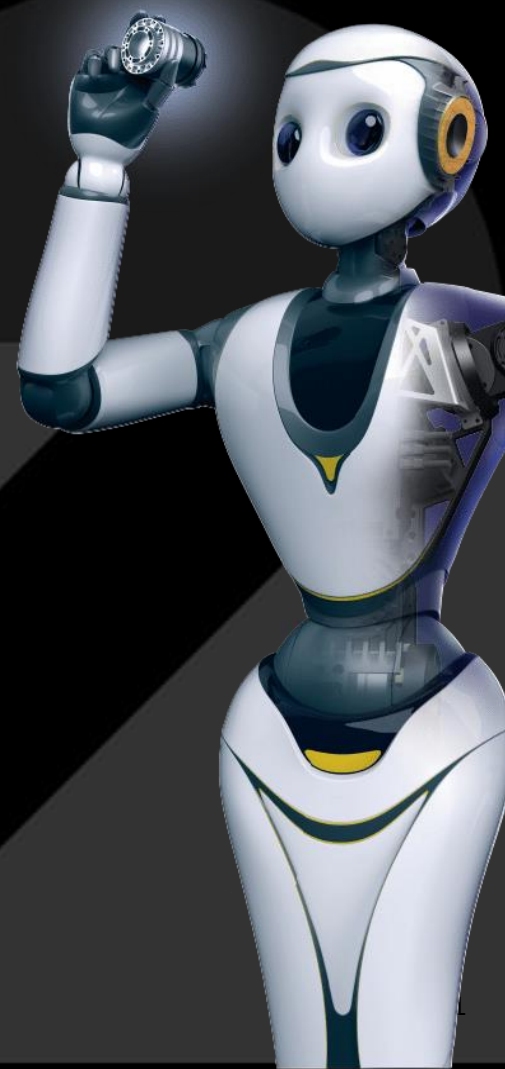
Future Ready with AI

Leslie Leung

Future Ready Skills Leader
Microsoft Hong Kong



Microsoft

Leslie Leung

BEng, MBA, PGDE

Future Ready Skills Leader

Microsoft Hong Kong

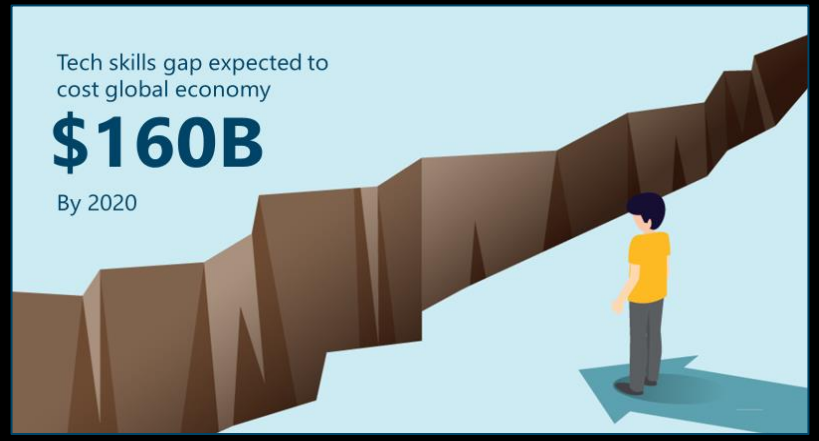
1 Skill Need of Artificial Intelligence

DIGITAL TRANSFORMATION REQUIRES NEW SKILLS

Tech skills gap expected to cost global economy

$160B

By 2020



6.2 MILLION

Job Openings in

Cloud-based technologies

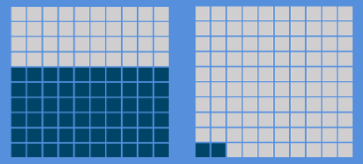
By 2022

ONLY **42 PERCENT**

Of employers believe that new graduates are prepared for the workforce

71 PERCENT

Of STEM jobs are in technology, yet only **8 PERCENT** Of STEM graduates fill that demand



77% of Jobs will require technology skills by 2030

McKinsey Global Institute predicts that by 2020 there will be

85 MILLION SHORTFALL

Of high- and middle-skilled workers

74 PERCENT

Of current employees report needing to retrain for jobs of the future

ONLY 3 PERCENT

Of all undergraduate degrees in the US are in computer science – and only 18 percent of those are women

Emerging Jobs Report

Data and AI related roles top the list of fastest-growing jobs in the world! Are you prepared for the job market?

LinkedIn

Below are the three fastest-growing jobs LinkedIn looked at across Asia, UK and US:

Australia
1.AI Specialist
2.Cyber Security Specialist
3.Robotics Engineer

India
1.Blockchain Developer
2.AI Specialist
3.Javascript Developer

Indonesia
1.AI Specialist
2.DevOps Engineer
3.Customer Success Specialist

Malaysia
1.Data Scientist
2.Customer Success Specialist
3.BIM Specialist

New Zealand
1.Cyber Security Specialist
2.Data Engineer
3.Full Stack Engineer

Philippines
1.Robotics Engineer
2.Cyber Security Specialist
3.Customer Success Specialist

Singapore
1.AI Specialist
2.Robotics Engineer
3.Full Stack Engineer

Thailand
1.Data Scientist
2.Back-end Developer
3.Data Engineer

United Kingdom
1.AI Specialist
2.Data Protection Officer
3.Robotics Engineer

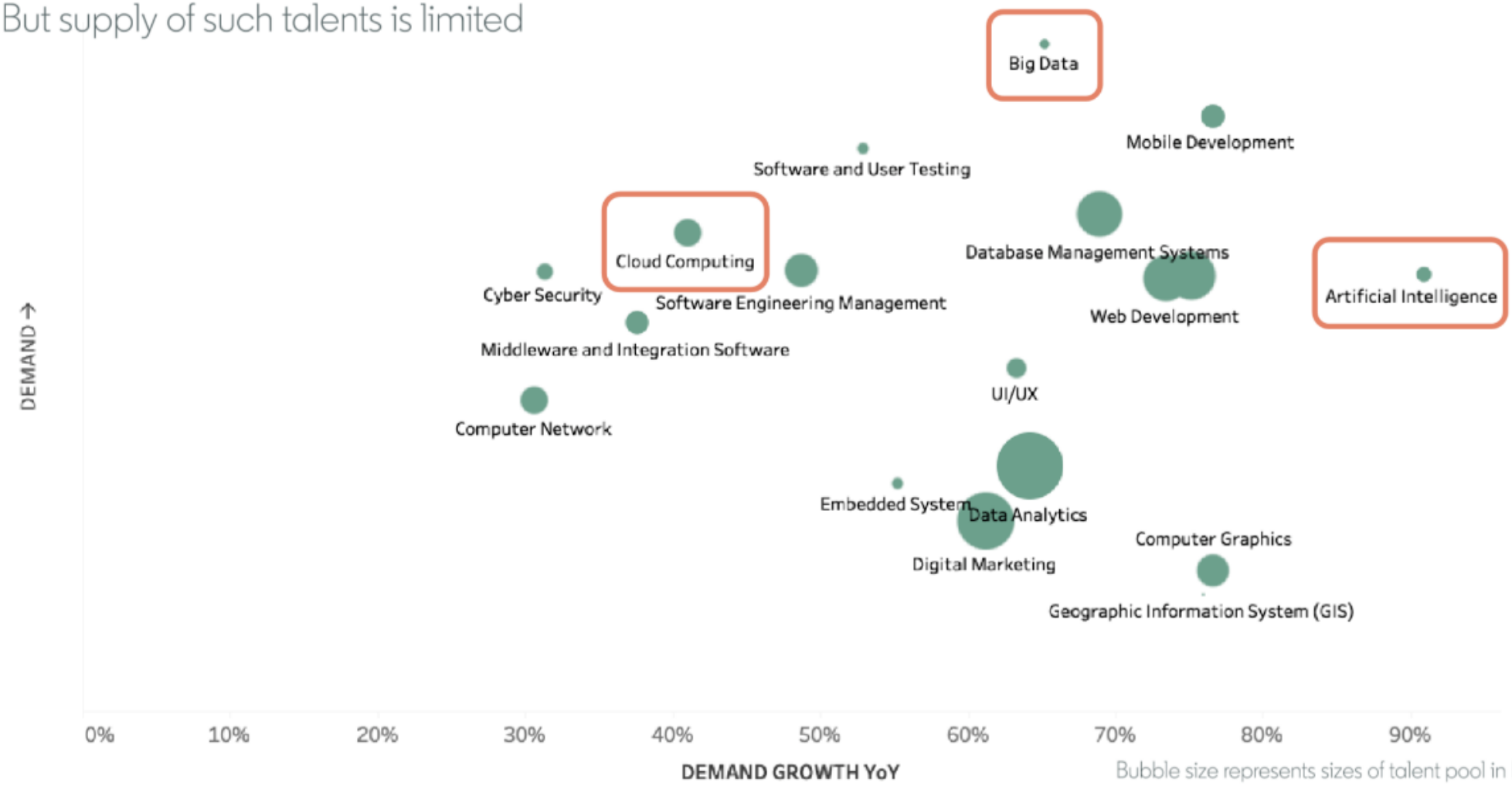
United States
1.AI Specialist
2.Robotics Engineer
3.Data Scientist

