

# Artificial Intelligence on Azure

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# GitHub

TECH

## Microsoft Is Buying GitHub for \$7.5 Billion in Stock

The move could help the software giant convince more developers to create applications for its cloud-computing business



Let's do the math

# Cost of one line of code on GitHub

$n =$  57 million of repositories (\*)

$M =$  7,500,000,000

$x =$  average 500 lines of code per repo

$$p = \frac{n \cdot x}{M} = \frac{57.000.000 \cdot 500}{7.500.000.000} = 3$$

So, price per line of code in GitHub is approx. \$3,-

(\*): <https://blog.github.com/2017-04-10-celebrating-nine-years-of-github-with-an-anniversary-sale/>

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**NIRD**

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Artificial Intelligence Conference



[nextrembrandt.com](http://nextrembrandt.com)





# 35

## Zettabyte (ZB)

$35 \text{ ZB} = 35 \times 10^{21} \text{ bytes} \approx$

$\sum (\text{ sand particles } ( \forall \text{ beaches } ( \text{ world } ) ) * 5$



22:56  
asleep\_time

6.7  
km\_ran/week

2  
cups\_of\_coffee / day

2x7:21  
shower\_time / day

3:08  
deep\_sleep / night

7:43  
time\_in\_bed / night

3

days\_work\_home / week

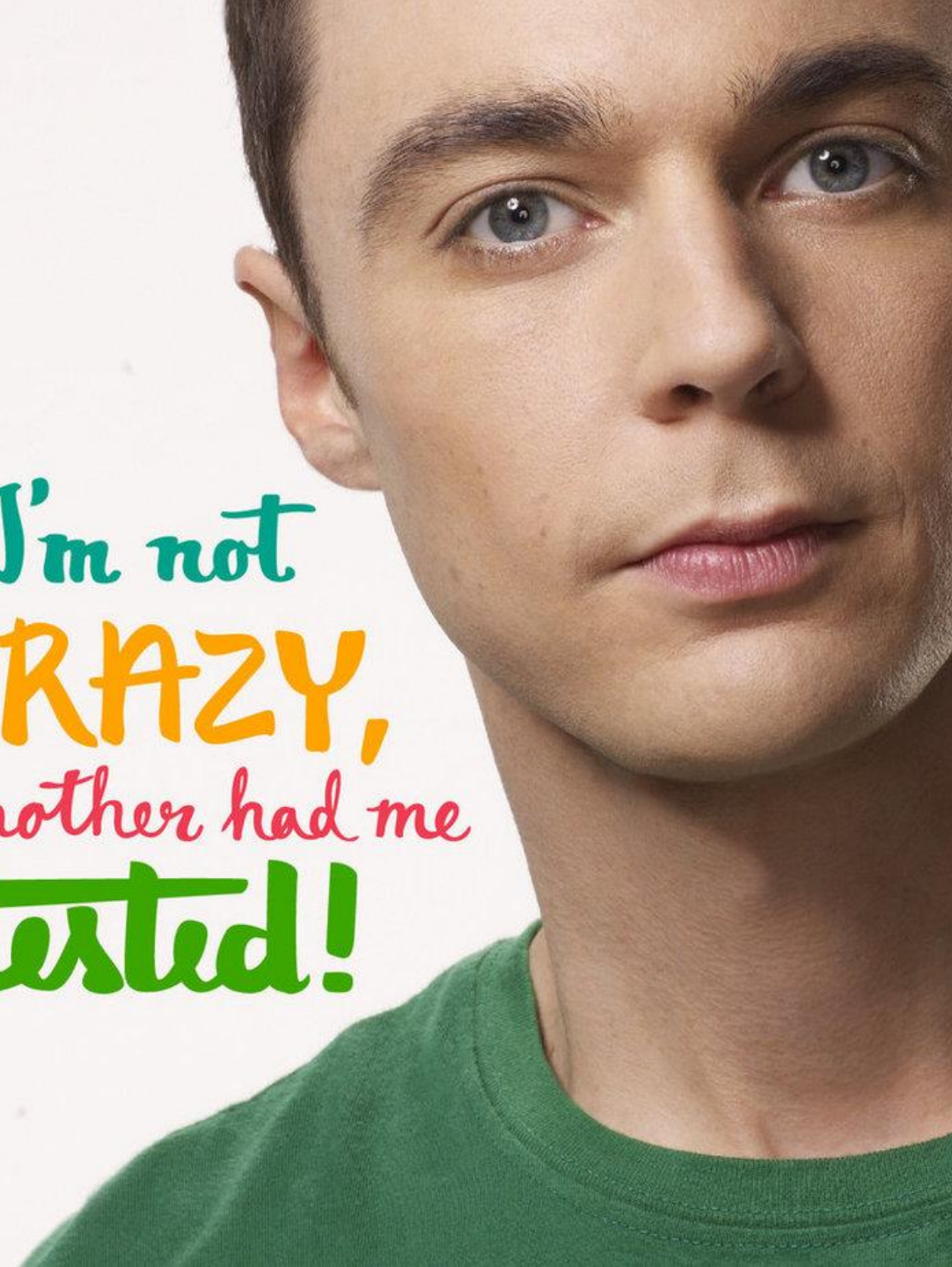
0:45  
Xbox\_time / day

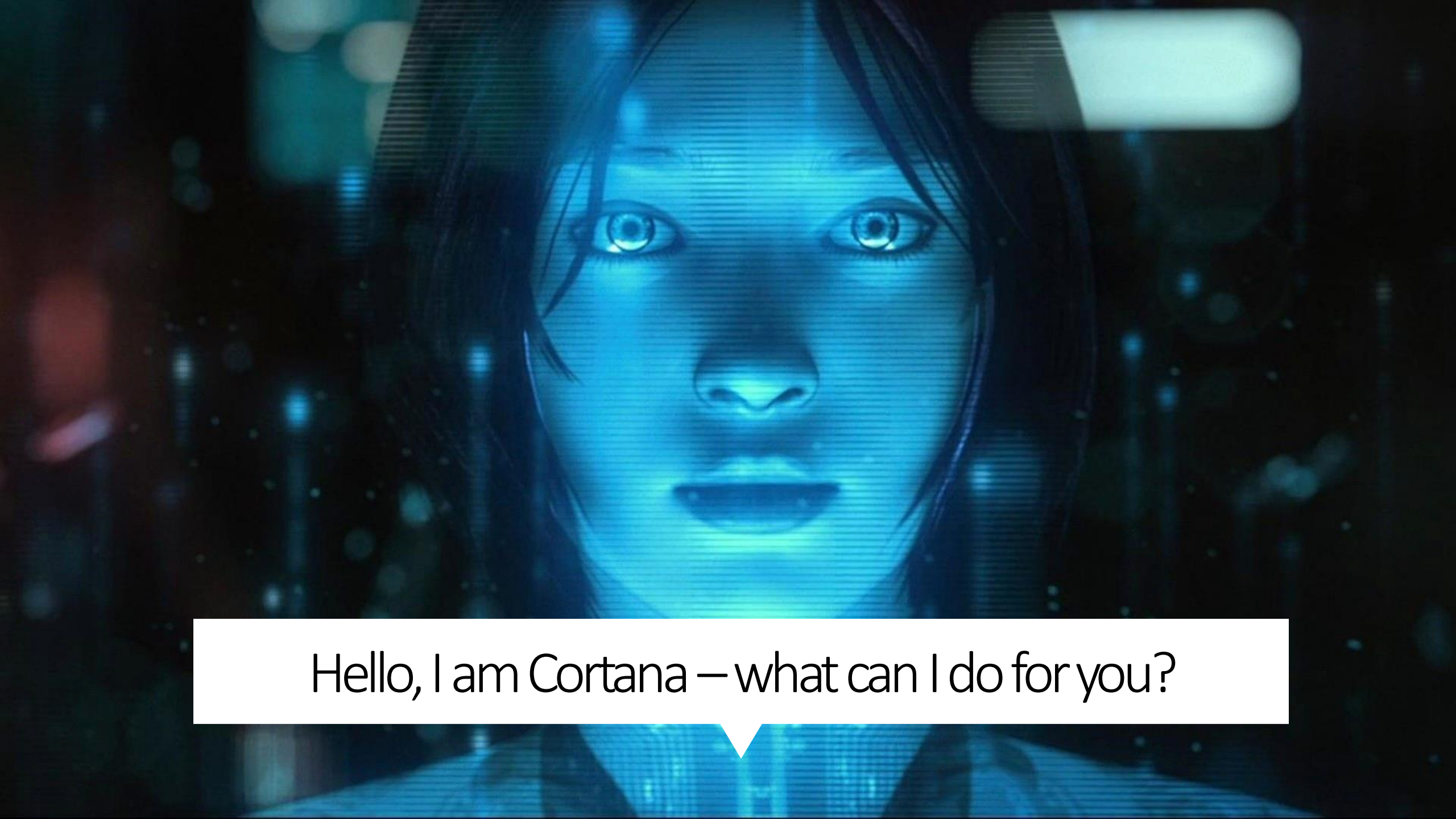
81.9  
KG\_weight

0:38  
commute

9:12  
Working\_day

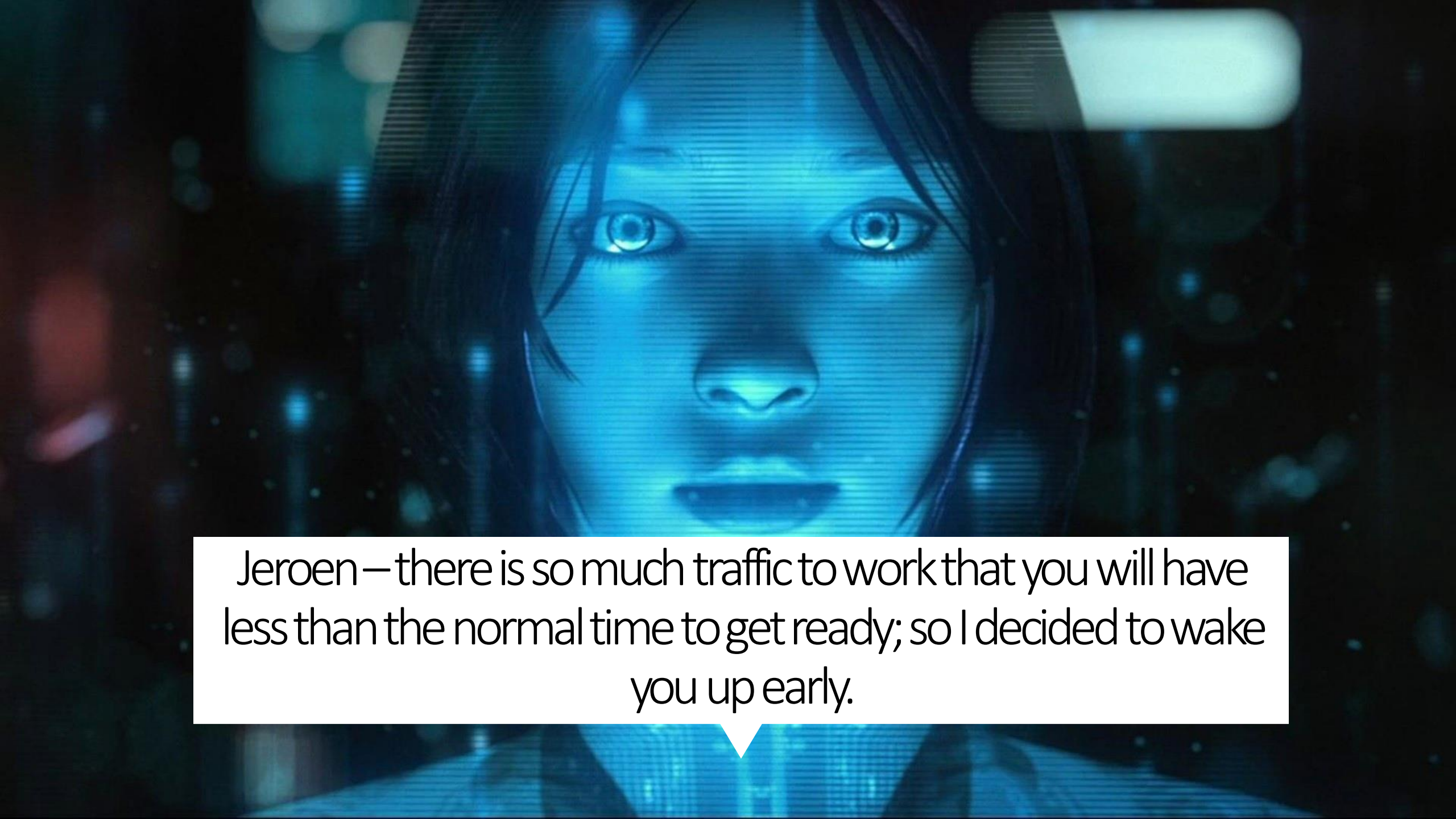
I'm not  
**CRAZY,**  
my mother had me  
**tested!**





