

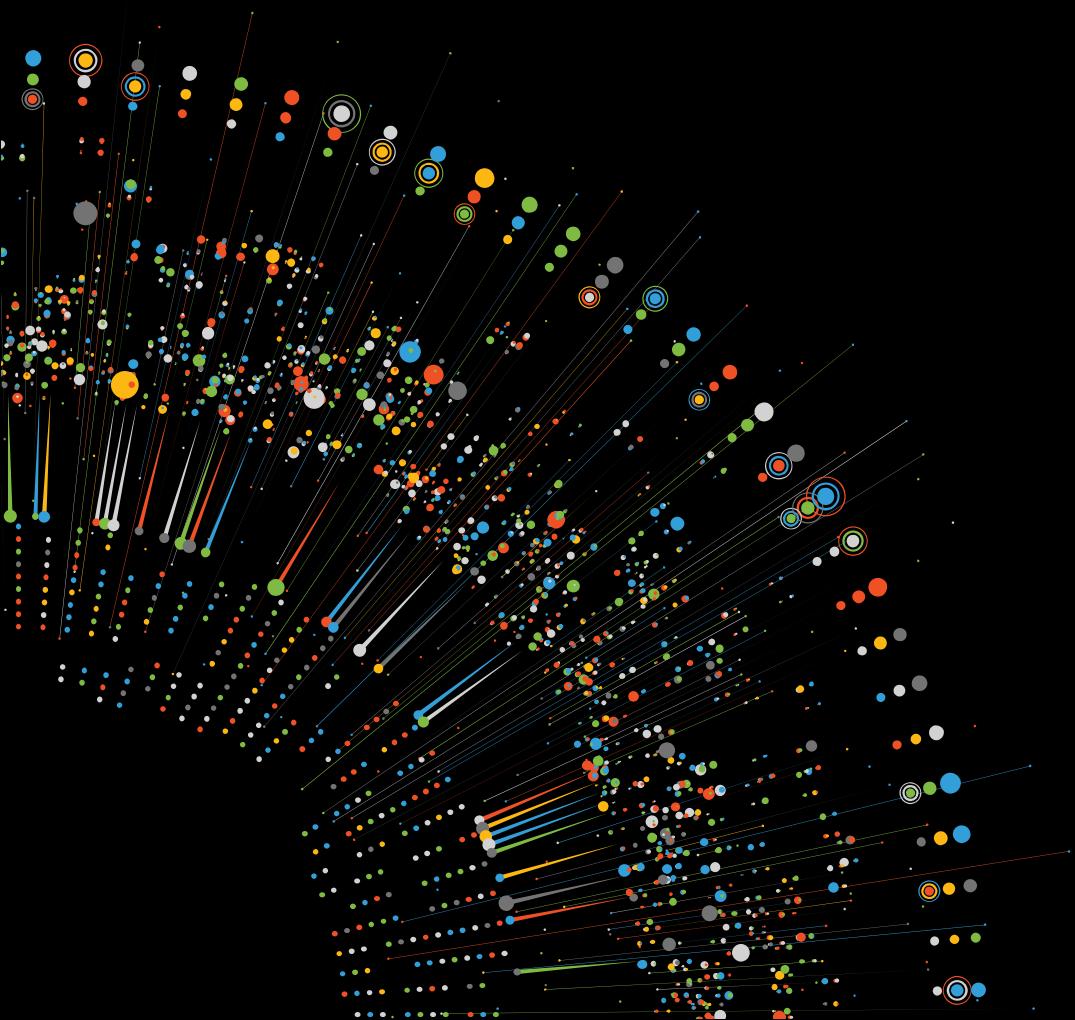
#AzConfDev



Azure COMMUNITY CONFERENCE

Sponsored by





Let's Chat-Bots using Azure AI

#AzConfDev



LIJI THOMAS

Manager, Modern Application Development
Valorem Reply

AGENDA

- Background – AI & Conversational AI
- Conversational AI landscape
- Azure Bot Service
- Azure Cognitive Services
- QnA

The Impact of the Covid-19 Pandemic on Conversational AI

Companies are accelerating their digital transformation strategies in response to the Covid-19 pandemic and relying on Conversational AI to stay competitive.

CONVERSATIONAL AI: A FRONT-RUNNER TECHNOLOGY DURING THE PANDEMIC

Conversational AI Comes of Age

The COVID-19 pandemic can have far-reaching effects on how the financial services industry interacts with customers, and service centers equipped with conversational AI will come to the fore.

How Companies Are Meeting the Demands of a Global Pandemic with Conversational AI

BY DEREK TOP on AUGUST 5, 2020 · (0)

THE STORY THUS FAR..



