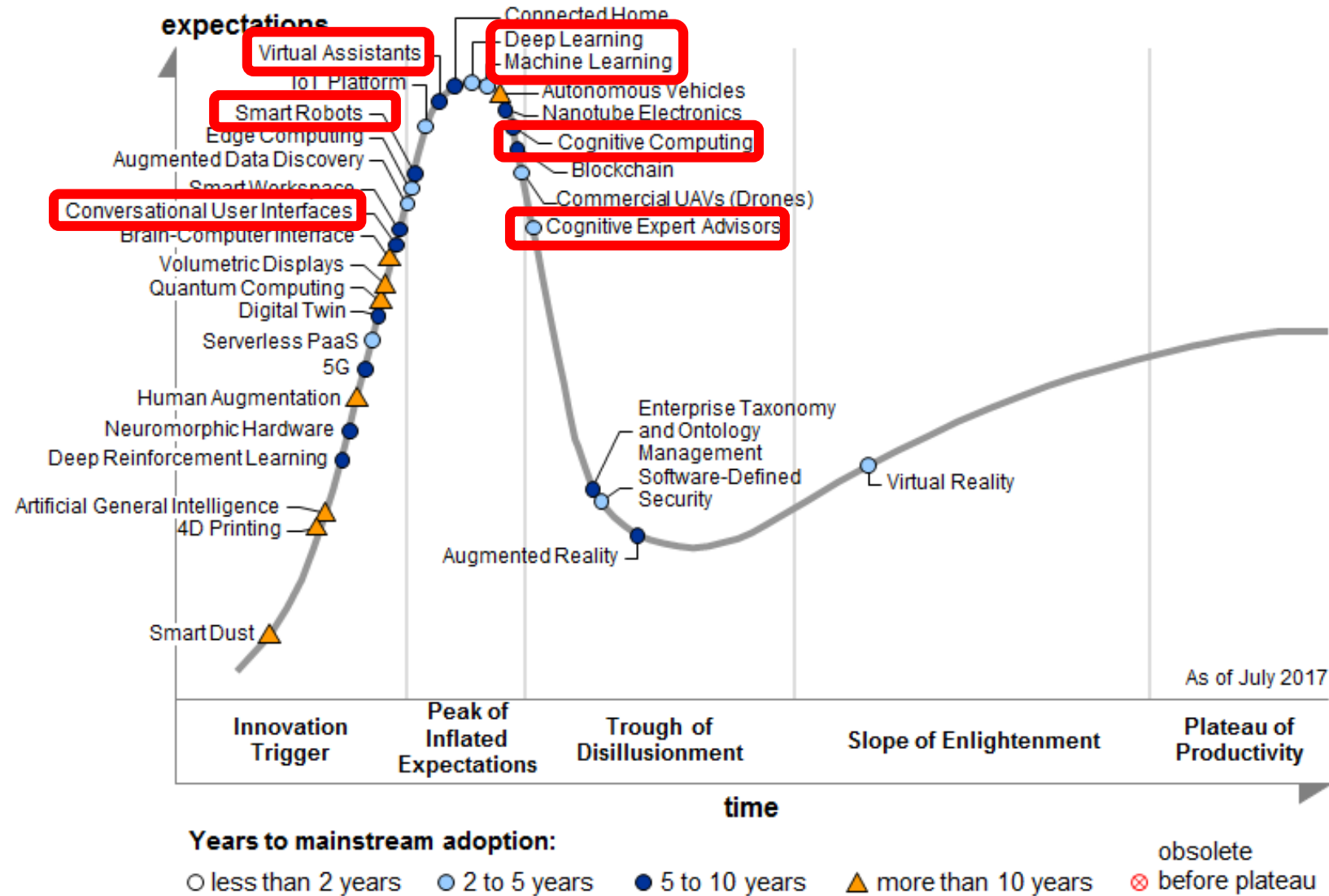
AI is the biggest new hype in software
development

Should I care when I'm just building my applications?

