

Microsoft AI Strategy and Investments

Wole Moses
Growth Strategy Lead
Microsoft Federal **Civilian**



What's Next?

GENERATIVE AI

Forbes

FORBES > INNOVATION > ENTERPRISE & CLOUD

What ChatGPT And Generative AI Mean For Your Business

CNN BUSINESS

Real estate agents say they can't imagine working without ChatGPT now

VentureBeat

Microsoft gives businesses a GPT boost in Teams and Viva Sales

USA TODAY

New Bing with ChatGPT brings the power of AI to Microsoft's signature search engine

COMPUTERWORLD UNITED STATES

NEWS

Microsoft's new Teams Premium tier integrates with OpenAI's GPT-3.5

Weeks after extending its multibillion dollar partnership with OpenAI, Microsoft has announced that new Teams AI capabilities will be underpinned by OpenAI's GPT-3.5 natural language model.

The Verge

MICROSOFT / TECH / ARTIFICIAL INTELLIGENCE

Microsoft launches Azure OpenAI service with ChatGPT coming soon / ChatGPT is coming to this Azure service soon, as businesses get to use new AI models in their own apps.

AI innovation fueled by research



8

Global research
centers

1k+

Researchers
employed
worldwide

22k

AI-related
patents


3k+

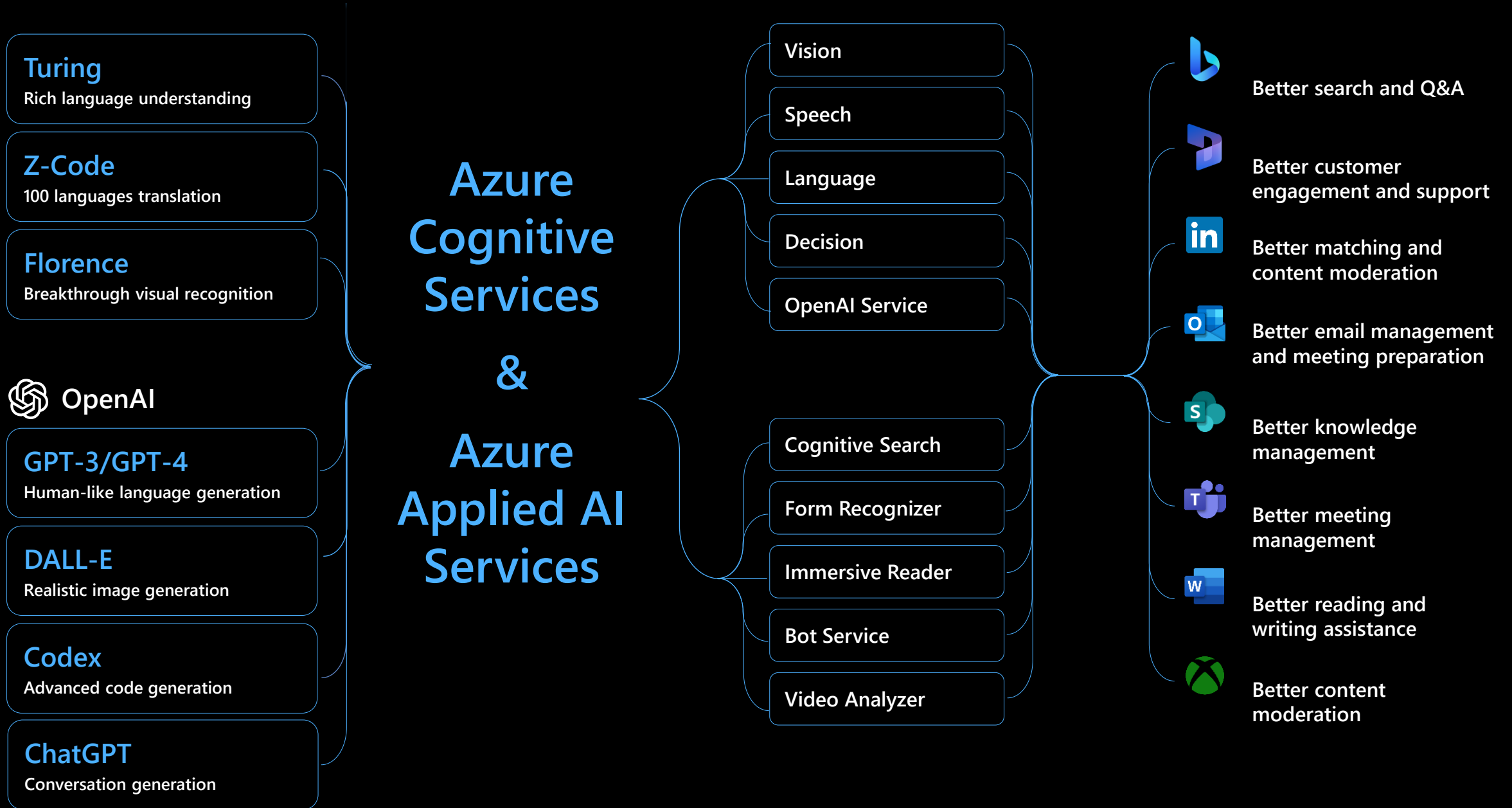
AI research
papers
published

1st

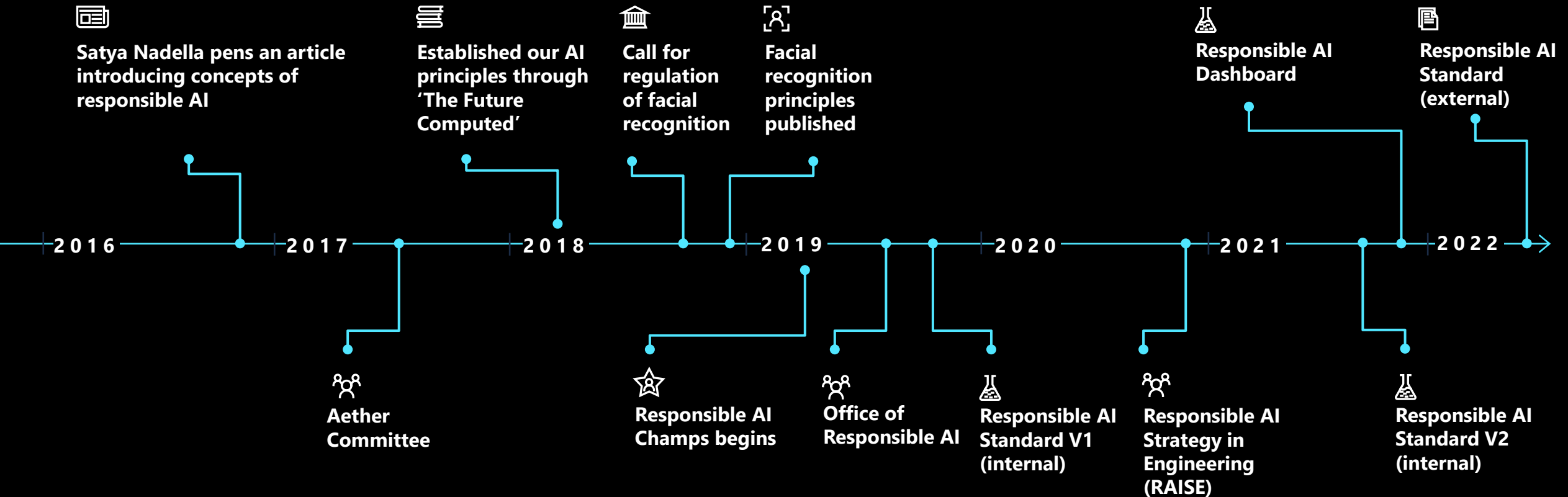
To human parity
on vision,
speech, and
language

