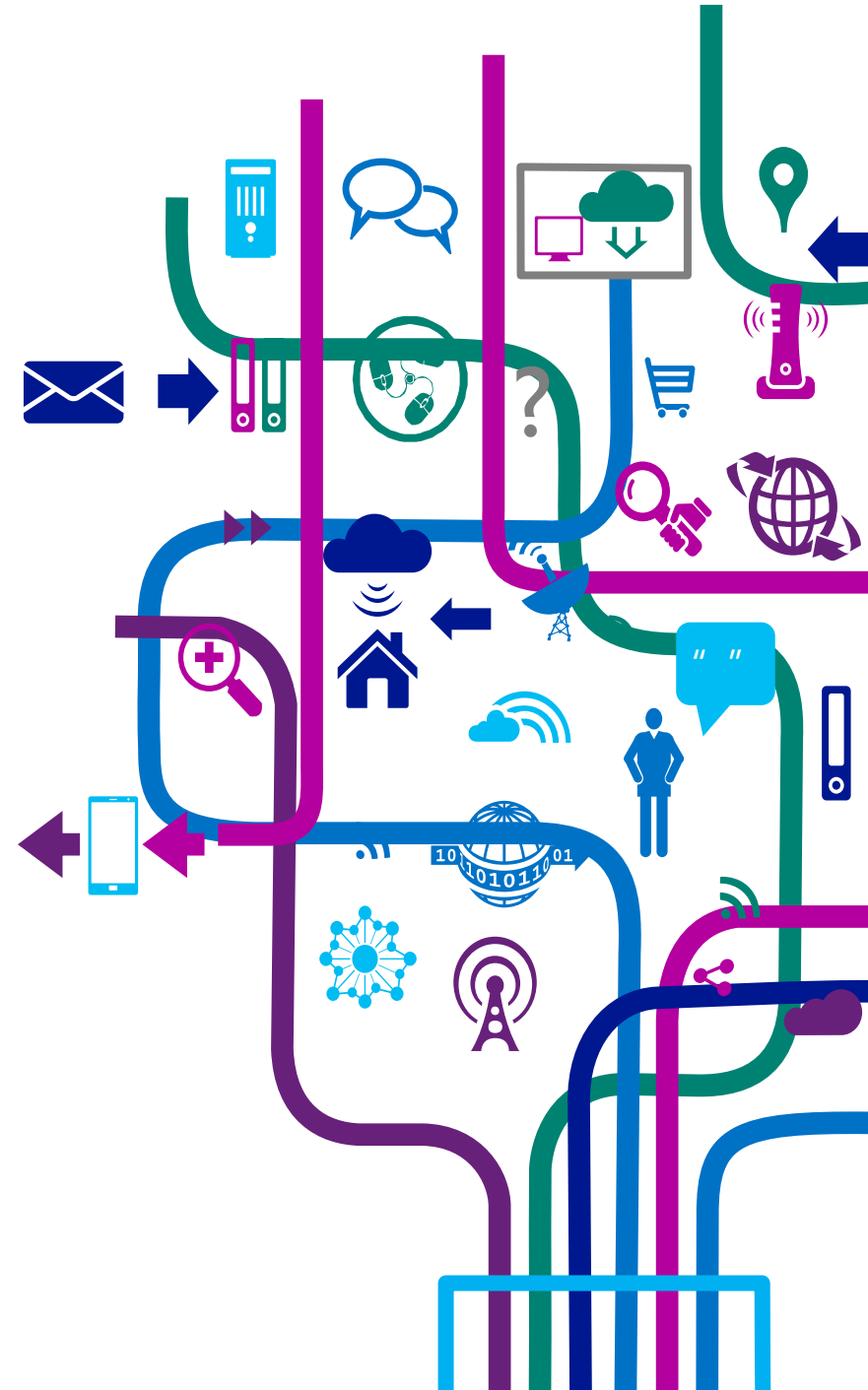
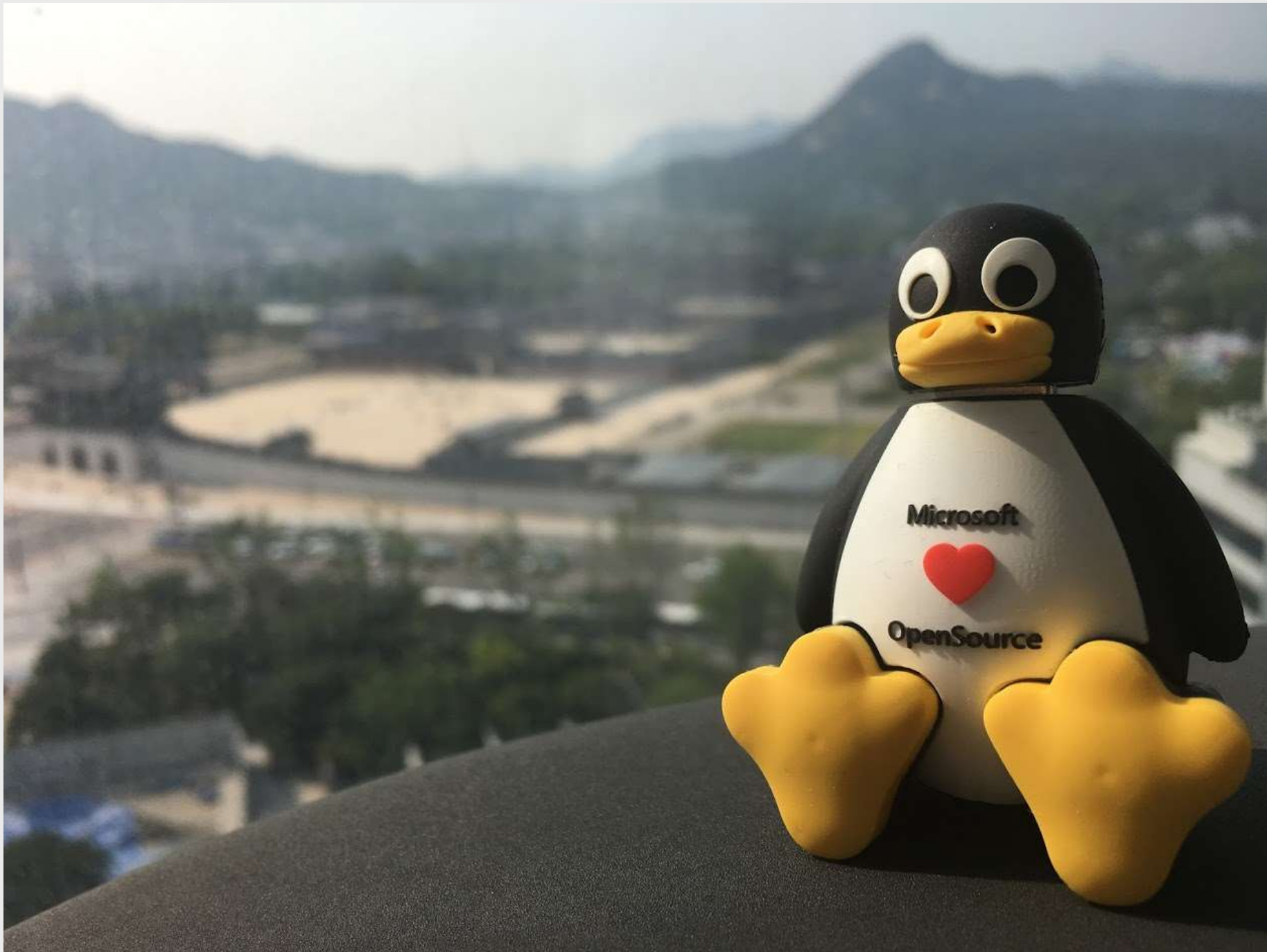