Microsoft

Updated on March 2019

AI & Big Data are great in demand in Hong Kong

But supply of such talents is limited



Bubble size represents sizes of talent pool in Hong Kong

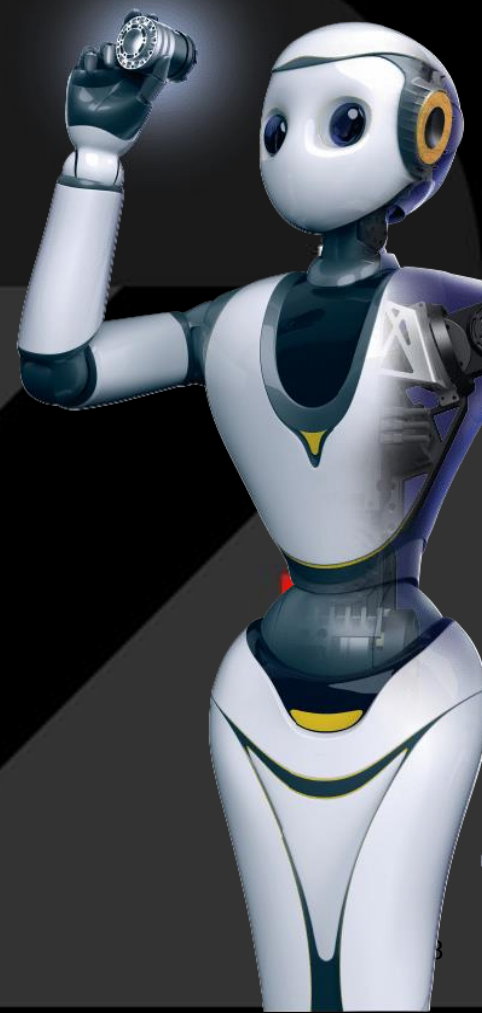
EMPLOYMENT IN HONGKONG
Statistics and Trends

Microsoft

Microsoft

21 Industry Transformation with Artificial Intelligence

Microsoft



human ingenuity

Amplifying human ingenuity

TO SCALE ADVANCED DECISION MAKING, YOU NEED TO EMPOWER EVERY EMPLOYEE TO REASON WITH AI

AI
For Reasoning

Novartis

https://www.novartis.com/news/novartis-and-microsoft-announce-collaboration-transform-medicine-artificial-intelligence

Novartis is bringing the power of AI to the desktop of every associate

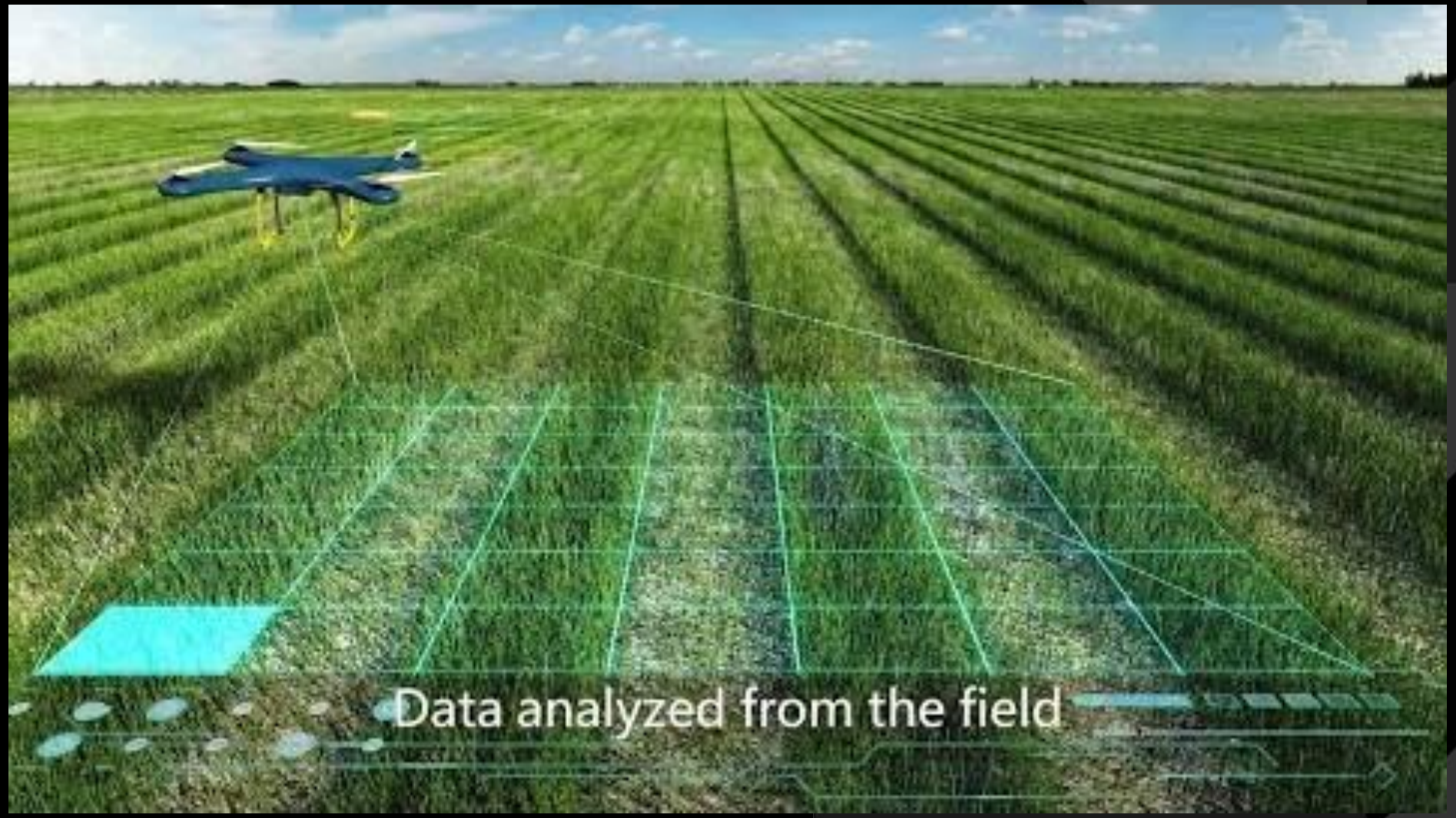
- At Novartis, they are bringing the power of AI to the desktop of every employee - *not just data scientists and developers* - with a goal of transforming how medicines are discovered, manufactured, and commercialized.
- To do this, they take a holistic approach, redefining how every business function can use AI—from research to manufacturing to distribution.
- Many of their 50,000 employees deal with a huge amount of data related to pharmaceutical information, like medical journal articles, chemical representations, gene sequences, and clinical trial results.
- With AI, they can quickly make sense of and key derive insights from this vast amount of unstructured information to take on the next wave of challenges in medicine.