AI breakthroughs

- 
- A vertical timeline on a black background. A thin white vertical line runs down the center. To the left of the line, the years 2016, 2017, 2018, 2019, 2020, 2021, and 2021 are listed in white. To the right of the line, blue dots mark each year. To the right of each dot, the breakthrough name is written in white, followed by 'Human parity' in a smaller white font on the next line.
- 2016 • **Object recognition**
Human parity
 - 2017 • **Speech recognition**
Human parity
 - 2018 • **Machine reading comprehension**
Human parity
 - 2019 • **Machine translation**
Human parity
 - 2020 • **Conversational QnA**
Human parity
 - 2021 • **Image captioning**
Human parity
 - 2021 • **Question Answering**
Human parity



Our Responsible AI journey



Azure Cognitive Services & Azure Applied AI Services



Azure AI

Applied AI Services



Bot Service



Cognitive Search



Form Recognizer



Video Indexer



Metrics Advisor



Immersive Reader

Cognitive Services



Vision



Speech



Language



Decision

Azure OpenAI
Service

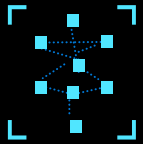
ML Platform



Azure Machine Learning

AI Infrastructure

Azure Cognitive Services



Vision

Image understanding

Text extraction

Image captioning

Form recognition

Video indexing

Facial recognition

Spatial analysis



Speech

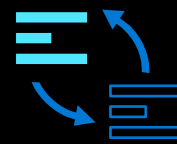
Speaker recognition

Speech to text

Text to speech

Custom neural voices

Speech translation



Language

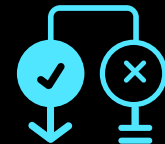
Entity extraction

Sentiment analysis

Intent understanding

Text and document translation

Q & A creation



Decision

Anomaly detection

Root-cause analysis

Metric monitoring

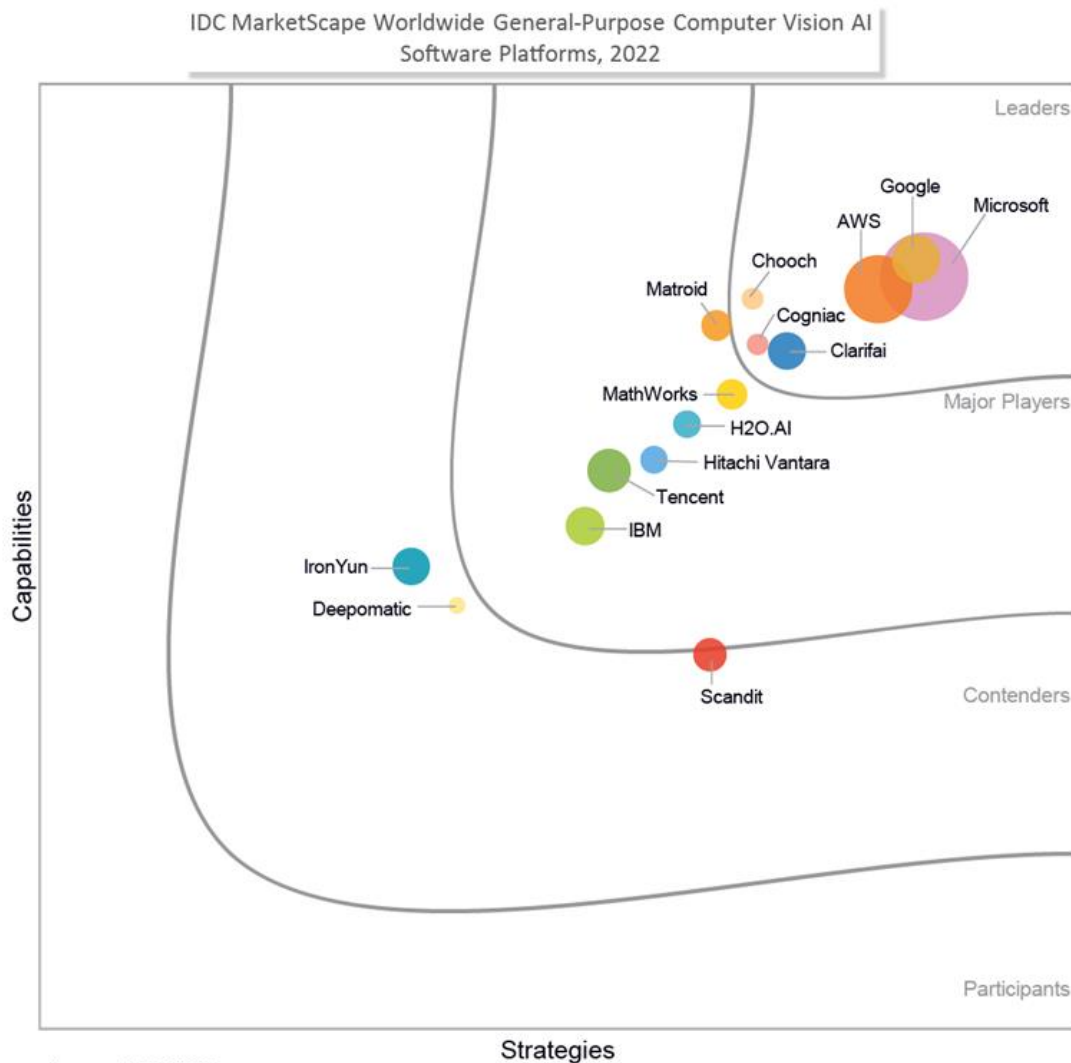
Personalization

Microsoft is a Leader in 2022 Gartner Magic Quadrant for Cloud AI Developer Services



Gartner defines the market as “cloud-hosted or containerized services that enable development teams and business users who are not data science experts to use AI models via APIs, software development kits (SDKs), or applications.”

Microsoft named a Leader in the IDC MarketScape: Worldwide General-Purpose Computer Vision AI Software Platform 2022 Vendor Assessment



The Capabilities score measures vendor product, go-to-market, and business execution in the short term. The Strategy score measures alignment of vendor strategies with customer requirements in a 3–5-year timeframe. Vendor market share is represented by the size of the icons.

NASA ISS Glove Defect Detection