AI HYPE



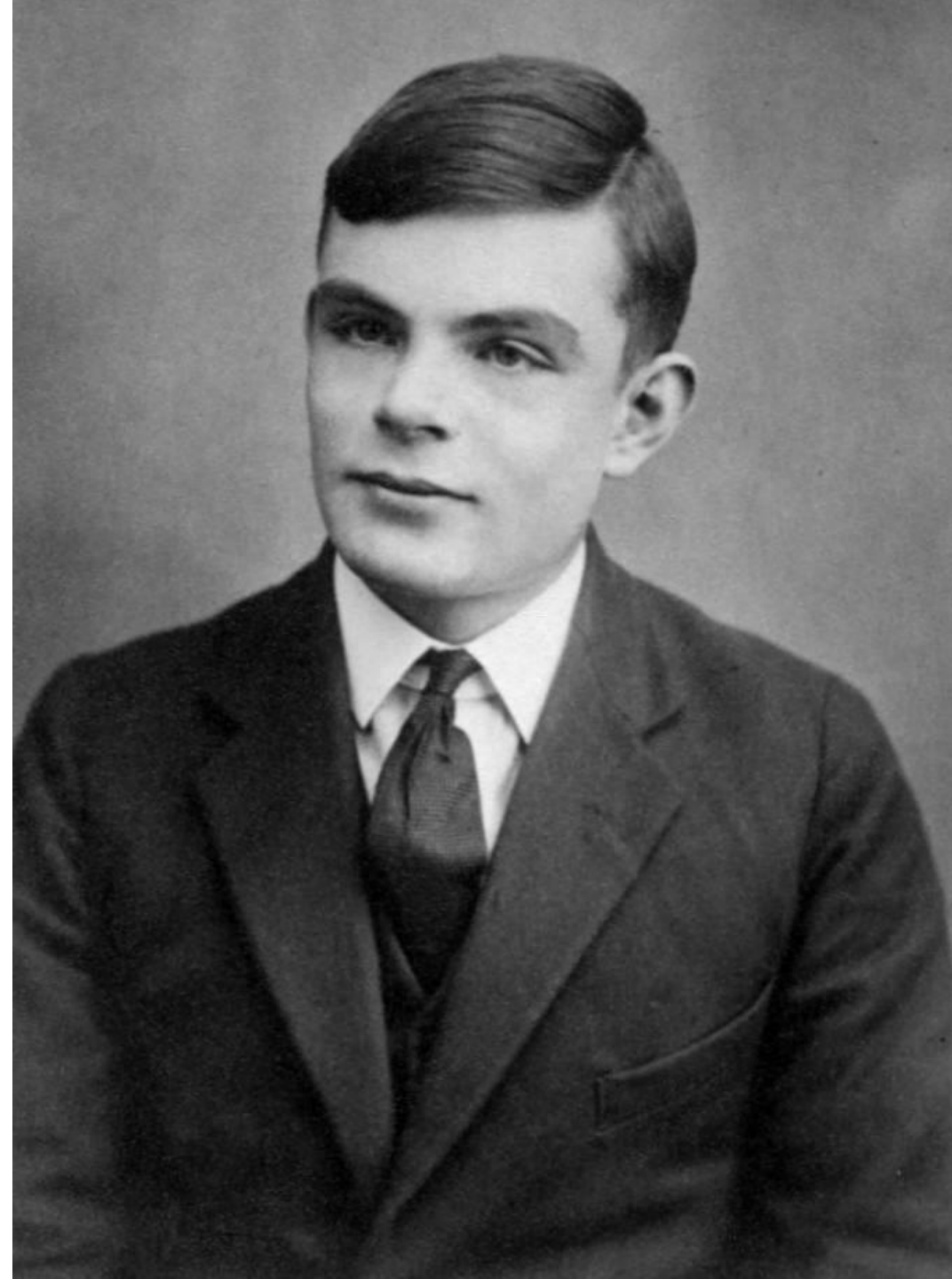
AI HYPE



But AI is not new

AI IS NOT NEW

Alan Turing
Invited the Turing
test in 1950



AI IS NOT NEW

Captcha's
Are reverse
Turing tests



Rob Lach
@lachrob

Follow

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



RETWEETS
3,903

LIKES
6,393



3:28 AM - 15 Feb 2017

106

3.9K



6.4K

AI IS NOT NEW

Marvin Minsky
The "father" of AI



AI IS NOT NEW

1955 Dartmouth Research Project

AI Magazine Volume 27 Number 4 (2006) (© AAAI)

A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence

August 31, 1955

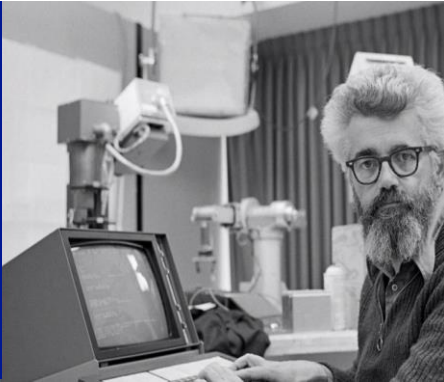
*John McCarthy, Marvin L. Minsky,
Nathaniel Rochester,
and Claude E. Shannon*