NOVARTIS

Microsoft

EY Building a better working world

Microsoft



Mackmyra

https://news.microsoft.com/europe/features/meet-the-worlds-first-ai-created-whisky/

Mackmyra combines AI with human expertise to craft award winning spirits

MACKMYRA

- While brewing whisky is not what you would typically associate with AI, Mackmyra has found a way to combine 1,000-year-old techniques, human expertise, and craftsmanship, with AI to take their product quality to the next level.
- Over the past year, **Mackmyra** has partnered with Finnish tech company **Fourkind** and Microsoft to create the world's first whisky developed with artificial intelligence.
- With the power of AI at her fingertips, Master Blender Angela D'orazio was able to coach the AI models and algorithms to select the best recipe for bottling. By doing this, she was able to evaluate, test, and refine the recommendations based on her expertise and deep knowledge of the craft at a pace and with a level of detail never before possible.
- As direct evidence of the power of putting AI in the hands of the subject matter expert, the resulting whisky, **Intelligens by Mackmyra and Fourkind** was just awarded a **Gold Medal by the American Distilling Institute and named 2020 Best of Category International Malt Whisky.** Truly revolutionary.

Microsoft

Mondelez

- Mondelez is one of the world's largest snack companies, world famous for brands such as Oreo, Sour Patch Kids, Trident gum, Toblerone, Cadbury, and many more. They are always looking for how to bring the next great snack to market.
- Using AI, they will now be able to provide insights and recommendations to their master tastemakers to improve snack quality, discover new taste experiences, and delight our taste buds in new ways!

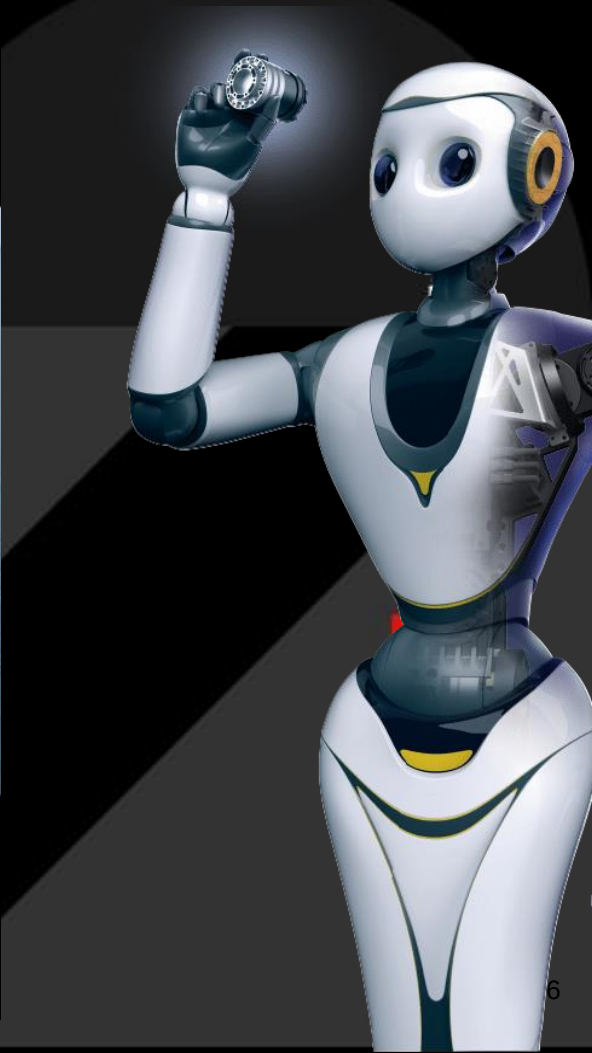
Mondelez is working to provide AI based recommendations to their master tastemakers to improve snack quality and discover new ways to delight our taste buds!

Mondelēz International

Microsoft

OCEAN MIND

Microsoft



Microsoft AI Approach

Microsoft

Bring AI to Every Application

Bring AI to Every Process

Bring AI to Every Person

3 | Microsoft AI Service Portfolio

Microsoft AI Platform

Azure AI Services

PRE-BUILT AI

- Cognitive Services

CONVERSATIONAL AI

- Bot Service

CUSTOM AI

- Azure Machine Learning

Azure Infrastructure

AI ON DATA

- Cosmos DB
- SQL DB
- SQL DW
- Data Lake

AI COMPUTE

- Spark
- DSVM
- Batch AI
- ACS
- IoT Edge

CPU, FPGA, GPU

Tools

CODING & MANAGEMENT TOOLS

- VS Tools for AI
- Azure ML Studio
- Azure ML Workbench

Others (PyCharm, Jupyter Notebooks…)

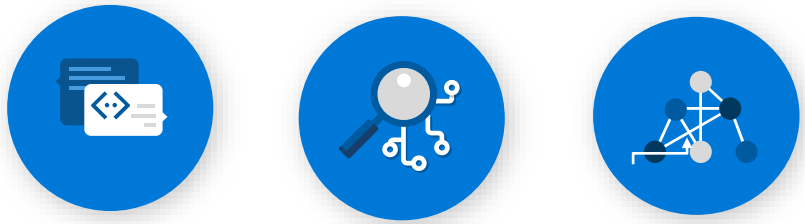
DEEP LEARNING FRAMEWORKS

3rd Party

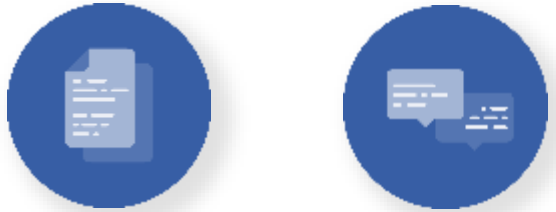
- Cognitive Toolkit
- TensorFlow
- Caffe

Others (Scikit-learn, MXNet, Keras, Chainer, Gluon…)

Azure AI



Dynamics 365 AI



Microsoft 365

Examples of Microsoft AI Services

Cognitive Services

Microsoft Graph

Bing APIs

Bots

Examples of Microsoft Cognitive Services

Infuse your apps, websites, and bots with human-like intelligence

Vision

- Image Tagging, Thumbnails
- OCR, Handwriting recognition
- Customized image recognition
- Face detection
- Emotion recognition
- Video insights - people detection, visual search, keyframe detection, object recognition
- Image and video moderation

Speech

- Speech to text (Speech Transcription)
- Customized speech Transcription (complex word, noisy environment)
- Text to speech
- Speaker ID and authentication
- Real-time speech translation

Language

- Contextual language understanding – customized intent analysis
- Sentiment analysis, key phrase detection
- text translation up to 60+ languages
- Text Moderation
- Spell checking

Knowledge

- Customized decision making with reinforcement learning
- Q&A service and bot training with personality

Search

- Visual Search with object detection
- Comprehensive news, image, and video results
- Custom Search
- Tailored and customized search experiences
- Automatic search suggestions
- Entity information augmentation

Application Program Interface (API)

An Application Programming Interface (API) is a set of routines, protocols, and tools for building software applications.

The aim of APIs is to help developers build intelligent applications without having direct AI or data science skills.

The API is the interface between the developer's code and the components of complex AI systems. For example, the goal of Azure Cognitive Services is to help developers create applications that can see, hear, speak, understand, and even begin to reason.

It enables developers to create innovative applications to transform business and society.