Hello, I am Cortana – what can I do for you?



A close-up of a woman's face, looking directly at the camera. The image has a strong blue digital overlay, giving it a futuristic or artificial appearance. The woman's eyes are wide and focused. The background is dark with some blurred light sources.

Jeroen – there is so much traffic to work that you will have less than the normal time to get ready; so I decided to wake you up early.





While you were asleep...



# **Would you take orders from a ROBOT? An artificial intelligence becomes the world's first company director**

- Robot was appointed by Hong-Kong venture capital firm Deep Knowledge
- The robot, named Vital, finds trends 'not immediately obvious to humans'
- Eventually, it will get an equal vote on financial decisions made by the firm

# First Robot Granted Citizenship in Saudi Arabia

Sophia the robot, the first to be granted citizenship, wants to help humans 'live a better life.'

By [Alexa Lardieri](#), Staff Writer | Oct. 27, 2017, at 4:08 p.m.



David Hanson, the CEO of Hanson Robotics, stands with robots Sophia and Han. Sophia was granted citizenship by Saudi Arabia, making it is the first robot to become a citizen of a country. (Isaac Lawrence/AFP/Getty Images)

## Latest Videos



Becoming data driven









# Data Wrangler

Identifies sources and brings data under control for others to use.

IT-guy.

Works in the dark.



# Data Scientist

Works magic with numbers.  
Brews up info.

Maths. *A lot* of maths.

A super star that no one  
understands.



# Data Artist

Converts info into  
comprehensible insight.

Creativity and esthetics.

Loves making things  
understandable.