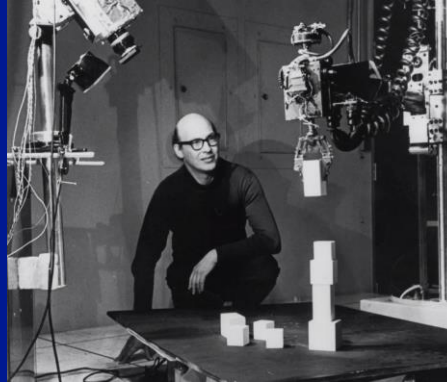
AI IS NOT NEW – DARTMOUTH RESEARCH PROJECT



KNOWLEDGE
REPRESENTATION



PERCEPTION



NATURAL
LANGUAGE
PROCESSING



PLANNING
(INCLUDING
NAVIGATION)



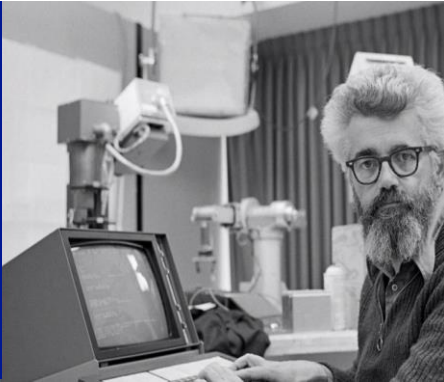
REASONING



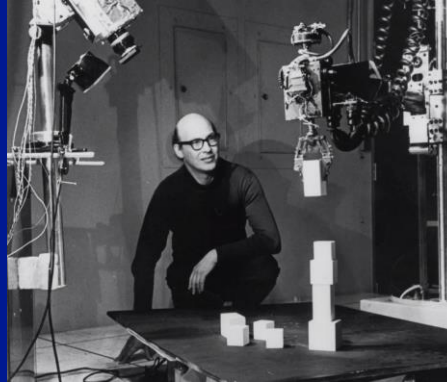
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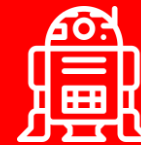
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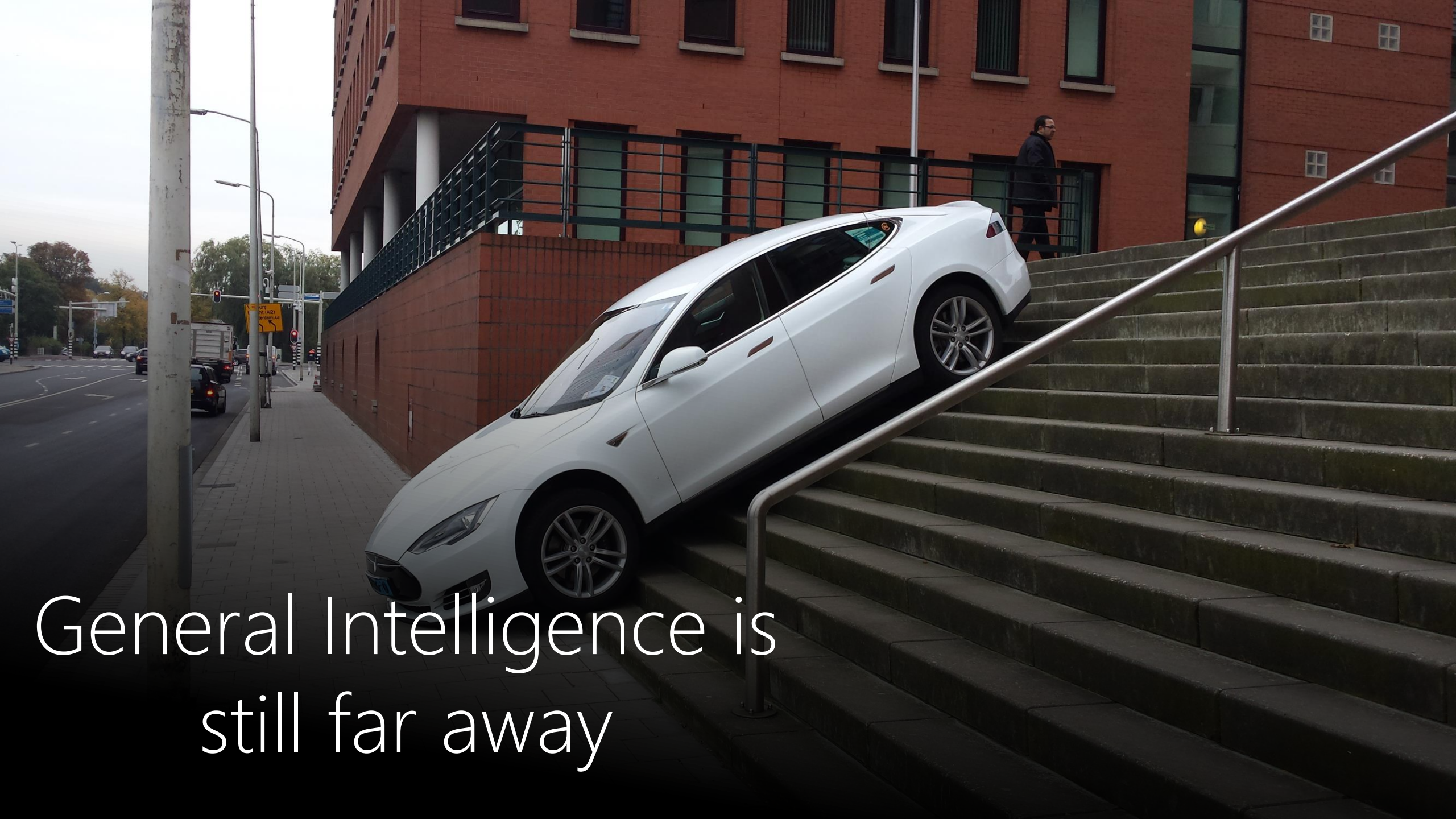