1980s: PC

- Basic compute
- Process automation
- Software ecosystem
- GUI



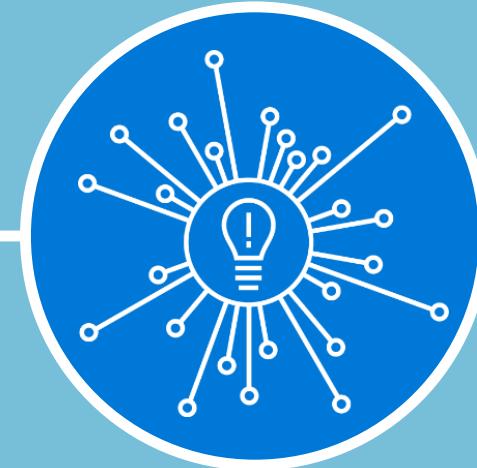
1990s: Internet

- Communications
- Content proliferation
- Distributed services
- Browsers



2000s: Mobile

- Cloud compute
- Ubiquitous access
- Data explosion
- App economy

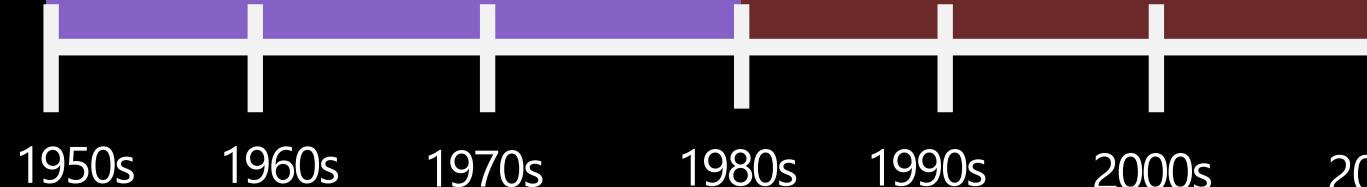
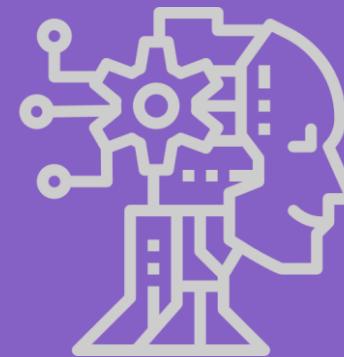


Now: Artificial Intelligence

- Deep learning
- Machine intelligence
 - Natural language and speech processing
 - Computer vision and recognition
 - Knowledge understanding and reasoning
- Autonomous agents, robotics
- Natural UI, immersive technologies

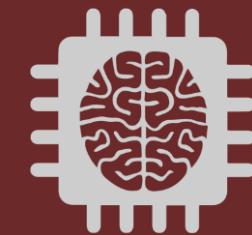
ARTIFICIAL INTELLIGENCE

Technique that allows computers to mimic human behavior



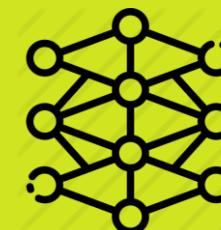
MACHINE LEARNING

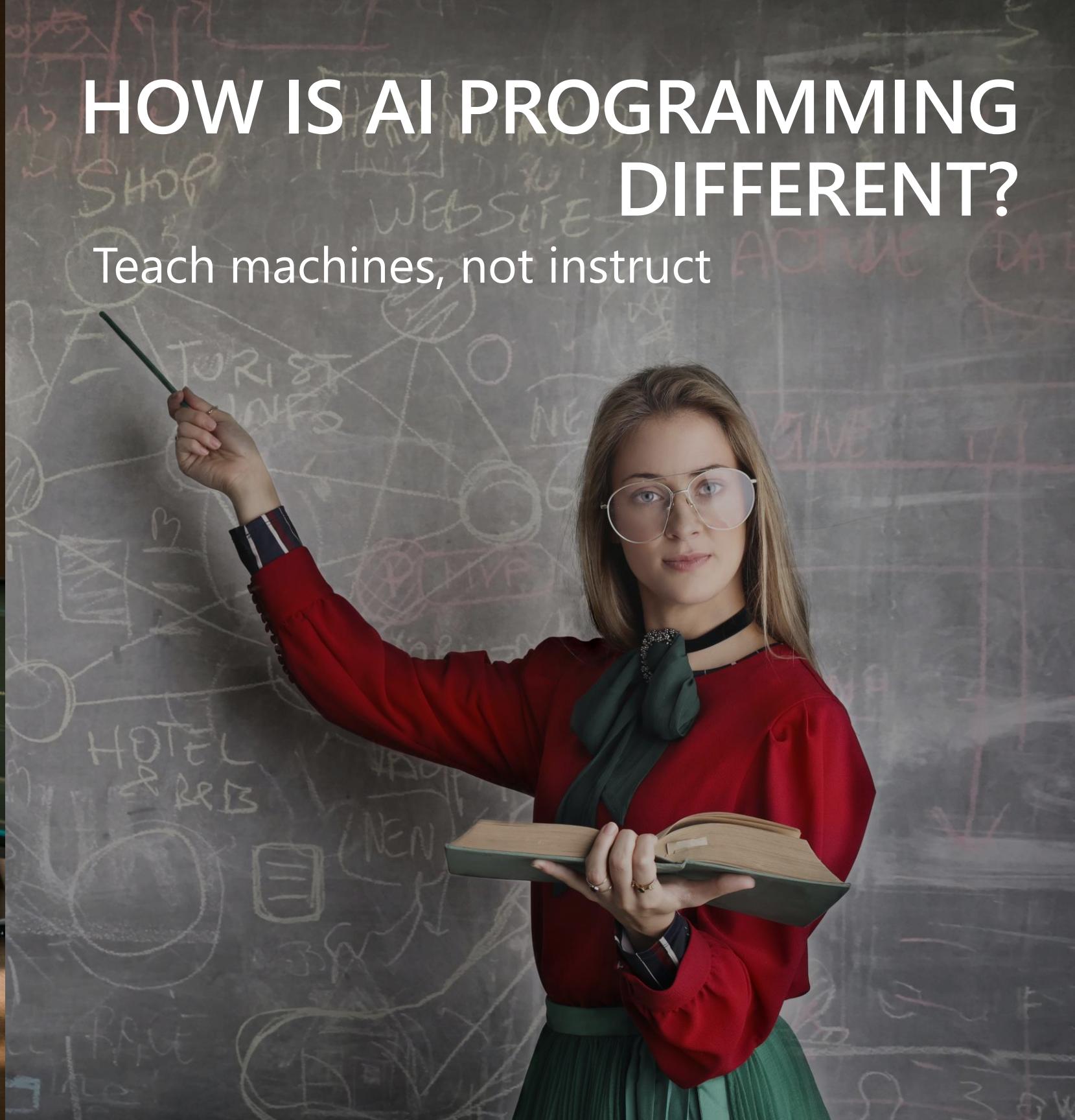
AI techniques that enable computers to learn without being explicitly programmed to do so.