Art

+



Science

= insight



### Technology

Security  
Authorization

Compliance  
Quality

Tools  
Platform

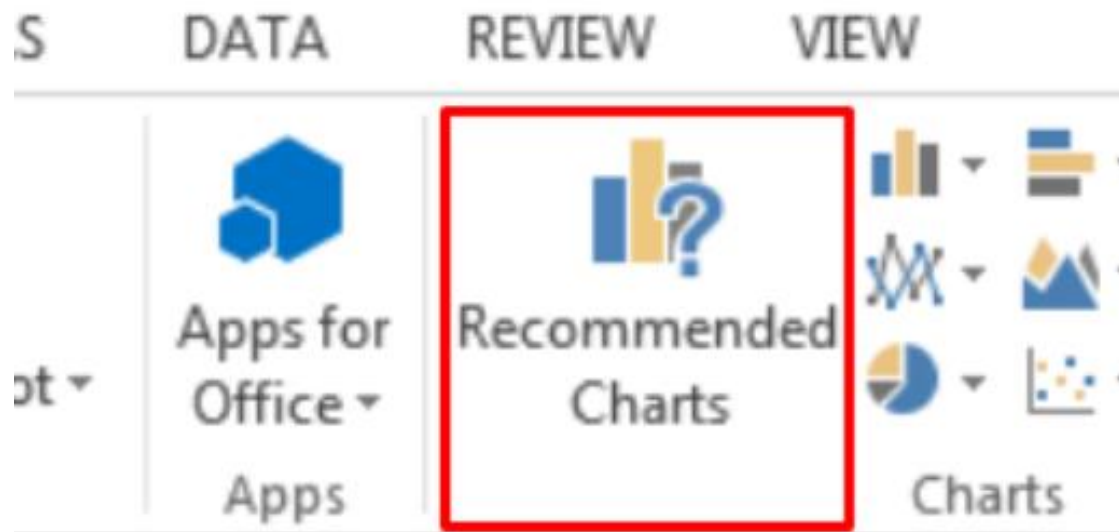


# Artificial Intelligence Examples



Alt text:  
A person  
jumping in  
the air  
doing a  
trick on a  
skateboard





This slide was created with ML powered Design Ideas in PowerPoint





Hello Terry Myerson

3:31<sup>🕒</sup>

Monday, July 13

Interview new consultant  
Fourth Coffee  
4:00 PM—5:00 PM

📧 4   📅 13   🕒 4





This call may be recorded to improve translations.



I was wondering what you are going to do later?

*Me preguntaba lo que vas a hacer después?*

Going to the pub, do you want to join us? I think you met some of the team at the party in April.

*Al pub, ¿quieres unirme a nosotros? Creo que conociste a algunos miembros del equipo en la fiesta en abril.*



Can I join you guys after my meeting?