Azure Custom Vision at the Extreme Edge



Vision

Image understanding

Text extraction

Image captioning

Form recognition

Video indexing

Facial recognition

Spatial analysis



<https://www.youtube.com/watch?v=r-wMwGjO8yc>

Video Summarization and Scene Frame Location



Vision

Image understanding

Text extraction

Image captioning

Form recognition

Video indexing

Facial recognition

Spatial analysis

Cognitive Services | Vision Studio


Video summarization and frame locator PREVIEW

Video search and summarization, uses a combination of natural language processing and computer vision techniques to analyze the content of a video. It can generate a brief summary of the main points discussed in the video, along with a transcript of the spoken words for easy searching. Additionally, it allows users to search for specific keywords within the video and quickly jump to the relevant section.

[View documentation](#) [View samples on Github](#)


Try it out
Choose a video clip to see the summarization and frame locator capabilities.

Sample videos [Try with your own video](#)




Datacenter

This video provides an inside look at a data center, revealing the technology that powers it and the people who maintain it. It showcases a long hallway filled with servers, emphasizing the vast infrastructure that supports modern data centers.




Factory

A video that depicts unsafe actions in factory, such as running, carrying boxes with hands, taking off helmets, etc.



Retail

A grocery store where people go to buy food and day-to-day items.



Warehouse

A warehouse where the safety of the workers is a top priority.

Run a test

Choose a test

Run

<https://portal.vision.cognitive.azure.com>

Improving Government Call Center Experience

Azure Speech AI



Speech

Speaker recognition

Speech to text

Text to speech

Custom neural voices

Speech translation

https://speech.microsoft.com/portal/callcenter

Azure ChatGPT and... Microsoft Designer...

Services | Speech Studio

Speech Studio > Post call transcription and analytics

Try it out Developer resources Next steps

Try with samples Upload your own data

Choose a sample call to view results.

Single-channel audio
Apply for a loan
Customer's initial call to inquire about applying for a loan.

Dual-channel audio
Signing up for Insurance
An insurance agent helps a customer sign up for health insurance.

Dual-channel audio
Refilling pharmacy prescription
Customer calls pharmacy to get a refill of their prescription.