# Microsoft의 오픈소스 기반 인공지능 플랫폼 구현 전략

김영욱 Technical Evangelist  
부장/ CSE / Microsoft

youngwook@outlook.com  
Blog: Youngwook.com



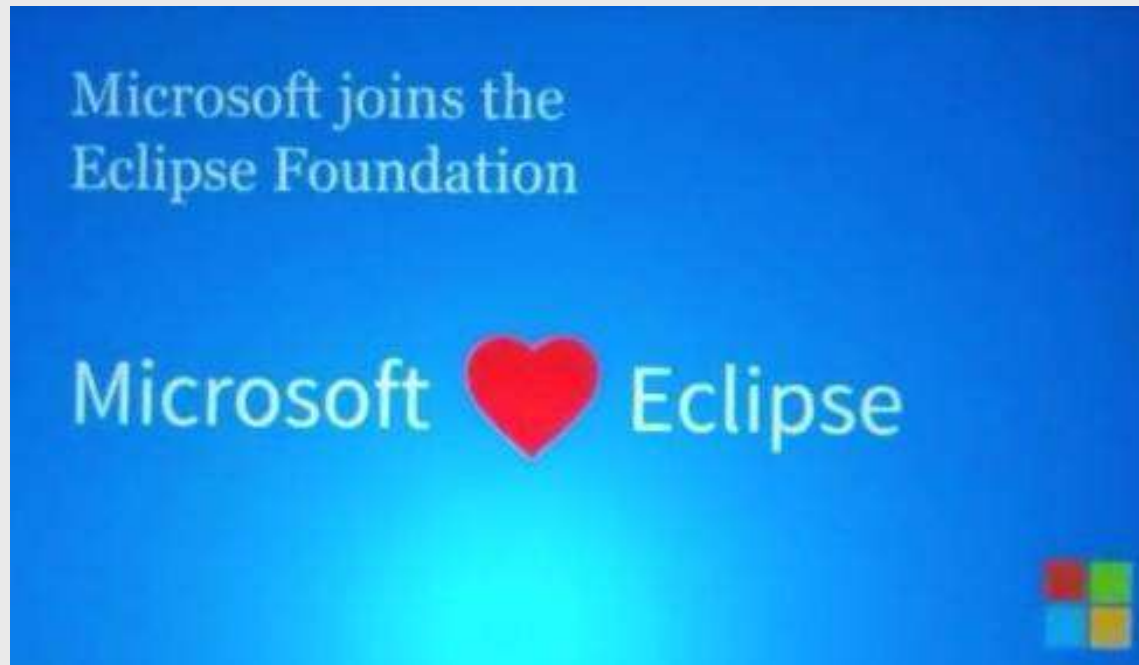




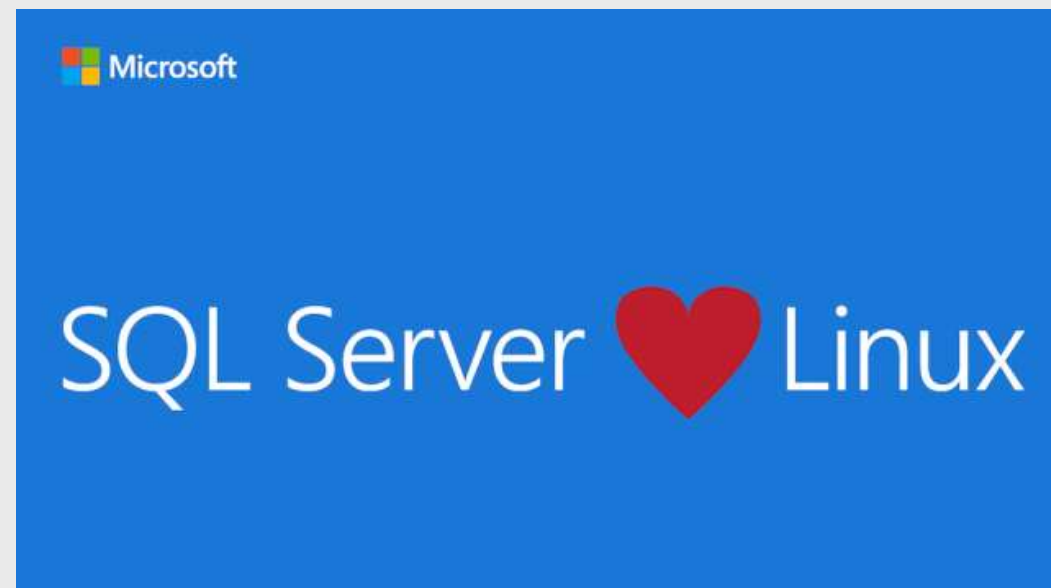
Microsoft  
LOVE ❤️



Microsoft Azure



Learn more about our new partnership 



Microsoft ❤️ Open Source





PHP Tools for Visual Studio



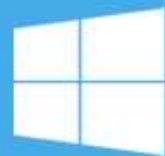
PTVS(Python Tools for Visual Studio)

NTVS(Node.js Tools for Visual Studio)

RTVS(R Tools for Visual Studio)



Visual C++ for Linux



Microsoft Azure

Microsoft **is** Open Source

.NET Core

Windows Store  
App Model

## The Roslyn project

Meta-programming

Language  
Object Model

Read-Eval-Pr

DSL Embed

Source  
File

er

Ne  
Asses

# TypeScript

JavaScript that scales.

TypeScript is a typed superset of JavaScript that compiles to plain JavaScript.

Any OS. Open source.



Visual Studio Code

Docs

Updates

Blog

Extensions

FAQ



Star 13,412

Announcing Version 1.0! Read about the journey in our bl

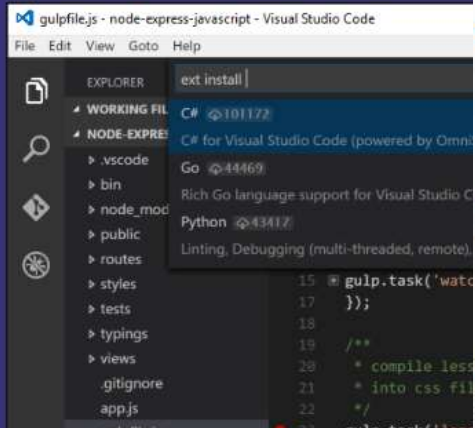
## Code editing. Redefined.

Free. Open source. Runs everywhere.

Download for Windows

Available on other platforms

By using VS Code, you agree to its license and privacy  
statement.



Microsoft

Open source, from Microsoft with love

Redmond, WA

<http://www.microsoft.com/>

[oss@microsoft.com](mailto:oss@microsoft.com)

Repositories

People 1,718

Filters

Find a repository...

vscode-docs

Public documentation for Visual Studio Code

Updated a minute ago

JavaScript ★ 276 🔗 187

MIEngine

The Visual Studio MI Debug Engine ("MIEngine") provides an open-source Visual Studio Debugger extension that works with MI-enabled debuggers such as gdb, lldb, and cdbdbg.

Updated 4 minutes ago

C# ★ 296 🔗 83

Mobius

Get barebone hinting and extensions in Anarchy Shark

C# ★ 247 🔗 60






# Microsoft Build 2017









"개발자로서 우리 모두가 사회 및 경제의 모든 부분에 광범위하고 중요한 영향을 미칠 수 있는 기회는 지금까지 결코 없었습니다.

하지만 개발자들은 엄청난 기회와 더불어 엄청난 책임감도 있다고 믿습니다." - Satya Nadella

*"The opportunity for us as developers to have broad, deep impact on all parts of society and all parts of the economy has never been greater.*

*Now, but with this enormous opportunity, I believe comes an enormous responsibility"*