*¿Puedo unirme a ustedes después de mi reunión?*

Type a message in English here



# Answer 'what if...?' using #ProjectMurphy



what if Jeroen ter Heerdt had a beard? #ProjectMurphy



what if Mr Bean was queen of England? #ProjectMurphy

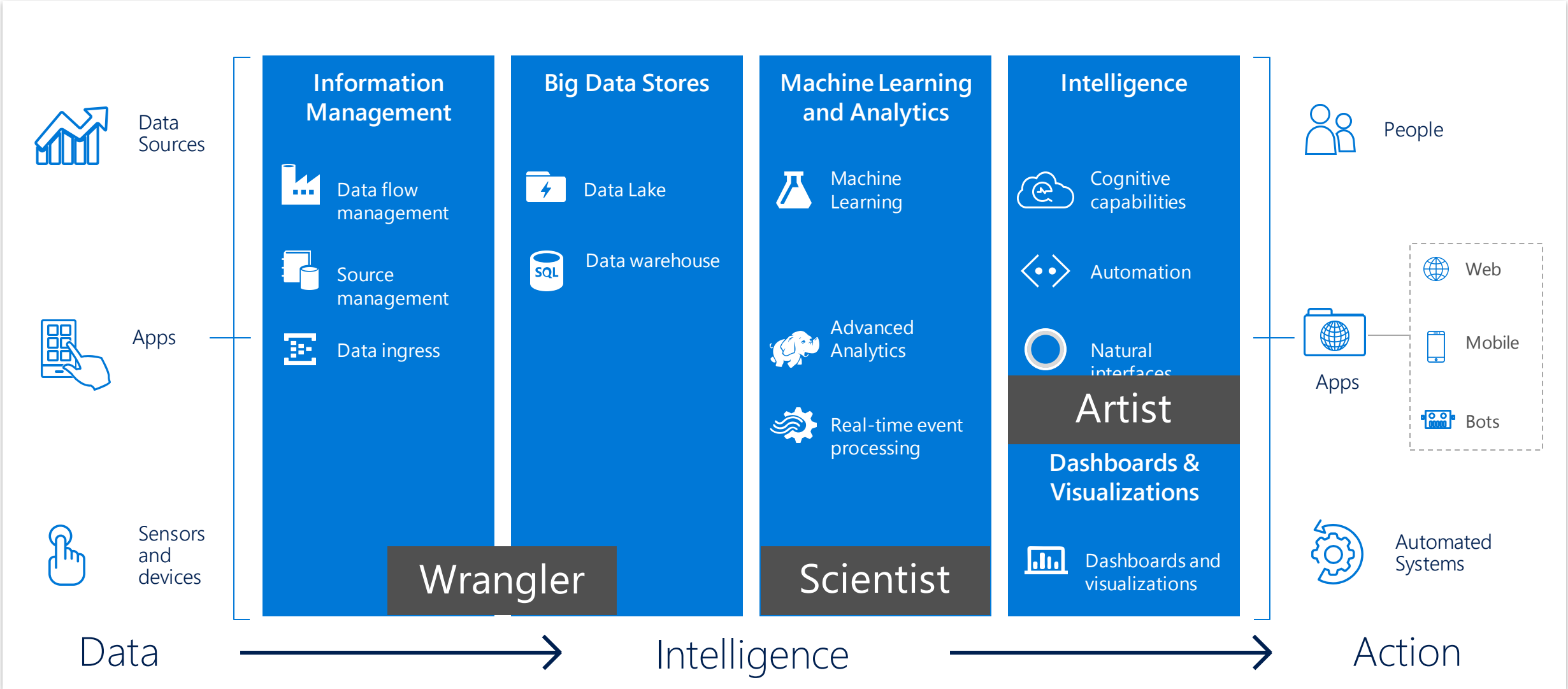


what if Jeroen ter Heerdt was a pilot? #ProjectMurphy

More demo



# A data driven organization needs an integrated platform



# ML.NET

ML framework

Open-source

Cross platform

Built for .NET developers

Use .NET, C# and F# skills

Supports CNTK, Tensorflow, ...

# Two flavors of Machine Learning

## Pre-built ML Models (Cognitive Services)



Vision



Speech



Language



Labs



Knowledge



Search

## Custom ML Models



TensorFlow



Easy / Less Control

Full Control / Harder



# ML.NET Preview

The Machine Learning framework made by and for .NET developers

Supported on Windows, Linux, and macOS



Customizable



Developer Focused



Proven & Extensible



Open Source

Try it out @ <https://github.com/dotnet/machinelearning>

Demo: ML.NET

Lessons learned



# Lessons learned – the good

The biggest Telco in the world: two billion minutes a day.. and counting

Near real-time processing of call details to improve call quality



# Lessons learned – the bad

## Windows 10 personal data collection is excessive, French privacy watchdog warns

The French National Data Protection Commission has given Microsoft three months to comply with its order or face fines that could top \$1.66 million.

**Windows 10 sends data to Microsoft, despite privacy settings**

Lessons learned – the ugly

After racist tweets, Microsoft muzzles teen chat bot Tay

*Microsoft Created a Twitter Bot to Learn From Users. It Quickly Became a Racist Jerk.*



# Golden rules



"Do or do not... there is no try."  
MASTER YODA

# Golden rules

0. You cannot measure what you did not collect
1. Data focus is everyone's responsibility
2. Ask *'where is the data?'*
3. Stop overthinking – start doing
4. Facilitate access to knowledge and tools
5. Postpone architecting and managing – but not indefinitely
6. Be honest and transparent about what you are doing and why
7. If you are failing, fail fast and fix fast







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