REASONING



GENERALIZED
INTELLIGENCE





General Intelligence is
still far away



And maybe that's a good thing

Why AI now?

WHY AI NOW?

The arrival of machine learning
Performance for decades-old
challenges has been transformed

Image recognition

28% error rate → 7% →

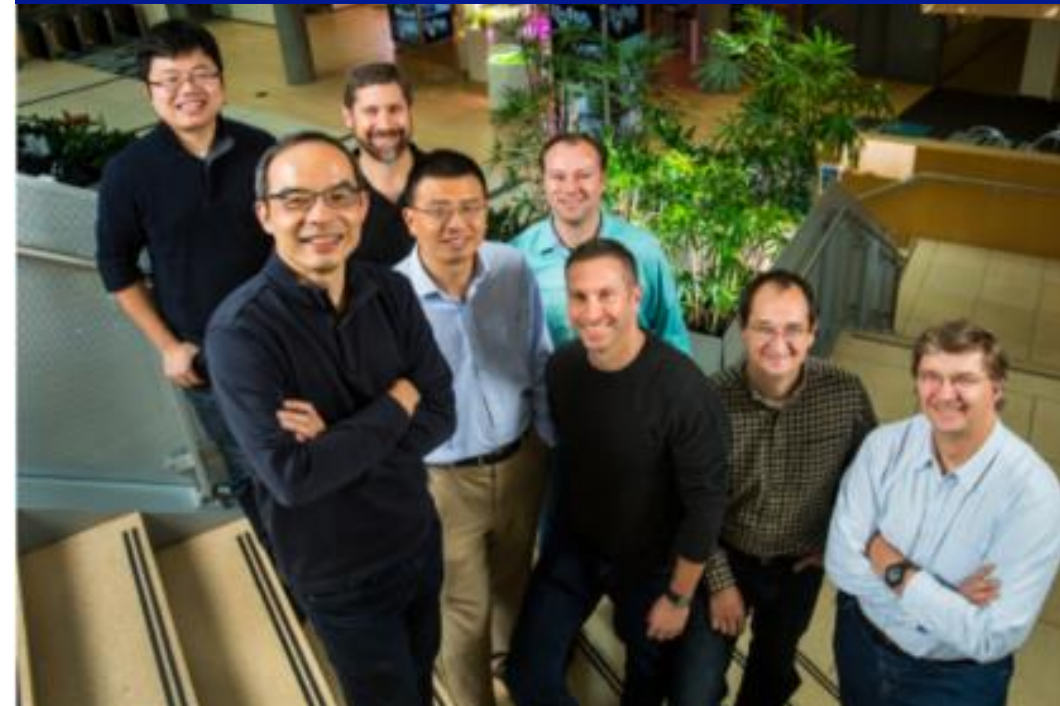
Speech recognition

26% error rate → 4% →



October 2016

Microsoft researchers reach human parity in
conversational speech recognition



Let's do a small test

How many dogs can you find in 2 seconds?