*- Satya Nadella*



# Timeless values and principles



Empower people



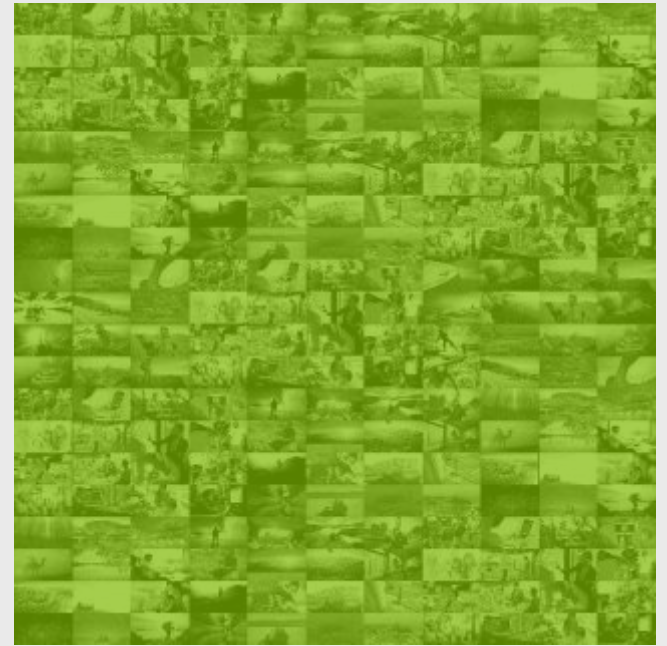
Inclusive design



Build trust in technology

# Microsoft mission

Empower every person and  
every organization on the  
planet to achieve more





# Microsoft Build 2017





Exhibit Hall 4E





Mobile-first



Cloud-first

500 million

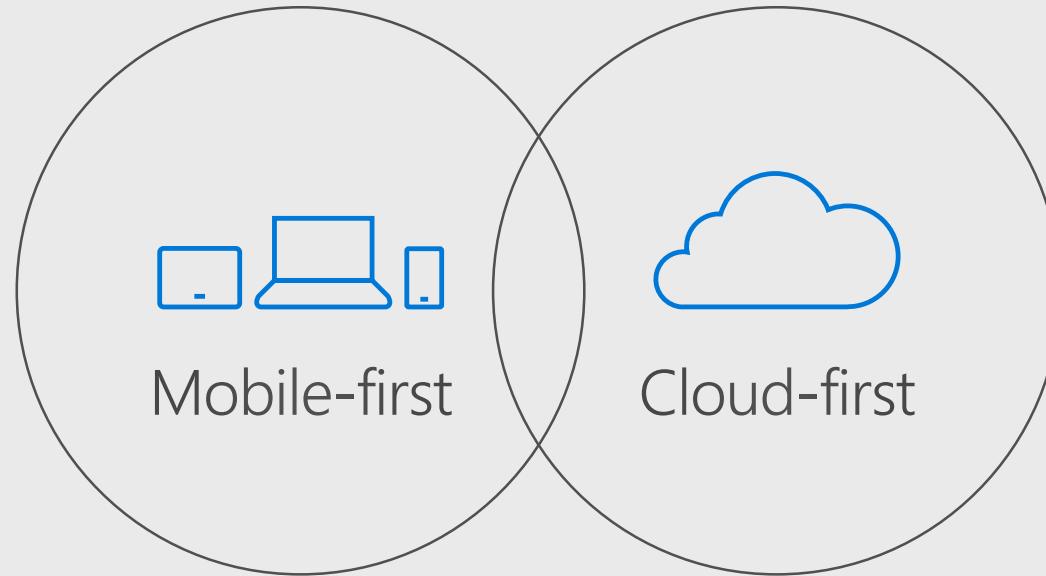
Windows 10 monthly  