00:00 02:00s

Analyze sentences Call summary [Preview](#)

Audio file was transcribed and analyzed to identify sensitive personally identifiable information (PII) into pre-defined classes using Conversation PII [Preview](#) and sentence level sentiment scores.

Sentiment	Transcript	Hide PII
Positive	[Speaker1 00:00] Hi, thank you for calling Contoso pharmacy. Who am I speaking with today?	Off
Positive	[Speaker2 00:04] Good afternoon. My name is <u>Mary</u> . I'm calling about a refill for my prescribed medications. I have been trying to get ahold of someone for weeks and was told that I would get a call back regarding my situation, but it's been weeks and no one's contacted me, so I thought I'd call.	Off
Negative	[Speaker1 00:17] I understand your frustration, <u>Mary</u> . Um, can you tell me what exactly you're trying to accomplish?	Off
	[Speaker2 00:22]	

Improving Government Call Center Experience

Azure Speech AI + Azure OpenAI

Cognitive Services | Azure OpenAI Studio

Azure OpenAI

Playground

Completions

Chat

Management

Deployments

Models

File Management

Azure OpenAI Studio > Completions playground

Privacy & cookies

Deployments

test1

Examples

Load an example

View code

Below is a transcript from a customer service call.

Create a JSON object which includes: Call Reason, Customer Sentiment at beginning of call, customer sentiment at end of call, Was the agent professional and empathetic, Did the agent ask if there were any other questions, Summary of the call

#####

Agent "Hi, thank you for calling Contoso pharmacy. Who am I speaking with today?"

Customer "Good afternoon. My name is Mary. I'm calling about a refill for my prescribed medications. I have been trying to get ahold of someone for weeks and was told that I would get a call back regarding my situation, but it's been weeks and no one's contacted me, so I thought I'd call."

Agent "I understand your frustration, Mary. Um, can you tell me what exactly you're trying to accomplish?"

Customer "Yes, I'm trying to get a refill of my prescription drugs that the my doctor prescribed to me for cholesterol."

Agent "OK, uh, certainly happy to check that for you. One moment please."

Customer "I see here that you were on a generic form of Lipitor, is that right?"

Agent "OK, uh, so I see that your doctor stopped prescribing these drugs in 2021, actually."

Customer "Oh really? That doesn't sound right. I don't remember him cancelling my prescription."

Agent "OK, uh, yeah, I'd be happy to check that for you. Uh, because sometimes there's a gap in the system and it just doesn't get reported. So let me take a look here"

Agent "Just a moment."

Agent "So I'm seeing here that your doctor had these drugs prescribed to you from 2012 through 2021."

Customer "Ohh huh, I mean, I'm definitely supposed to be taking something else. Uh, would you check please?"

Agent "OK. Um, yeah. According to the latest records, uh, provided by doctor's office, you're now on a different drug, metformin. Would you like us to go ahead and fill that

Parameters

Temperature 1

Max length (tokens) 1000

Stop sequences

Stop sequences

Top probabilities 0.5

Frequency penalty 0

Presence penalty 0

Best of 1

Pre-response text

Enter text

Post-response text

Enter text

Learn more

Improving Government Call Center Experience

Azure Speech AI, Azure OpenAI, Power Platform

The image displays two side-by-side screenshots from a Windows desktop environment. The left screenshot shows the Power Automate web interface. The top navigation bar includes 'Power Automate' and 'Environments Default Environment (d...)'. The left sidebar lists navigation options: Home, Approvals, My flows (selected), Create, Templates, Connectors, Data, Monitor, AI Builder, Process advisor, Solutions, and Learn. The main workspace shows a flow named 'Call Center' with the following steps: 'Manually trigger a flow', 'Parse JSON', 'CustomerEndSentiment', and 'AgentProfessionalism'. These steps lead into a 'Condition' block. The condition is set to 'Outputs x' 'is equal to' 'Dissatisfied'. Below the condition, there are two paths: 'If yes' (green background) which contains a 'Post message in a chat or channel' step, and 'If no' (red background). The right screenshot shows the Microsoft Teams interface. The top bar has a search bar and a user profile icon. The left sidebar lists navigation options: Viva Connections, Activity, Chat, Teams (selected), Calendar, Calls, Files, Power BI, Shifts, Planner, and Apps. The main area shows a list of teams under 'Your teams', including 'GCC Org Wide Team', 'Microsoft Public Sector ...', 'Government Forms Rece...', 'Call Center - Customer E...', and 'Call Center - Agent Escal...'. The 'General' channel is selected, displaying a welcome message 'Welcome to the team!' and 'There are some things to get going...'. Below the message are buttons for 'Create more channels' and 'Open the FAQ'. The Windows taskbar at the bottom shows the system clock as 9:42 PM on 4/25/2023, and the weather as 53°F Clear.