How many did you count?

Did anyone find all 10?

WHY AI NOW?

Old way: Rules

- Build systems to look for ears, noses, legs, fur...
- Hire linguists and write grammar rules

New way: 2012 Machine Learning

- Huge catalogue of images (way more data)
- Huge computing power
- Over time it learns rather than need rules



Microsoft Cognitive Services

Lets see what we can do infuse our apps with AI

Machine Learning as a Service

Cognitive services are trained models ready to use

MICROSOFT COGNITIVE SERVICES



Vision

Computer Vision
Content Moderator
Emotion
Face
Video
Video Indexer



Speech

Speech
Speaker Recognition
Translator
Custom



Language

LUIS
Spell Check
Linguistic Analysis
Text Analytics
Translator
Web Language Model



Search

Autosuggest
Image
News
Video
Web
Custom



Knowledge

Academic
Entity Linking
Exploration
QnA Maker
Recommendations



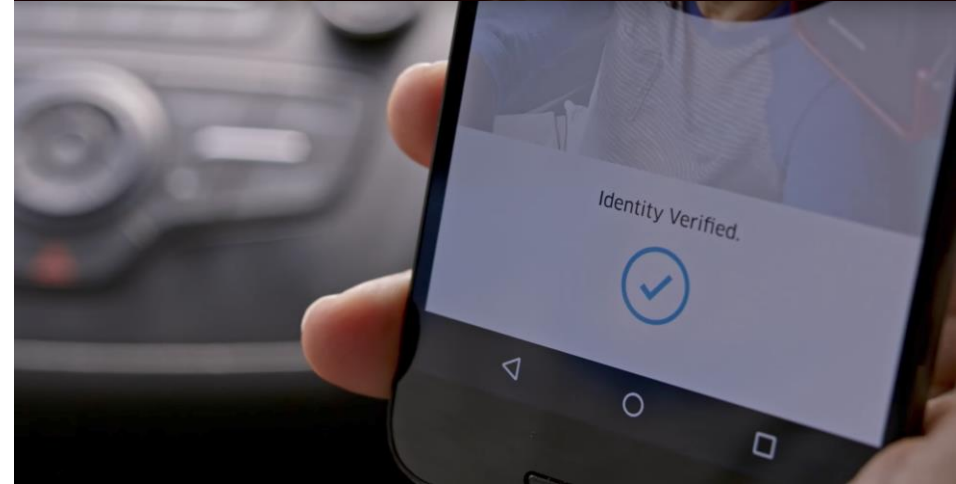
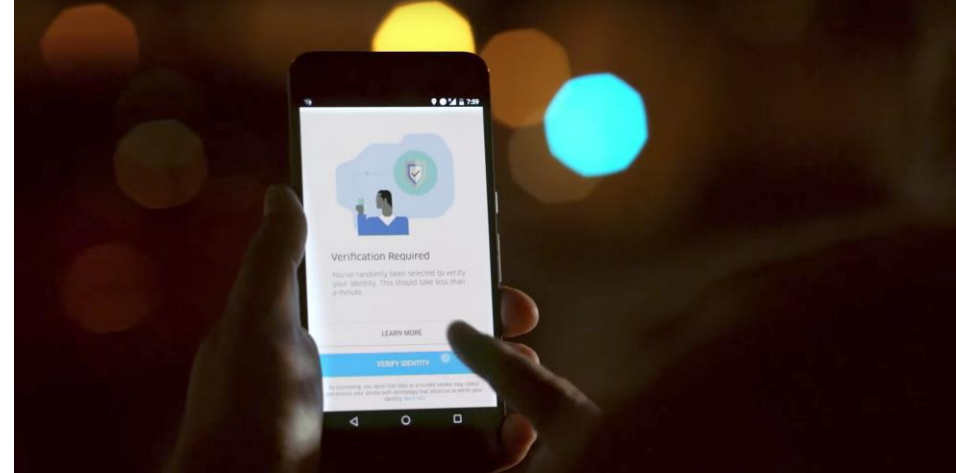
Bot Framework