active devices

100 million

commercial Office 365  
monthly active users

>140 million

Cortana monthly  
active users



12 million

organizations in  
Azure Active Directory

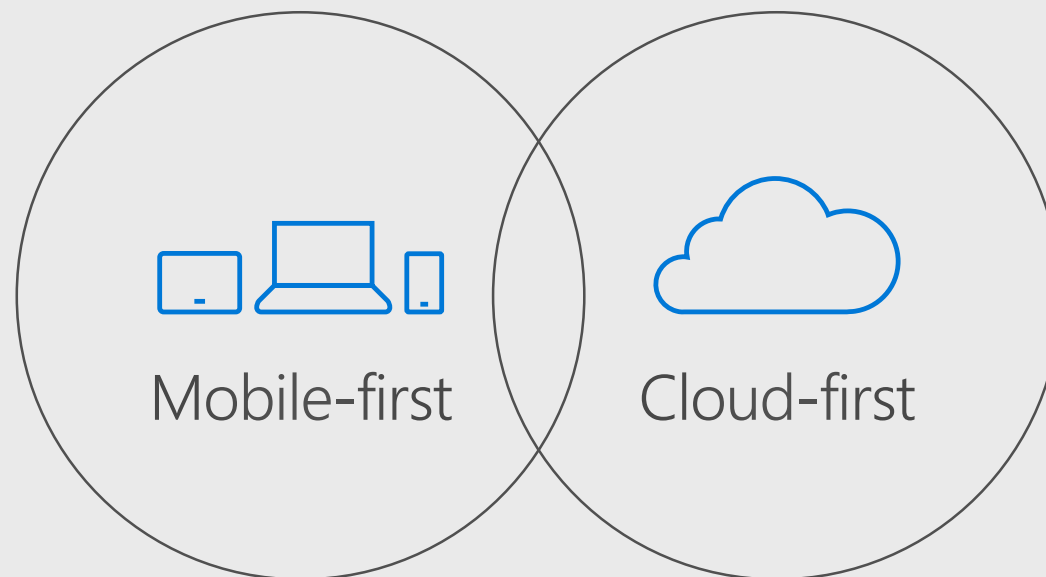
>90%

Fortune 500 using  
Microsoft Cloud

Agents & Bots

Natural &  
conversational  
user interfaces

Mixed Reality

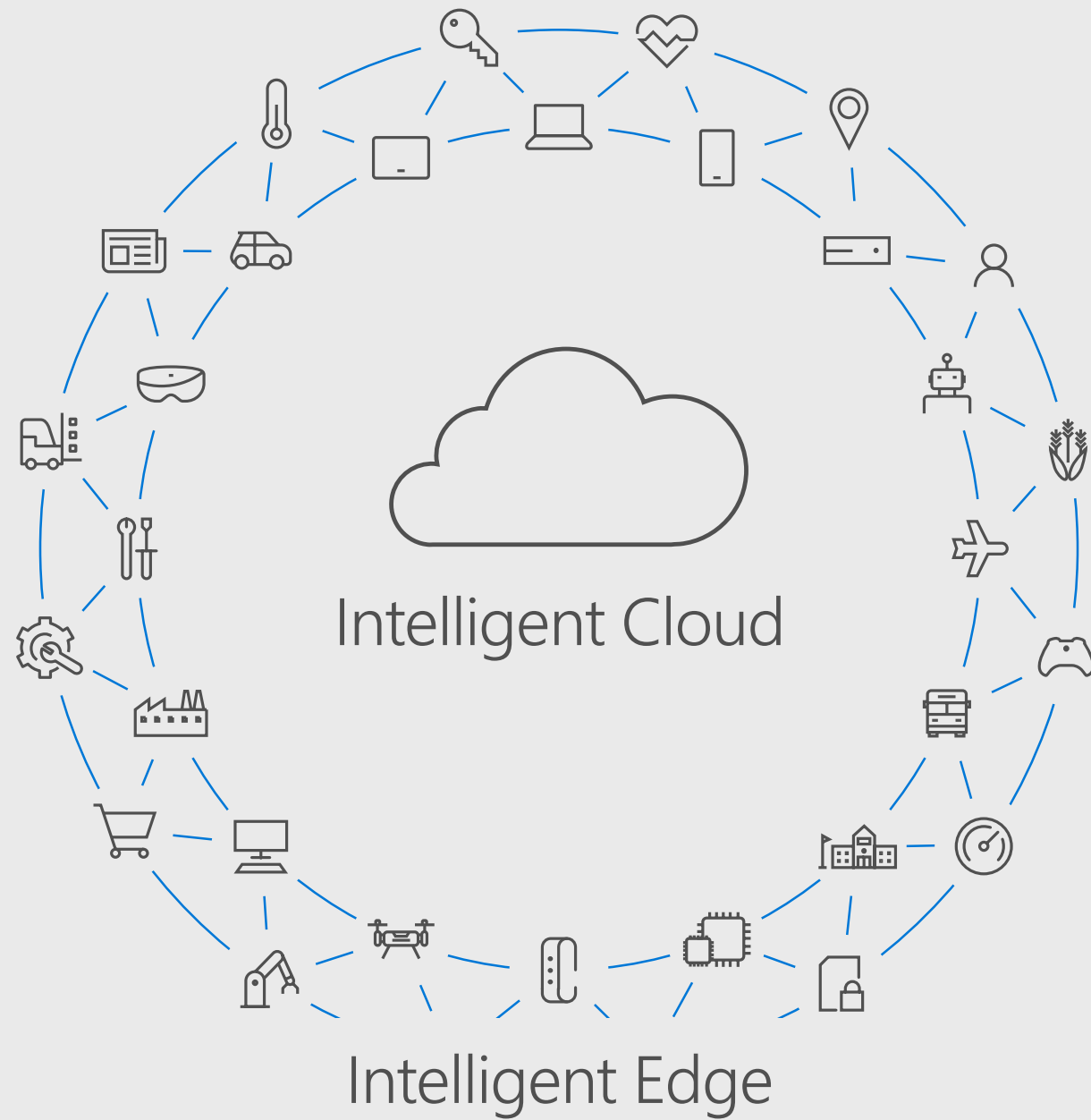


Artificial  
Intelligence

Advanced analytics  