Azure Applied AI Services

Videos



Azure Video Analyzer

Extract actionable insights from your videos

Monitoring



Azure Metrics Advisor

Proactively monitor metrics and diagnose issues

Conversations



Azure Bot Service

Extract actionable insights from your videos

Documents



Azure Form Recognizer

Turn documents into usable data at a fraction of the time and cost

Search



Azure Cognitive Search

Bring AI-powered cloud search to your mobile and web apps.

Accessibility



Azure Immersive Reader

Help users read and comprehend text

Document Archival and Search at Scale

USDA Azure Cognitive Search POC



TOGGLE VIEW



Include related matches



ATT: 91133

DR. C. A. MEBUS

Received 3/22/90.

Pkg opened, seal broken, samples were not opened.
Pkg resealed, initialed, + frozen -20°C in over-frig
freezer in room 178. Chase

I Comme + KActing Lab Chief or Dr. Meles 3/ 26 / 91 Dr. Kaycle / Dr Thon 516 - 472 - 4477 FTS 562 - 4477 91133
Os Sites is very concerned that the 2 ofte the suspect sehen have been contaminated, they coould like safety
fest on lot 35P 8013 + 36N 1310. after discussion, we agreed that(1. the lot should bested i cattle, sing animal /
fat 5761 5760 ad~ 300 ml / eat 72 each) 2. the est should additionally BT also the tested for Frio-VNCA, O, Coff
South america arigh)IFMD - VIAA ch w/ Dr. Keyder in case adult bome serun 3/27 ok ivos present. The test can
be started 3/27 bing ed of new steen & ad fsteen priority ? to test 74 Boehringer- Mannheim matcual, The
Clinical signs at 7,14421 days would be appreciated by Dr. Thoms (to allay their fears) , with final results in
about 312 weeks .. The VN, VIAA will be reported Mindy \$/1. The remaining be suspect lox is to be held;
additional 10l from mais was shipped ,26. OVER externe

4 / 3 message to Dr Thoms office (Linda) animal the ab test on sample neg. CH.

017 91133 Hitce neun Boleto 5 760 (- 100 ml - BF VN lach 5761 (diff stee form lach lot). ET## 216, 250

91133 ATT : DR C. A. MEBUS Received 3/22/90. OKg opened, seal broken suple were not opened. Phy resealed in
seal initiated, + frozen 20C in over-frig freger in room 178.

91133 GIBCO LABORATORIES 3175 STALEY ROAD GRAND ISLAND, N.Y. 14072 (716) 774-6700 No 02892
MISCELLANEOUS SHIPPING ORDER 3/ 21 19 Date Prepared. 3 / 22 91_19. Wanted at Destination_ (Prepaid) O
U.P.S. (Collect) O TRUCK [EXPRESS SHIP TO USDA , APHIS, FADDL O P.P. Rm 25 EAST Insurance Value \$ ORIENT
POINT WAREHOUSE AIRBORNE Routing. GIBCO ORIENT POINT, N.Y. 11957 Purchase Order No. Remarks UNIT
QUANTITY DESCRIPTION WEIGHT VALU PRICE 1 x 100 ml D91417 , 1 70 12350 1 Xlooll | 1 91 4 18, 2 P 0 13 3 4 5
lxroom) | D 91 420, 1 P 0 1 5 320 1 x looml D 9 1 4 2 1 / / P 0 1 6 3 2 5 1 x500 ml 34 P 7 310 36 N 1310 1 x500
ml 35 P 8013 1x500ml 1 X500 ml 34 P 7310 UNDER SUPERVISION Samits BOXEO JOE WITH FERITOEZ. (USOA)
USDA SEA!! # 163900 *163899 Charge To_ Credit _ Q A Distribution: Date Shipped White: Shipping Verification
Authorized and Pink: Shipping/Packing Shipping Slip Prepared by Goldenrod: Accounting D-83 Green: Originator
SG 187