Inspirational use cases

What kind of ideas can you steal/borrow and add to your own applications

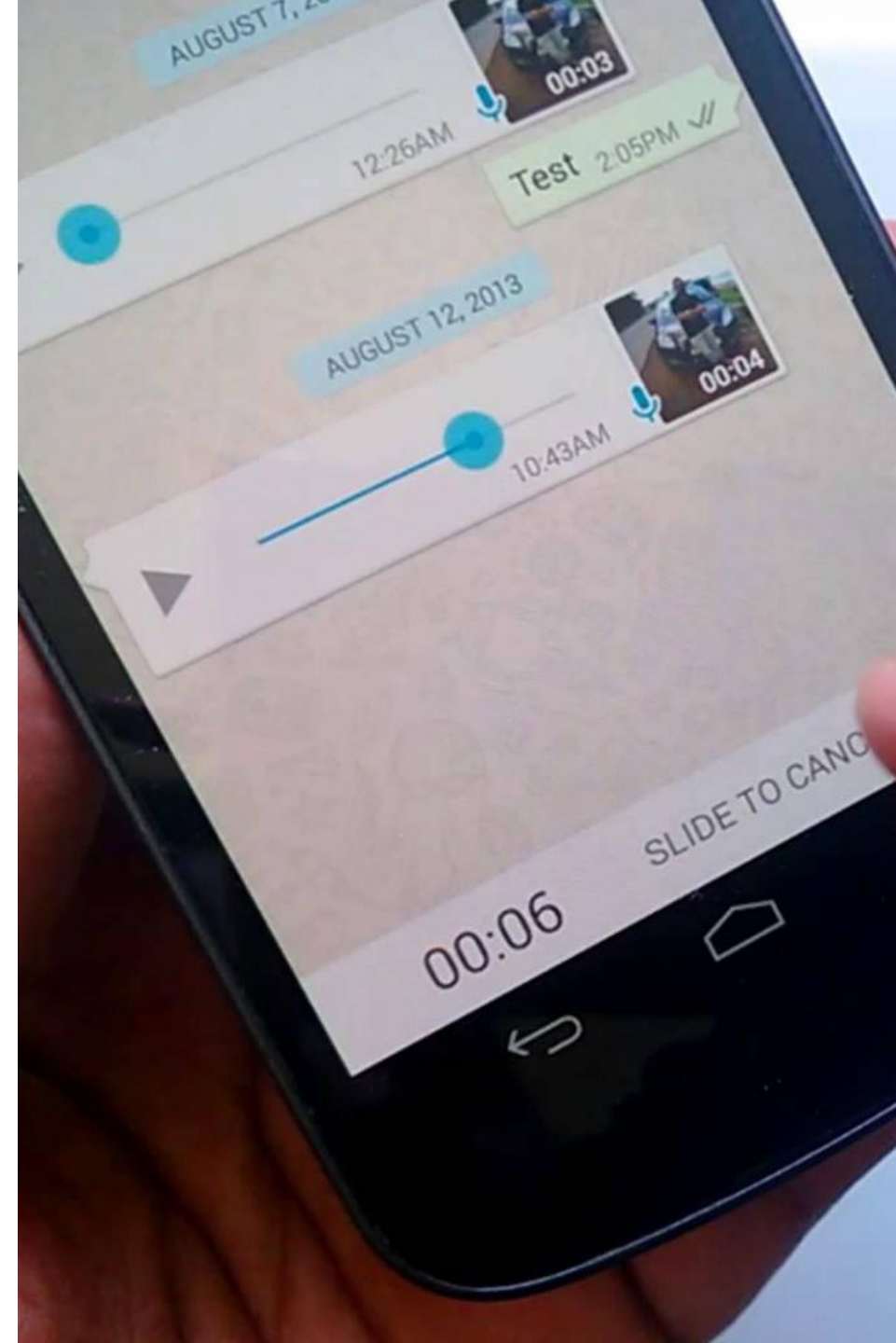
INSPIRATION: VISION 

UBER:
Driver verification
using vision API



INSPIRATION: SPEECH 

Speech to Text
Build your own
personal assistant or
voice recorder



INSPIRATION: LANGUAGE

Spell check
User input



DEMO & LABS

<https://github.com/XpiritBV/gabc-cognitivebot>

A man with a shaved head, wearing a dark blue suit jacket over a light blue striped shirt, stands with his arms crossed in front of a vibrant, colorful graffiti wall. The graffiti includes various tags, letters, and a stylized face. The man is smiling slightly and looking towards the camera.

Thank you!

<https://mobilefirstcloudfirst.net>

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