& workflows

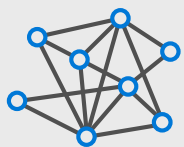
Internet of  
Things







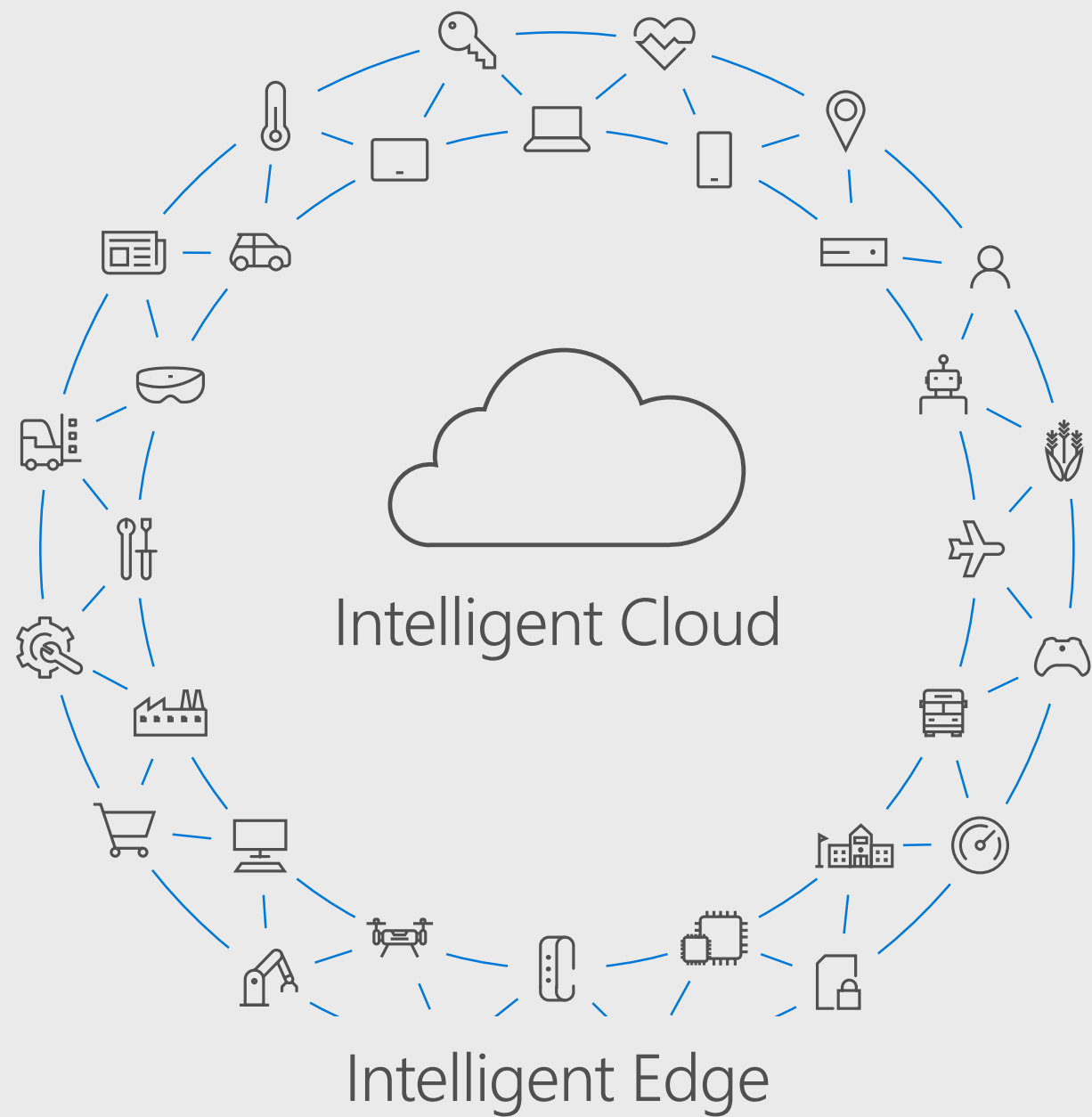
## Multi-device



# Artificial Intelligence



# Serverless



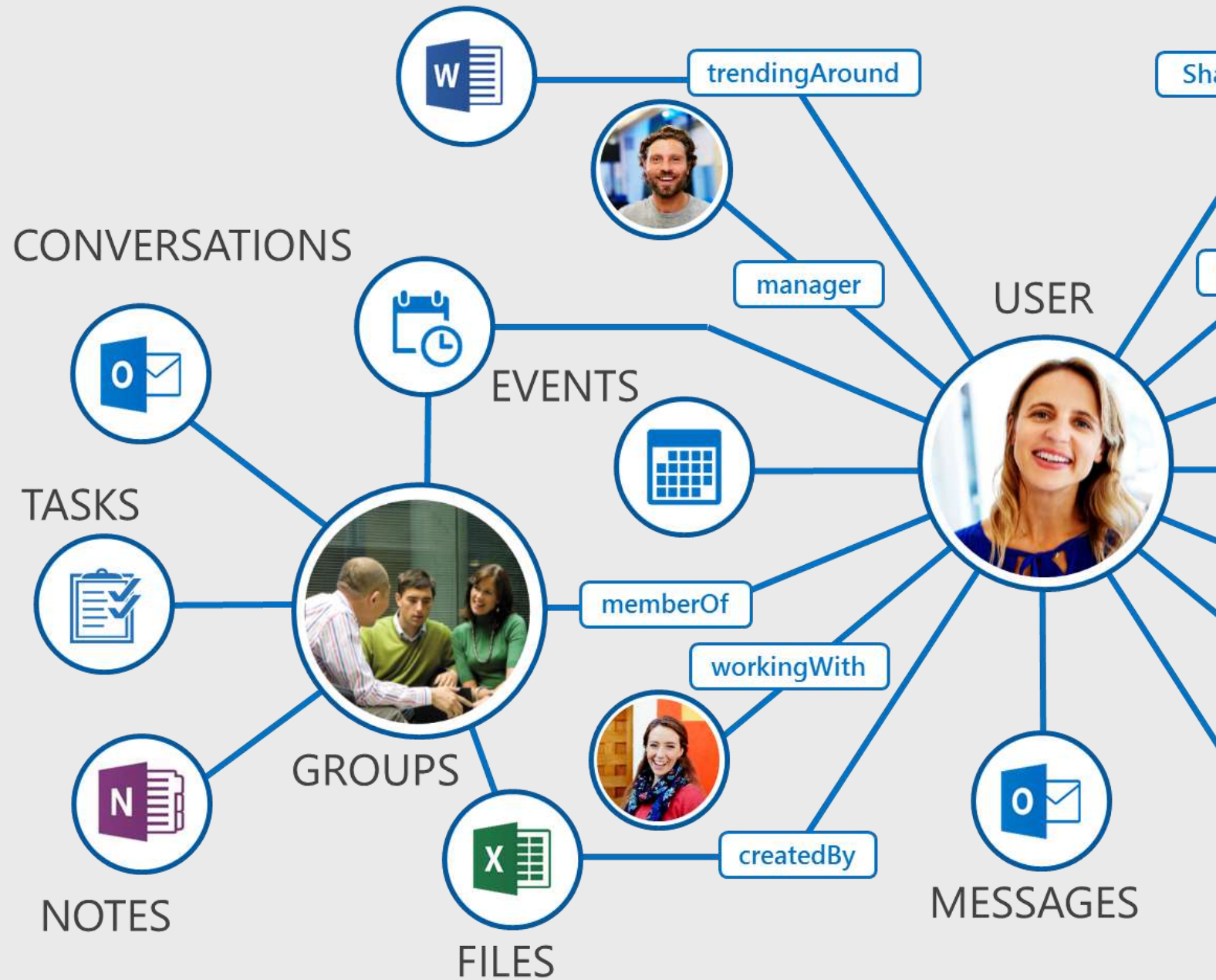
# Intelligent Edge

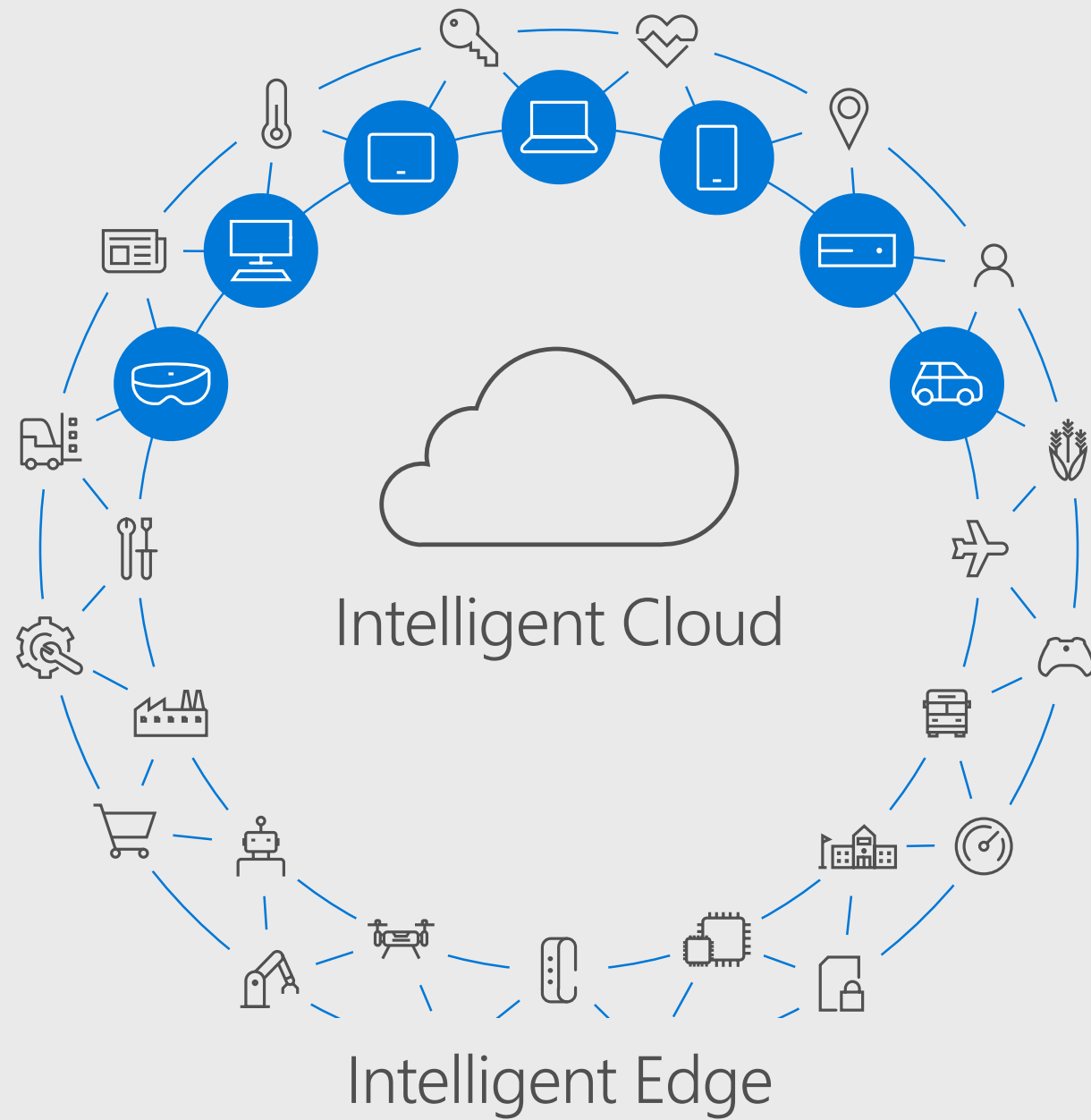


# 가속화 되는 AI의 대중화

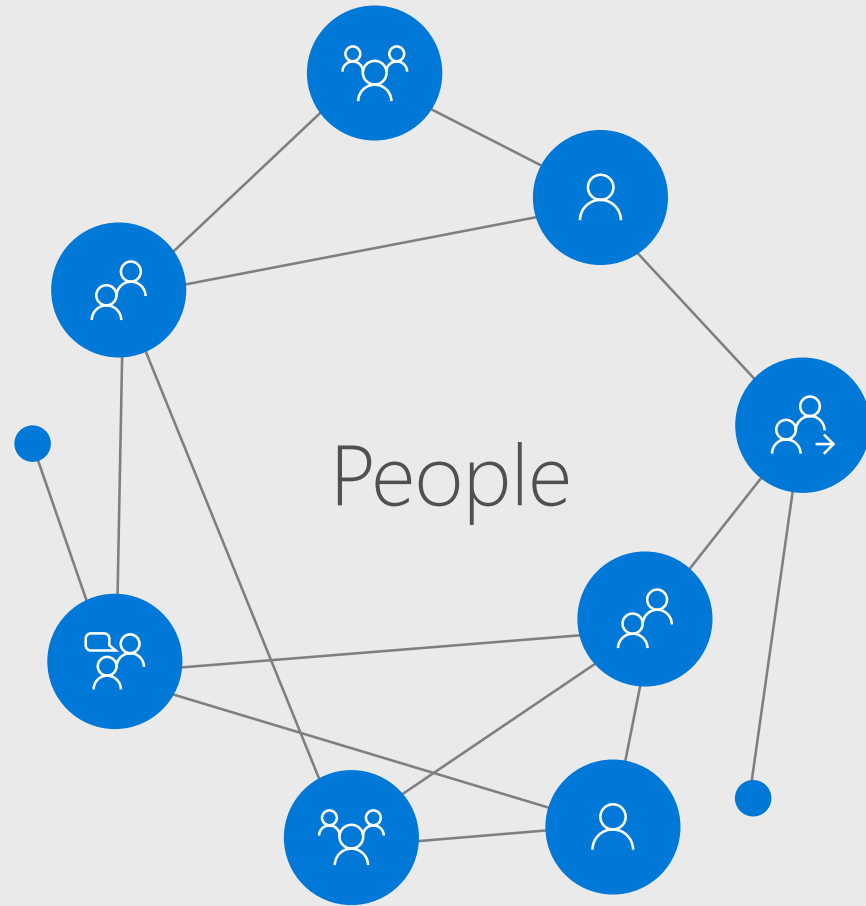


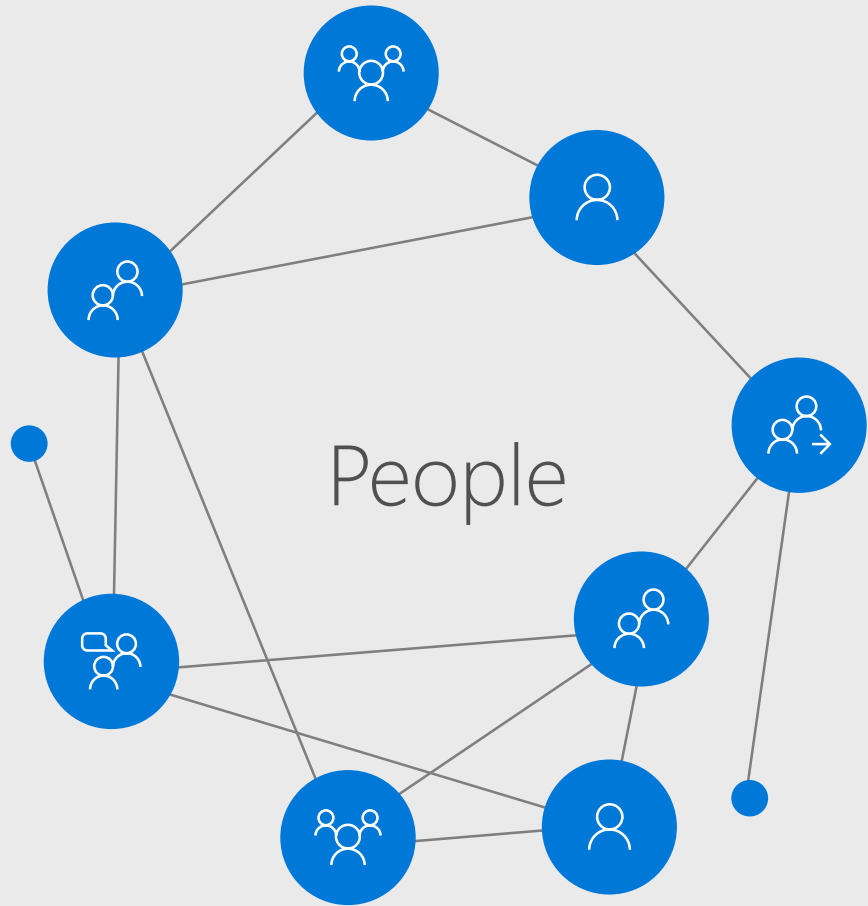
# Microsoft Graph



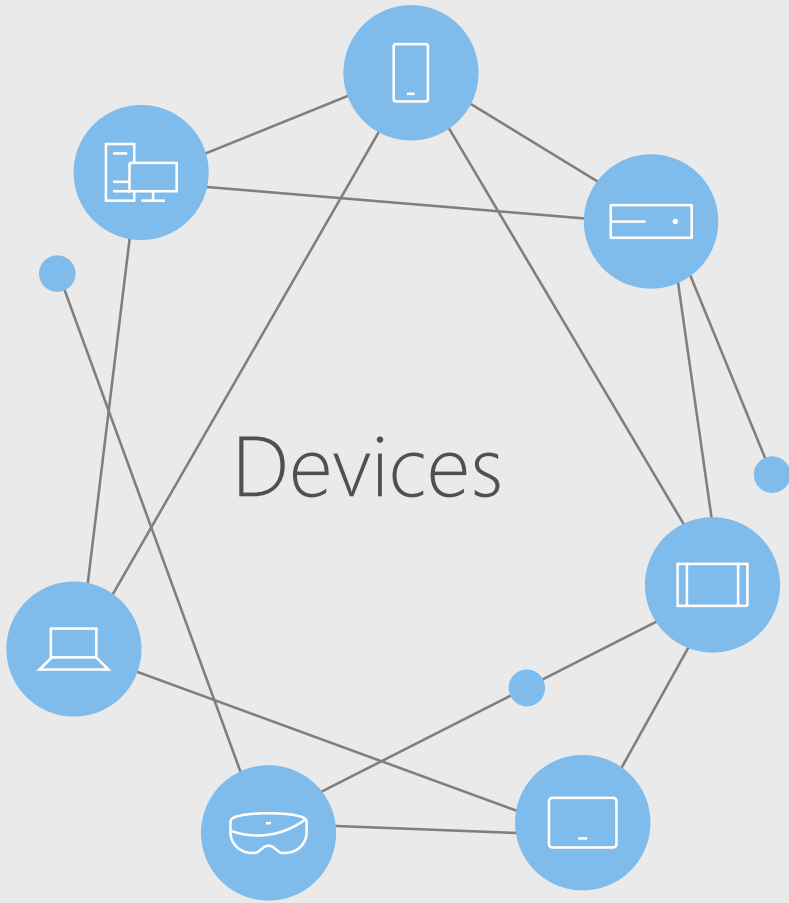