Imagine Cup Junior

Vision APIs

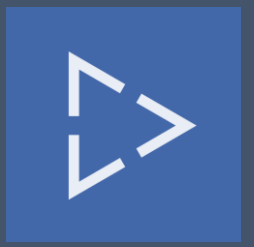
Computer Vision

Custom Vision Service

Face API

Form Recognizer

Ink Recognizer



Video Indexer

Imagine Cup Junior

Speech APIs

Speech Services

Speaker Recognition

Bing Speech

Translator Speech

Imagine Cup Junior

Language APIs

Language Understanding LUIS

QnA Maker

Text Analytics

Form Recognizer

Video Indexer

Imagine Cup Junior

Search APIs

Bing News Search

Bing Video Search

Bing Web Search

Bing Autosuggest

Bing Custom Search

Bing Entity Search

Bing Image Search

Bing Visual Search

Bing Local Business Search (BLBS)

Bing Spell Check

Imagine Cup Junior

Decision APIs

Anomaly Detector

Content Moderator

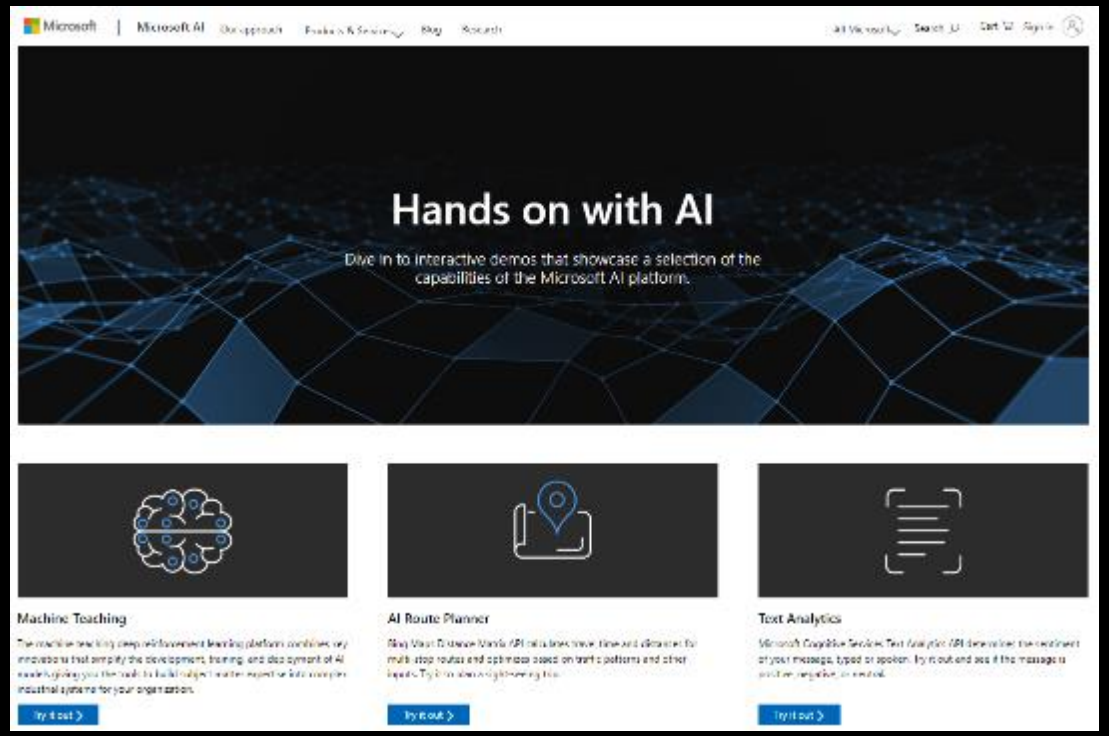
Personalizer