Government Form Processing and Analysis

Azure Applied AI Services: [Azure Forms Recognizer](#)



AI Infrastructure

AI at any scale with AI optimized Azure Virtual Machines



Purpose-built AI
infrastructure



Reliability at
scale for large
AI models



Proven AI
supercomputing
performance



Azure AI

Applications



ISV Solutions

Application Platform

AI Builder



Power BI



Power Apps



Power Automate



Power Virtual Agents

Scenario-Based Services

Applied AI Services



Bot Service



Cognitive Search



Form Recognizer



Video Indexer



Metrics Advisor



Immersive Reader

Customizable AI Models

Cognitive Services



Vision



Speech



Language



Decision

Azure OpenAI Service

ML Platform



Azure Machine Learning



Partner Opportunity

























Explore Azure OpenAI for Federal Agencies – A Microsoft Partner Exclusive

Calls to Action/Next Steps

1. Get Familiar with Azure AI
2. Connect with your Microsoft Account Teams to build a joint AI strategy
3. Participate in our upcoming Azure OpenAI Partner Call Series
4. Participate in our upcoming Azure OpenAI AI Hackathons

Thank you

Azure AI in Microsoft Cloud solutions

AI Use Case	Where to Try	Powered By	Adopted By
Assisted Coding & Generated Content		Azure OpenAI Service	
Copilot for every job role		Azure OpenAI Service	
Content & Design Production		Azure Machine Learning	
Personalized Recommendations		Azure Machine Learning	
Contextual Assistance		Azure Cognitive Services	
Biometric Detection & Identity Verification		Azure Cognitive Services	
Image Captioning, SEO & Accessibility		Azure Cognitive Services	
Speech Transcription & Captioning		Azure Cognitive Services	
Insider Risk Management		Azure Cognitive Services	
Content Reading & Writing Experiences		Azure Applied AI	
Extract Text from Documents & Structure Data		Azure Applied AI	
Search as a Service		Azure Applied AI	

Improve digital trust and user experience

through responsible AI practices



Decreased unfairness metric
between different cohorts
from **7%** to **0.502%**

Aim to reduce risk, reduce
uncertainty, and improve
surgical outcomes.

Achieved **99.5%** accuracy
predicting fraud & increase
trust in ML models

Build digital trust and improve user
experience

Do More with Less with Azure Machine Learning

Build, deploy, and manage custom ML models

~2min

Time it takes for Nestle to process threat detections using MLOps and handle them faster

96%

Rate of accuracy SAS can predict fraud using Automated ML, improving sales forecasting

1.3M

Number of calls AGI inferences using MLOps, increasing speed-to-value

Do More with Less with Applied AI and Cognitive Services

Intelligent Inventory Management

60%

Icertis reduced compliance costs to track its supply chain and inventory management system

Conversational AI

90%

Reduction in support cost as seen by Nedbank with AI chat fielding 80% of inquiries

Document Intelligence

90%

Data confidence NHS BSA sees with digitization of document processing of paper forms/prescriptions a month

Machine Translation

1B

Words translated in 40 languages using Machine Translation helping Volkswagen serve customers worldwide

Sales, Service & Support Bots

98%

Increase in cost savings for Allstate using automated speech transcription of claim calls

Build and run AI workloads on Azure

World class performance with
purpose-built AI infrastructure

#1 for cloud supercomputing performance*

Seamless Machine Learning experience
from data prep to model production

Optimized with Azure Machine Learning & OSS tools

Built –in security, data governance, compliance,
and responsible AI methodologies

Engineered to be secure, trusted and responsible

*#1 for cloud-based performance (#14 over all) - [Top500 List](#) November 2022