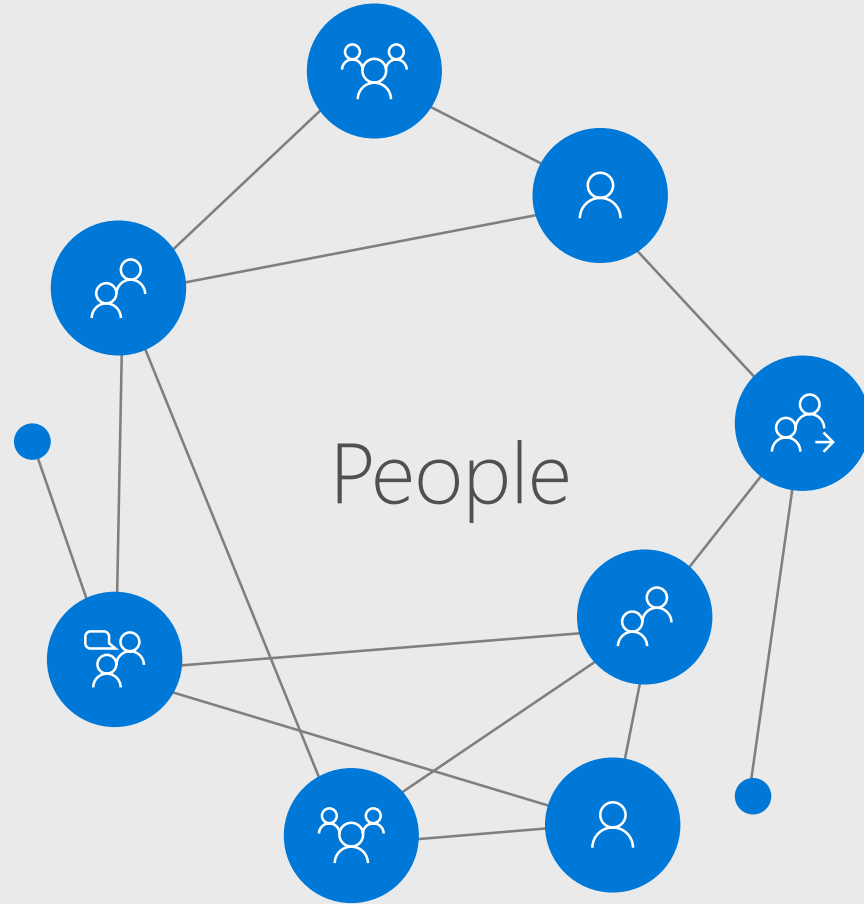




Devices



People



Activities





# AI for workplace safety





10:25:25

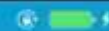


CAM 02

STORAGE AREA 04

No SIM

8:37 AM



## Workplace Safety

Today at 8:34 AM

Hi

Where is a jackhammer

There is a jackhammer in the construction yard.

Show me non employees on the job site

Delivered

Say something...