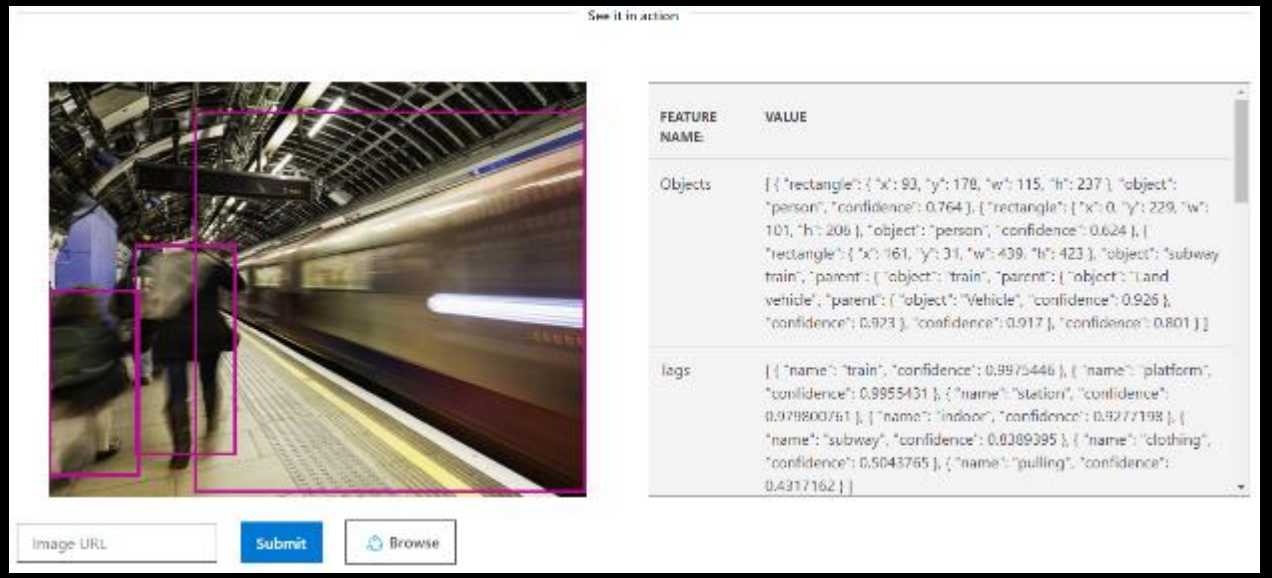
Imagine Cup Junior

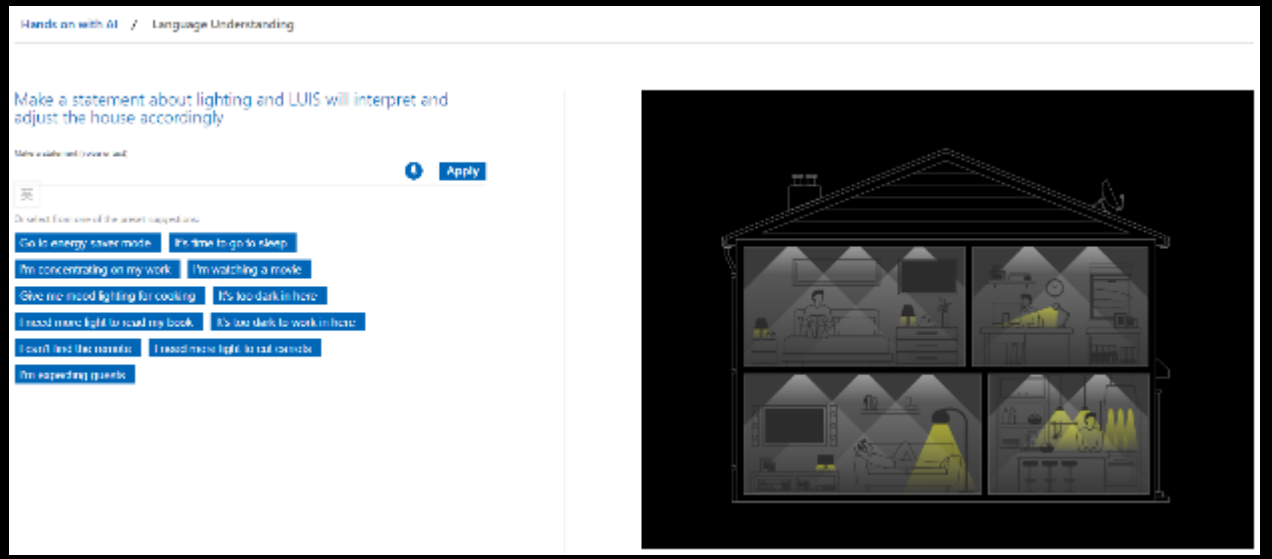
4 Preparing for Artificial Intelligence

AI EXPERIENCE

https://aidemos.microsoft.com/



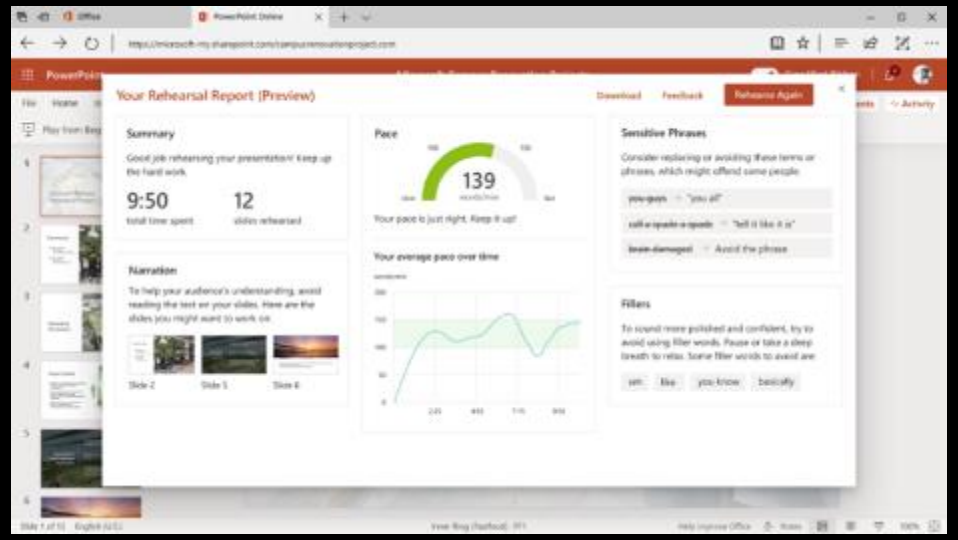


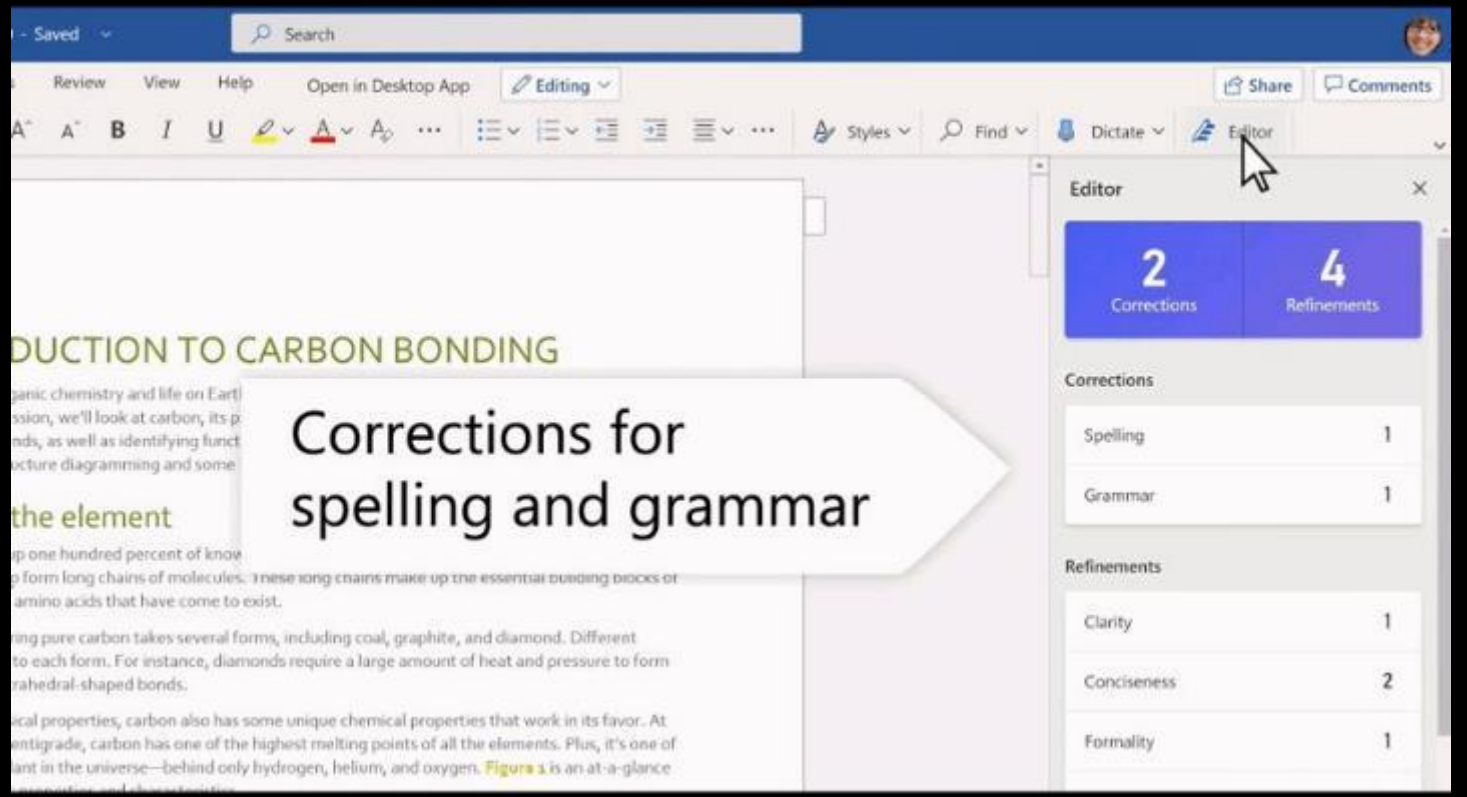


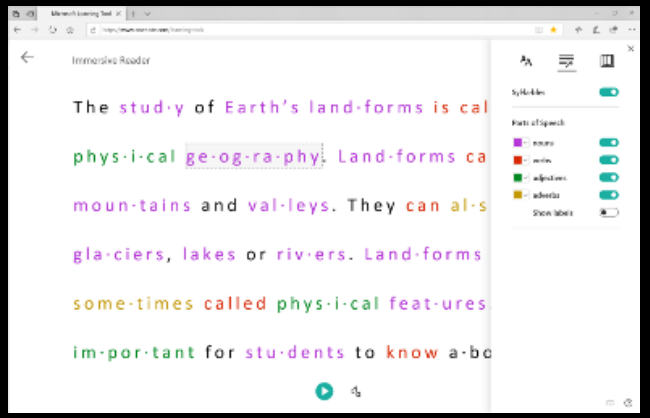
Microsoft

AI EXPERIENCE

Microsoft Office365 Application





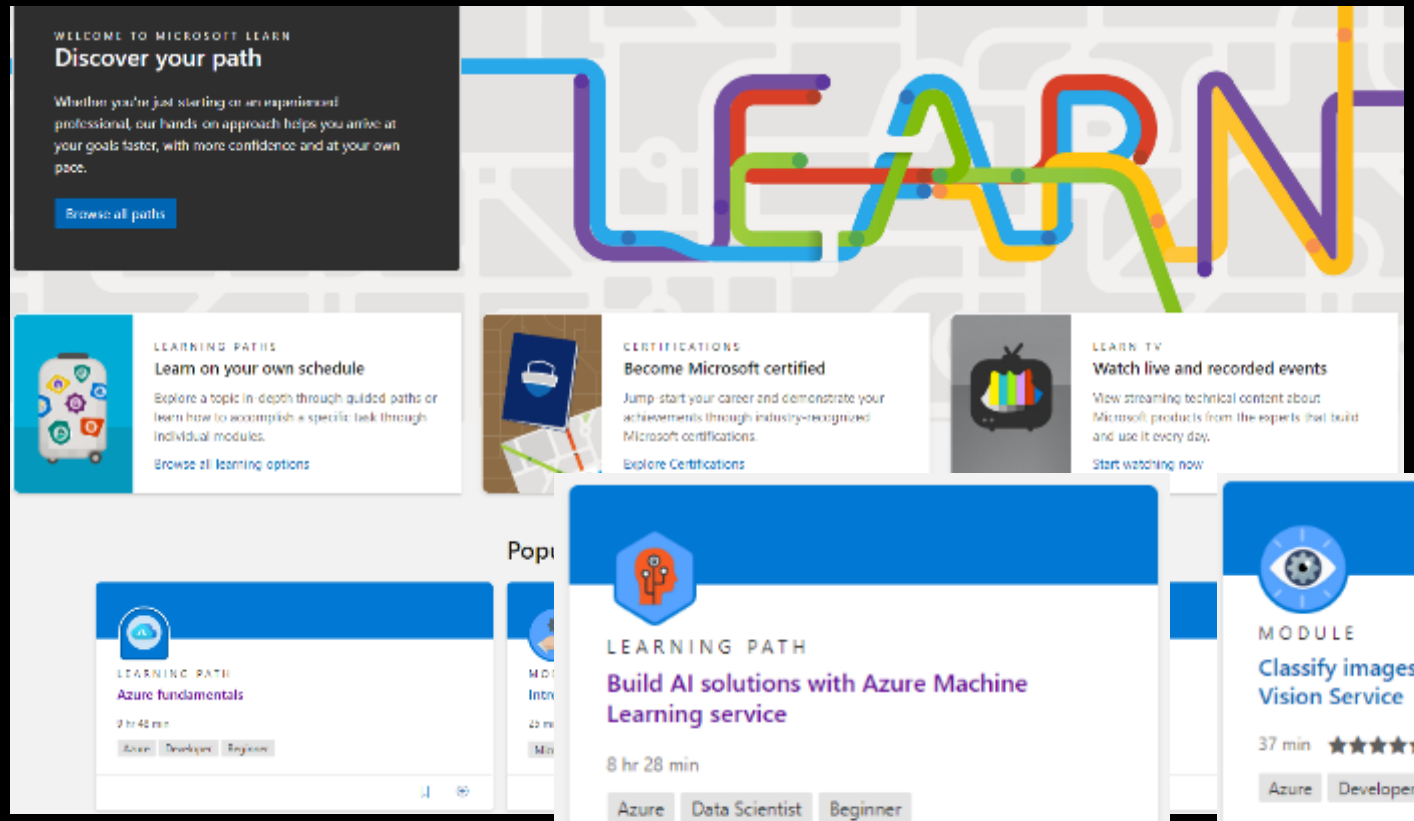


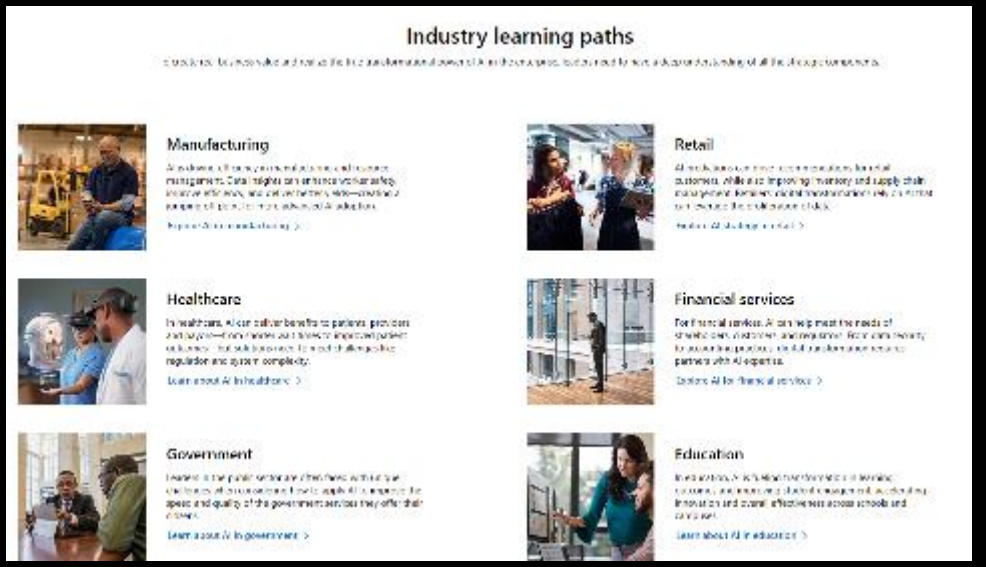
Microsoft

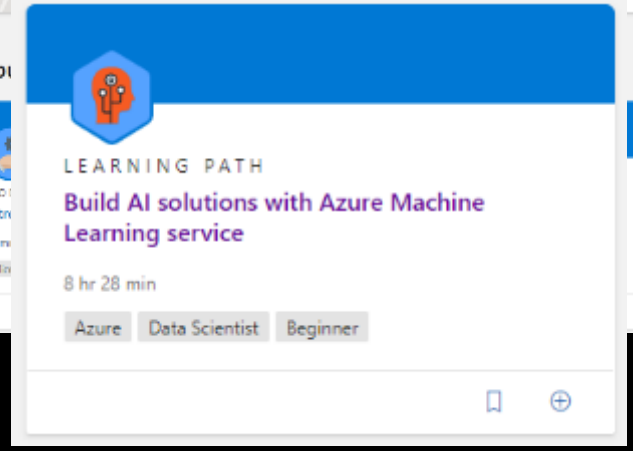
AI LEARNING

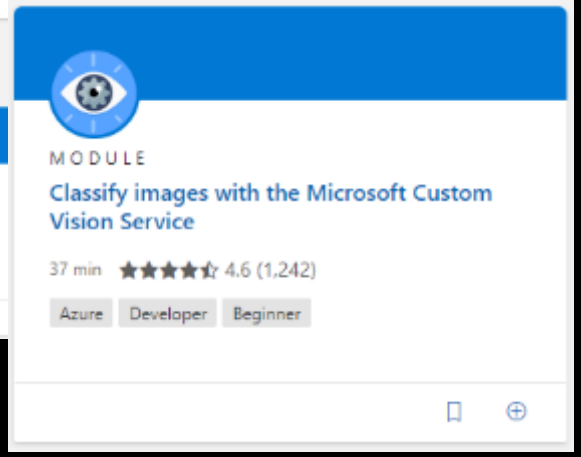
Microsoft Learn
AI Business School

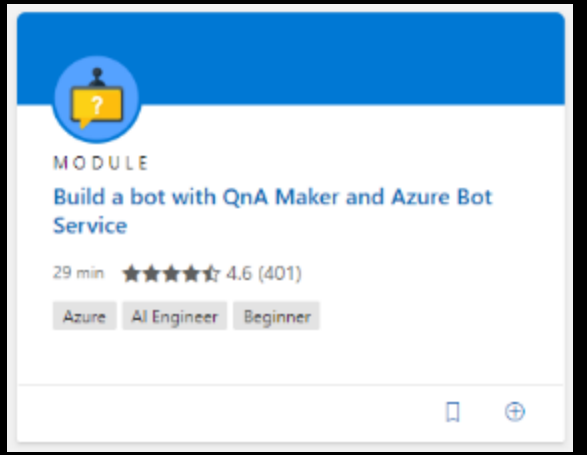
https://docs.microsoft.com/en-us/learn/







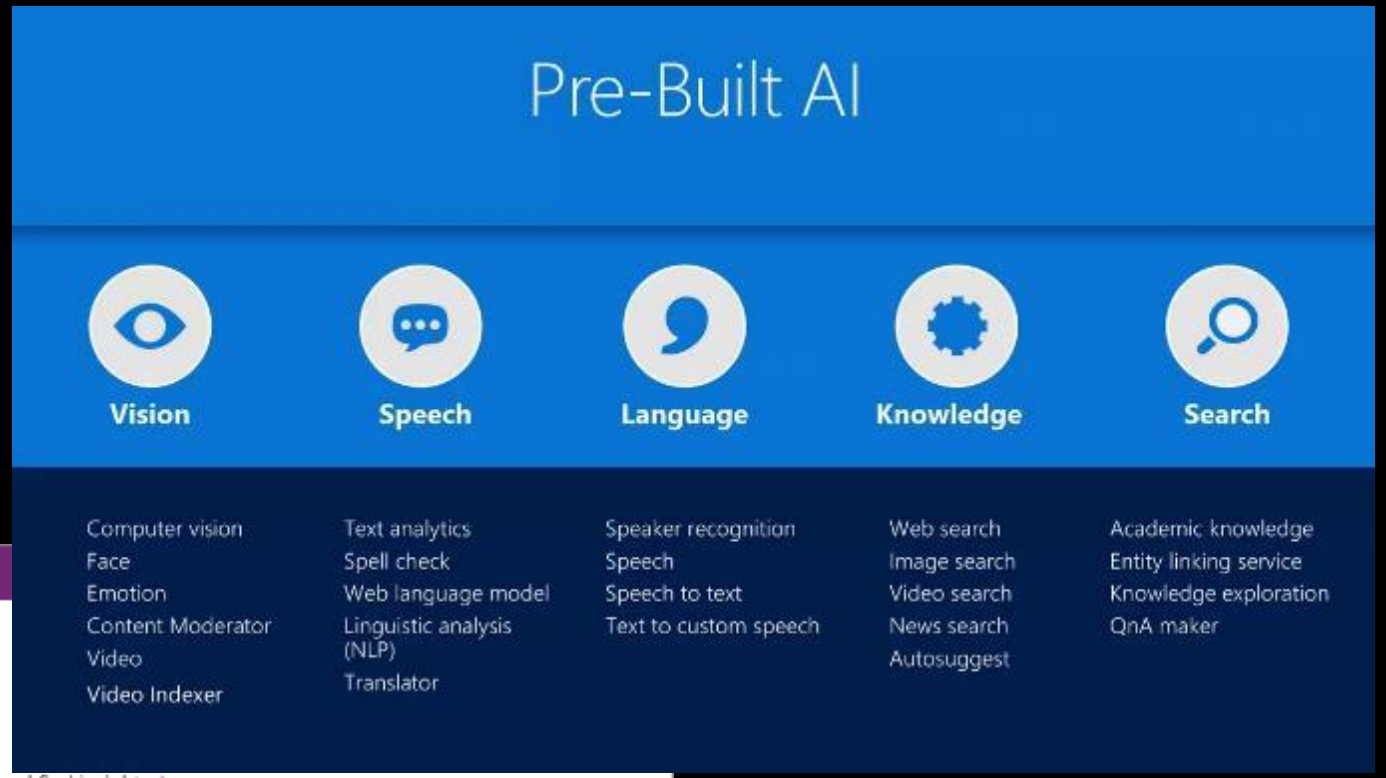


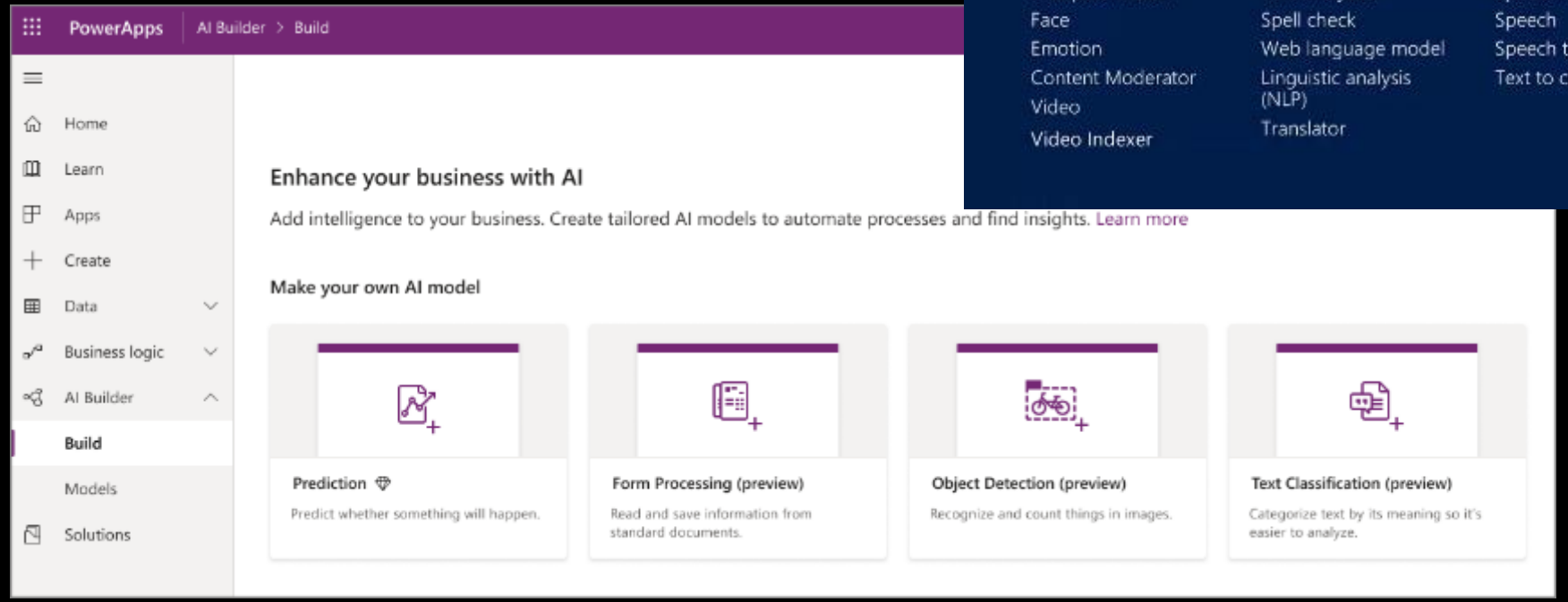


Microsoft

AI APPLICATION

Azure Cognitive Service
PowerApps



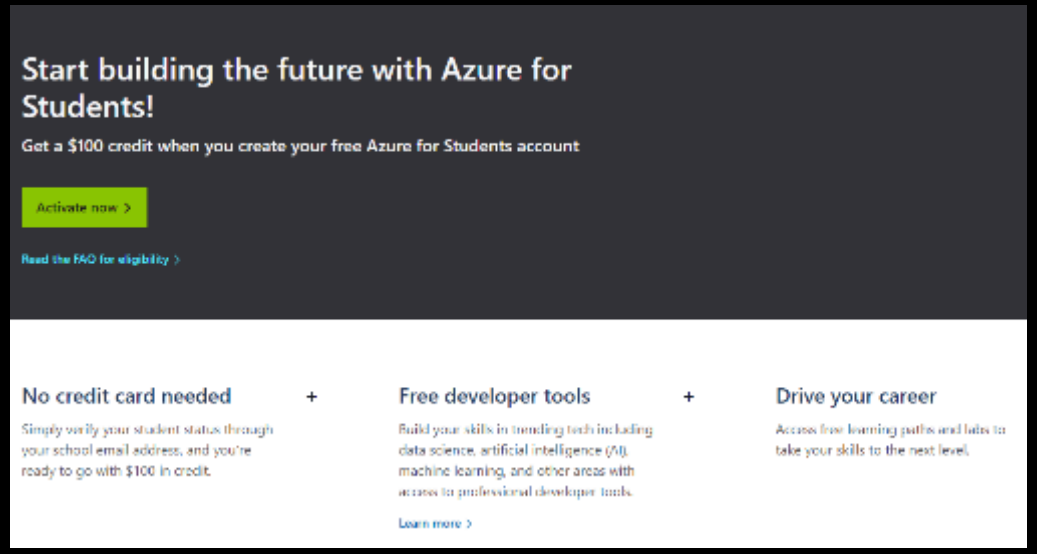


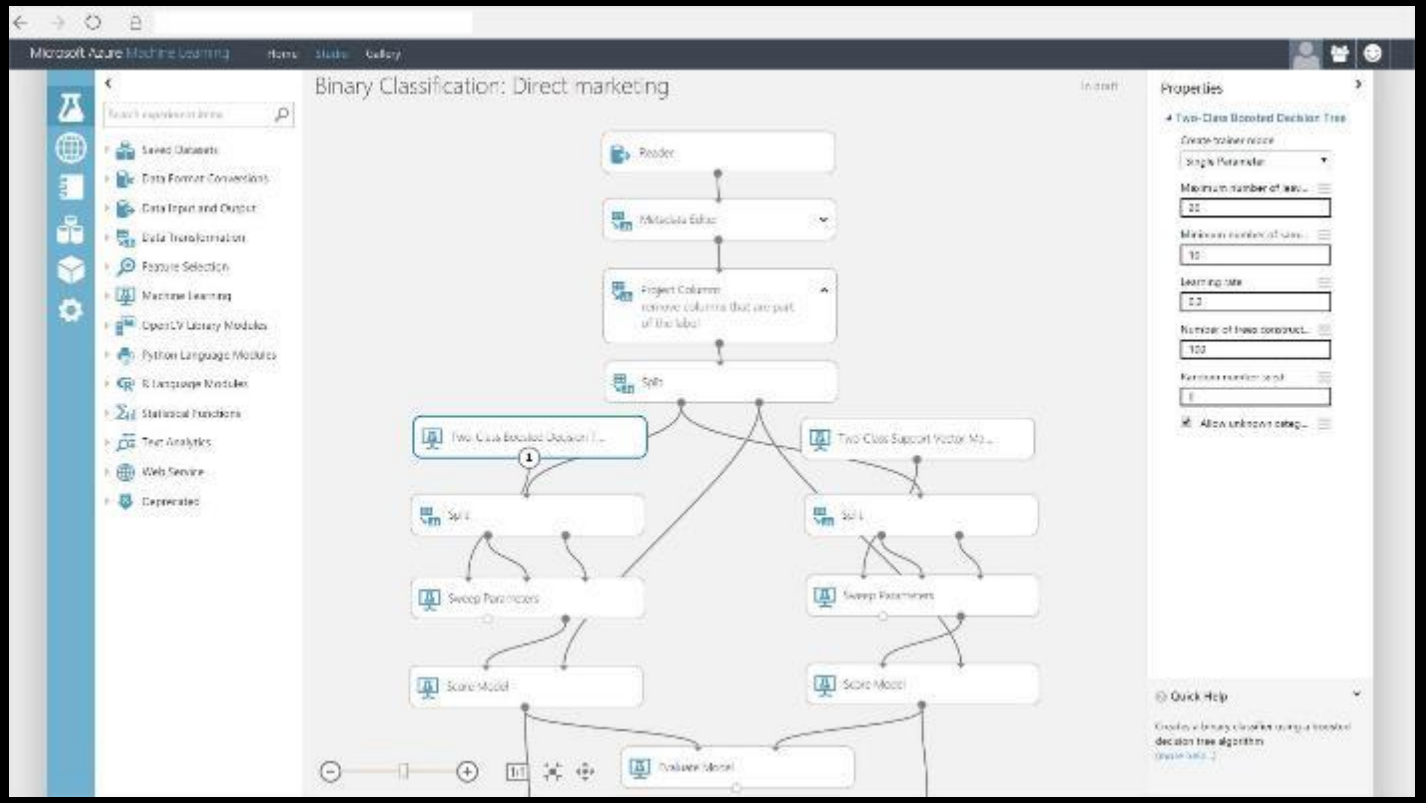
PowerApps

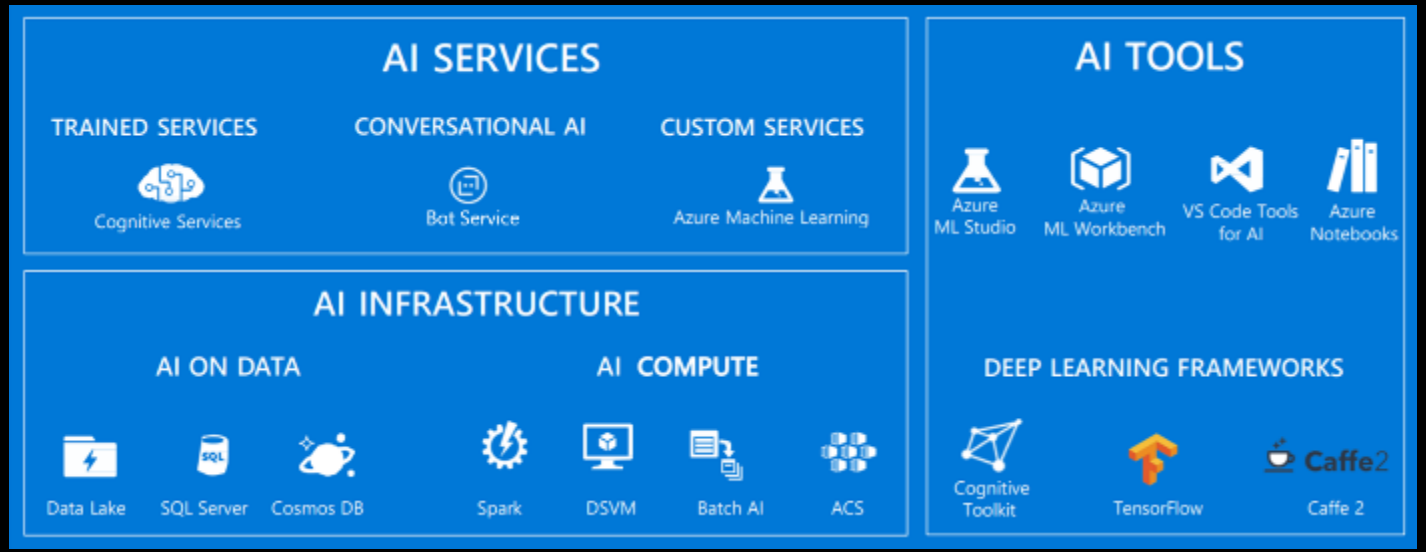
Microsoft

AI DEVELOPMENT

Azure for Student
Azure Dev Tools for Teaching
Azure Lab







AI CERTIFICATION

Azure AI Fundamental
Azure AI Engineer Associate

AI Engineer

AI Engineers use Cognitive Services, Machine Learning, and Knowledge Mining Microsoft AI solutions.

AI Engineer certification path

The ai engineer certification path is organized into 3 levels: Fundamentals, Associate and Expert.

View by:

Azure AI Engineer

An optional start for those new to Azure

FUNDAMENTALS CERTIFICATION
Microsoft Certified: Azure Fundamentals