Send

Q W E R T Y U I O P

A S D F G H J K L

↑ Z X C V B N M ↵

123



space

return





Microsoft

Technologies ▾

Documentation ▾

Resources ▾

Cognitive Toolkit

Features ▾

Install

Tutorials

Docs

# Cognitive Toolkit

<https://www.microsoft.com/en-us/cognitive-toolkit/>

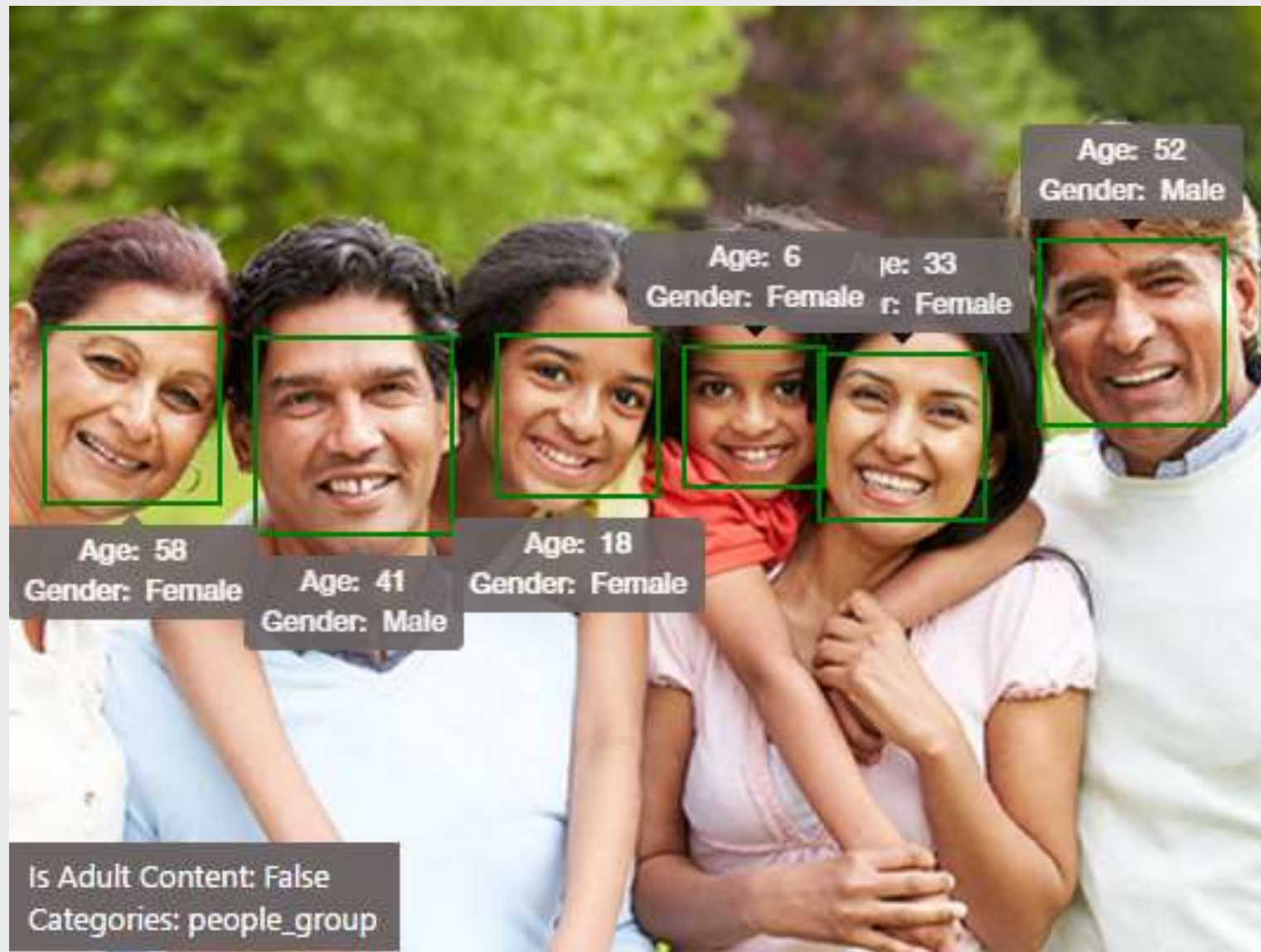
## The Microsoft Cognitive Toolkit

A free, easy-to-use, open-source, commercial-grade toolkit that trains deep learning algorithms to learn like the human brain.

GET STARTED >



# New Cognitive





flowers by

40 OLD  
TOWN

BIRKSEN

(020)  
76226466

40 OLD  
TOWN

BIRKSEN

(020)  
76226466



# Variety of Creative Apps



Sorry if we didn't quite get the age and gender right - we are still learning to be better!

 Try Another Photo!



100%

Perfect match

 [Help us improve](#) or [start over](#)

You can also click a pic to compare to someone new

Powered by Project Oxford

 365  1.85K

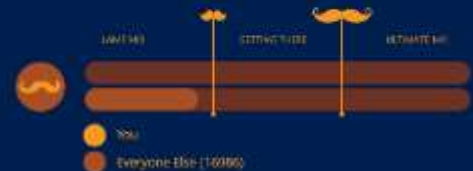
[Privacy & Cookies](#) | [Terms of Use](#) | [Trademark](#) | © 2015 Microsoft



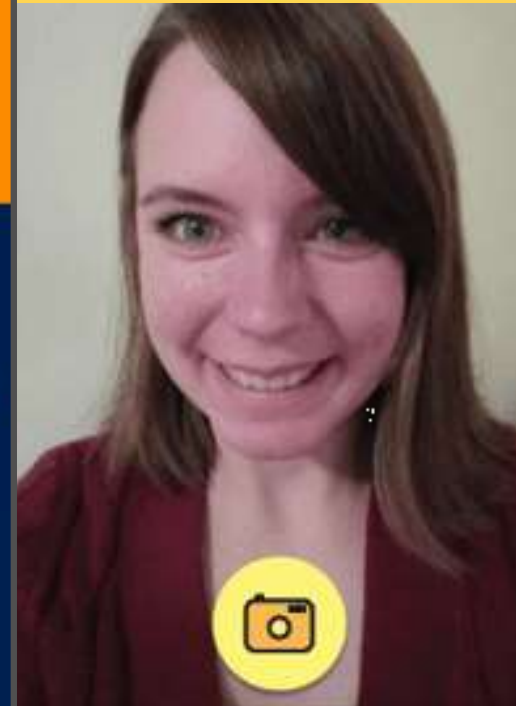
De-stache Me! Try Again!

Sorry if we didn't quite get the moustache quite right - we are still improving to be better!

It doesn't look like you have a moustache! #NOSTACHE



Mimic a **happy** face



CaptionBot

I think it's a young man jumping in the air on a skateboard.



How did I do?



Try another

The Magic behind CaptionBot.ai

Powered by Microsoft Cognitive Services





# Cognitive Services



## Vision

Computer vision  
Face  
Emotion  
Content Moderator  
Video

**NEW**  
**Video Indexer**

**NEW**  
**Cognitive Services Labs**



## Language

Text analytics  
Spell check  
Web language model  
Linguistic analysis  
Translator



## Speech

Speaker recognition  
Speech



## Search

Web search  
Image search  
Video search  
News search  
Autosuggest



## Knowledge

Academic knowledge  
Entity linking service  
Knowledge exploration  
Recommendations  
QnA maker

# Cognitive Services



Vision



Language



Speech



Search



Knowledge

Computer vision

Face

Emotion

Content Moderator

Video

**NEW**

**Video Indexer**

**NEW**

**Cognitive Services Labs**

Text analytics

Spell check

Web language model

Linguistic analysis

Translator

Speaker recognition

Speech

Web search

Image search

Video search

News search

Autosuggest

Academic knowledge

Entity linking service

Knowledge exploration

Recommendations

QnA maker

**NEW**

**Custom**

Vision Service

**Custom**

Language  
Understanding

**Custom**

Speech Service

**NEW**

**Custom**

Search

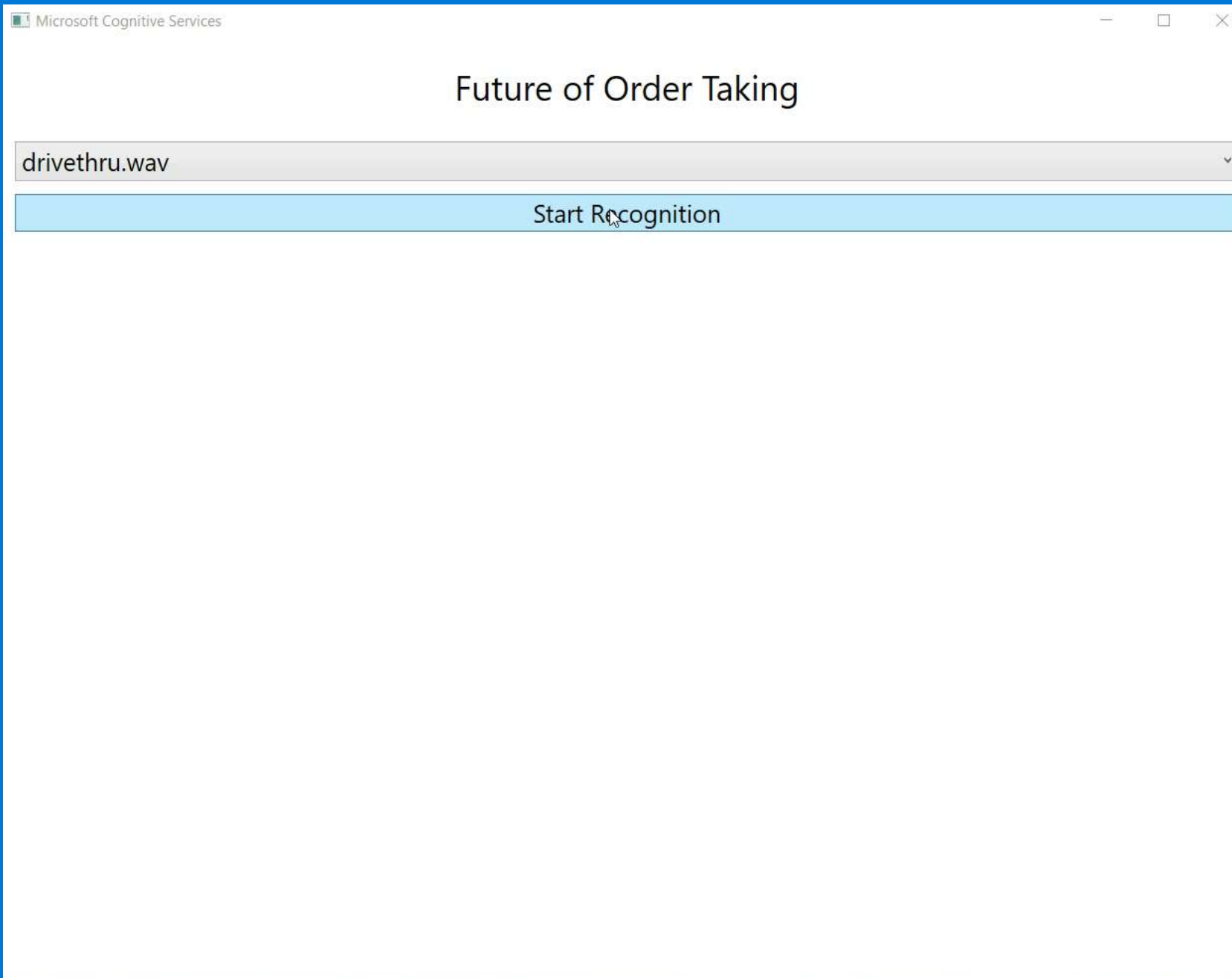
**NEW**

**Custom**

Decision Service

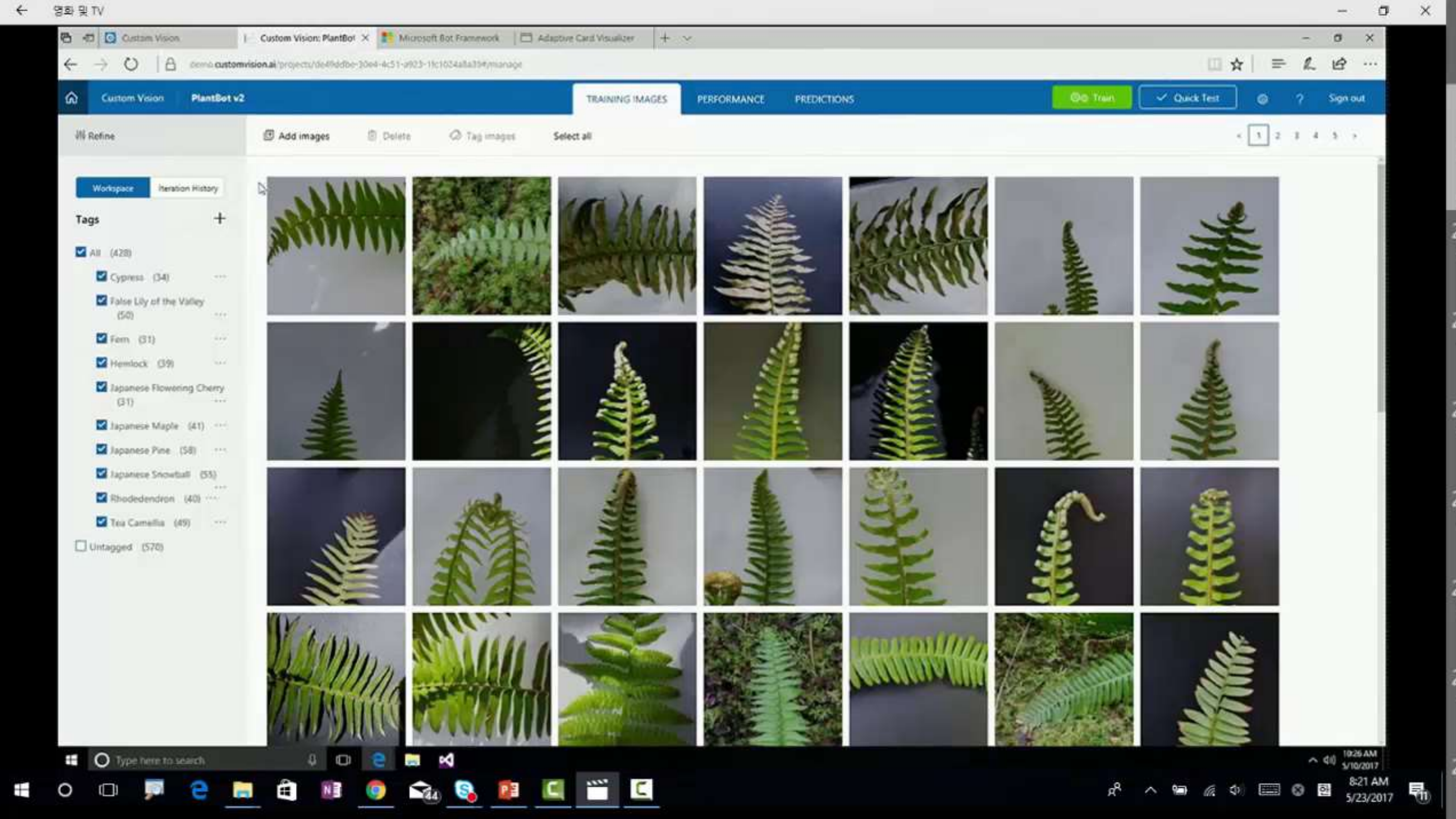






# Video Indexer







Azure + AI

# Cognitive Toolkit

## TensorFlow

## Caffe

### Data platform

Data Lake

**NEW**

Cosmos DB

SQL Server

### Tools

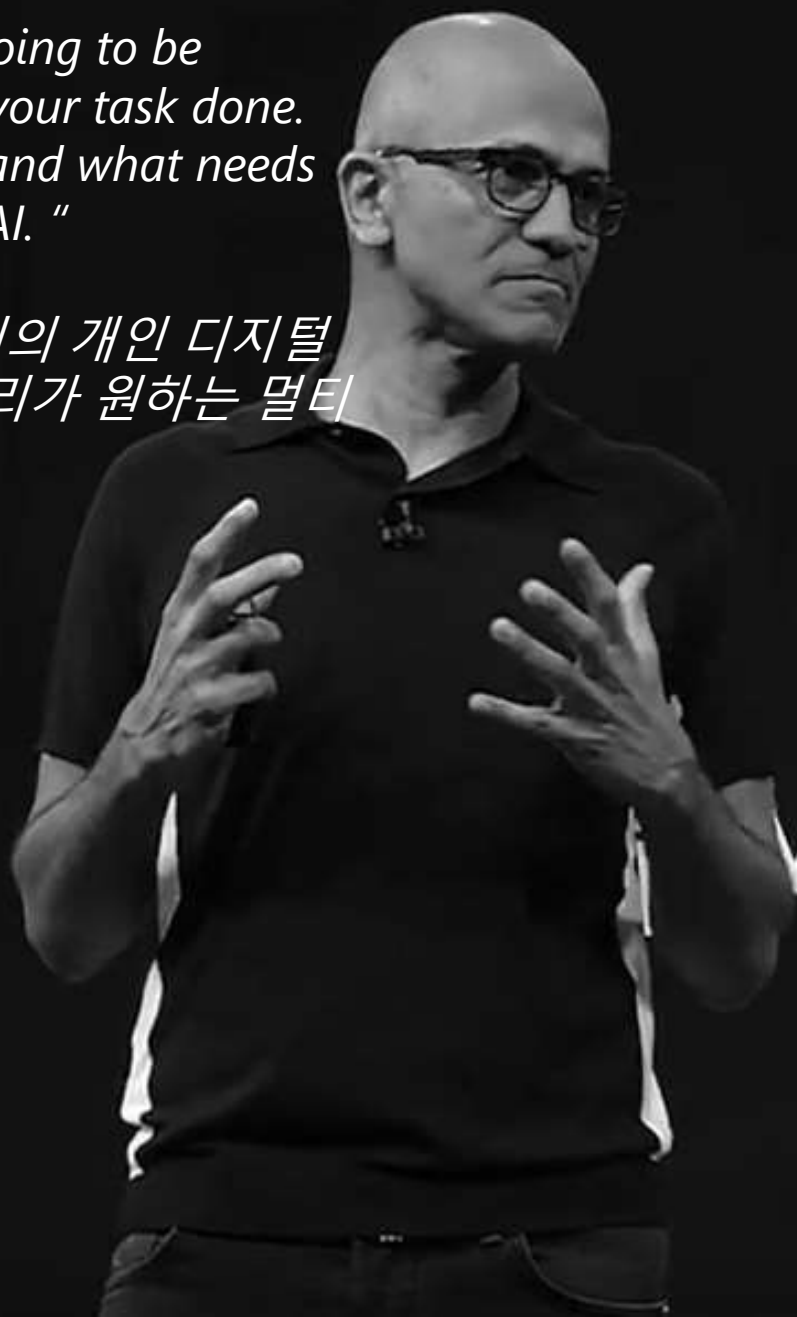
Visual Studio | Azure Machine Learning | Bot Framework

Cognitive Toolkit | TensorFlow | Caffe

services

*"Your personal digital assistant by definition is going to be available on all your devices helping you to get your task done. This multi device experience is what now needs and what needs to the second big change that is happening. It's AI. "*

*"언제 어디서든, 어느 디바이스를 사용하던 당신의 개인 디지털 비서가 당신과 함께 합니다. 이게 바로 지금 우리가 원하는 멀티 디바이스 경험이자, AI세상으로의 전환입니다."*



**Microsoft**