Complete an associate certification

ASSOCIATE CERTIFICATION
Microsoft Certified: Azure AI Engineer Associate

Microsoft Certified: Azure AI Fundamentals

In response to the coronavirus (COVID-19) situation, Microsoft is implemen
changes to our training and certification program. Learn more.

Candidates for the Azure AI Fundamentals certification should have foundation
learning (ML) and artificial intelligence (AI) concepts and related Microsoft Azur

This certification is an opportunity to demonstrate knowledge of common ML
to implement them on Azure.

This certification is intended for candidates with both technical and non-techn
science and software engineering experience are not required; however, some
knowledge or experience would be beneficial.

Azure AI Fundamentals can be used to prepare for other Azure role-based ce
Scientist Associate or Azure AI Engineer Associate, but it's not a prerequisite

Job role: AI Engineer, Data Scientist, Developer, Solutions Architect
Required exams: AI-900
Important: See details
Go to Certification Dashboard

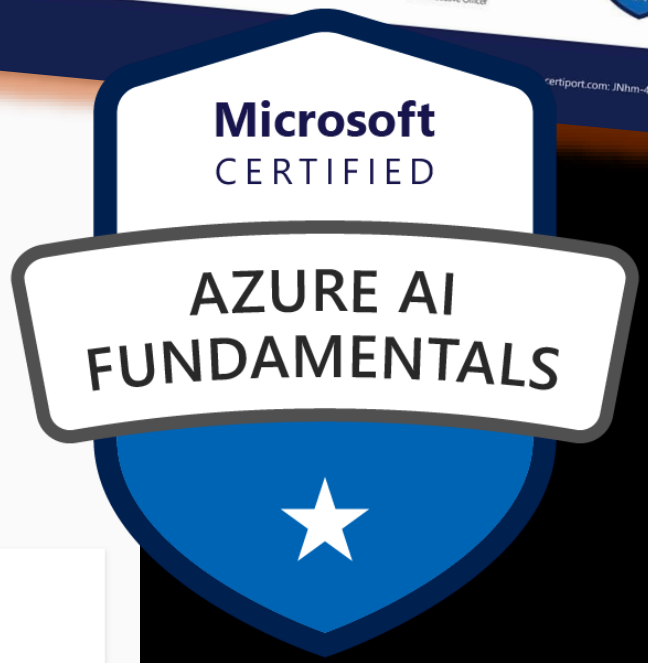
Certification details

Take one exam

CERTIFICATION EXAM
Microsoft Azure AI Fundamentals (beta)

Earn the certification

FUNDAMENTALS CERTIFICATION
Microsoft Certified: Azure AI Fundamentals



Microsoft

Microsoft

Start your AI Journey NOW!

Questioning what AI is and how to apply it

Hopeful on AI and its promise

Experimented and applied AI

Emerging data science and operational capability

Microsoft

Thank You

Microsoft