DEEP LEARNING

Subset of ML which makes the computation of multilayer neural networks possible





HOW IS AI PROGRAMMING DIFFERENT?

Teach machines, not instruct

BREAKTHROUGHS ENABLING AI

Big Data



Cloud Computing

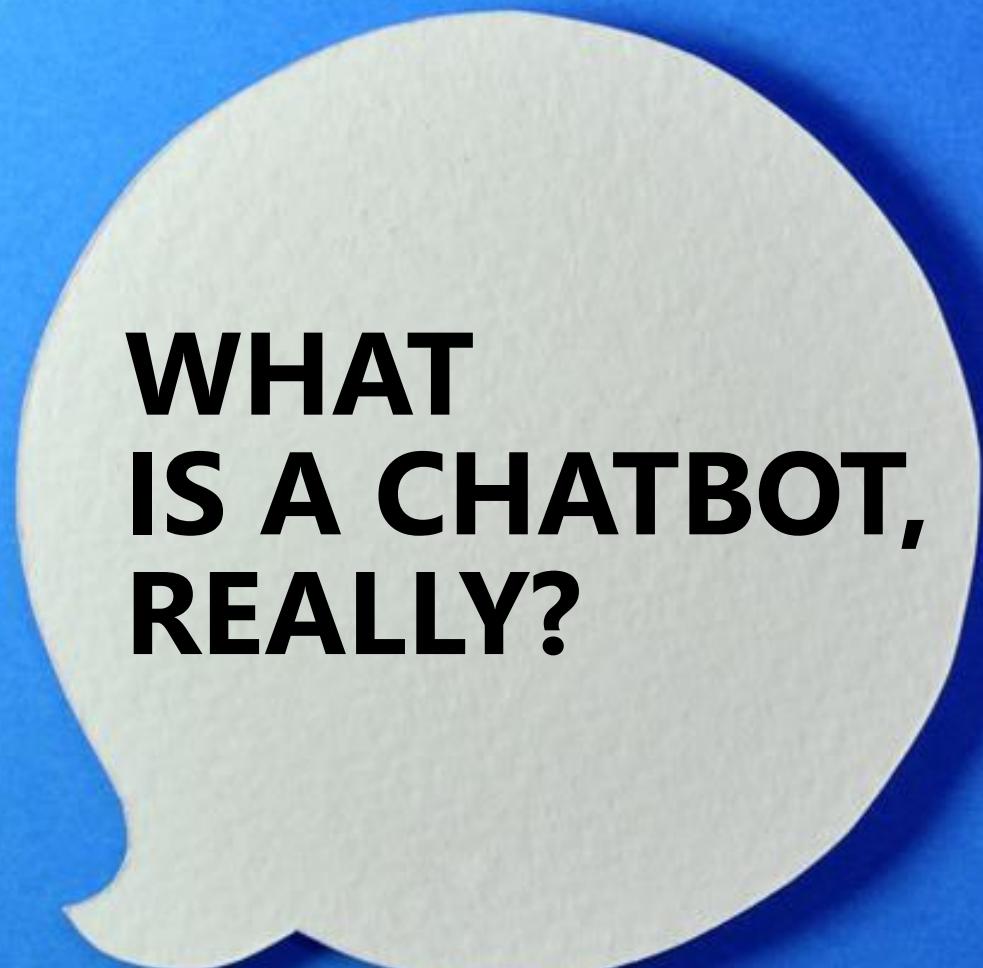


Powerful Algorithms



EVOLUTION OF CHATBOTS

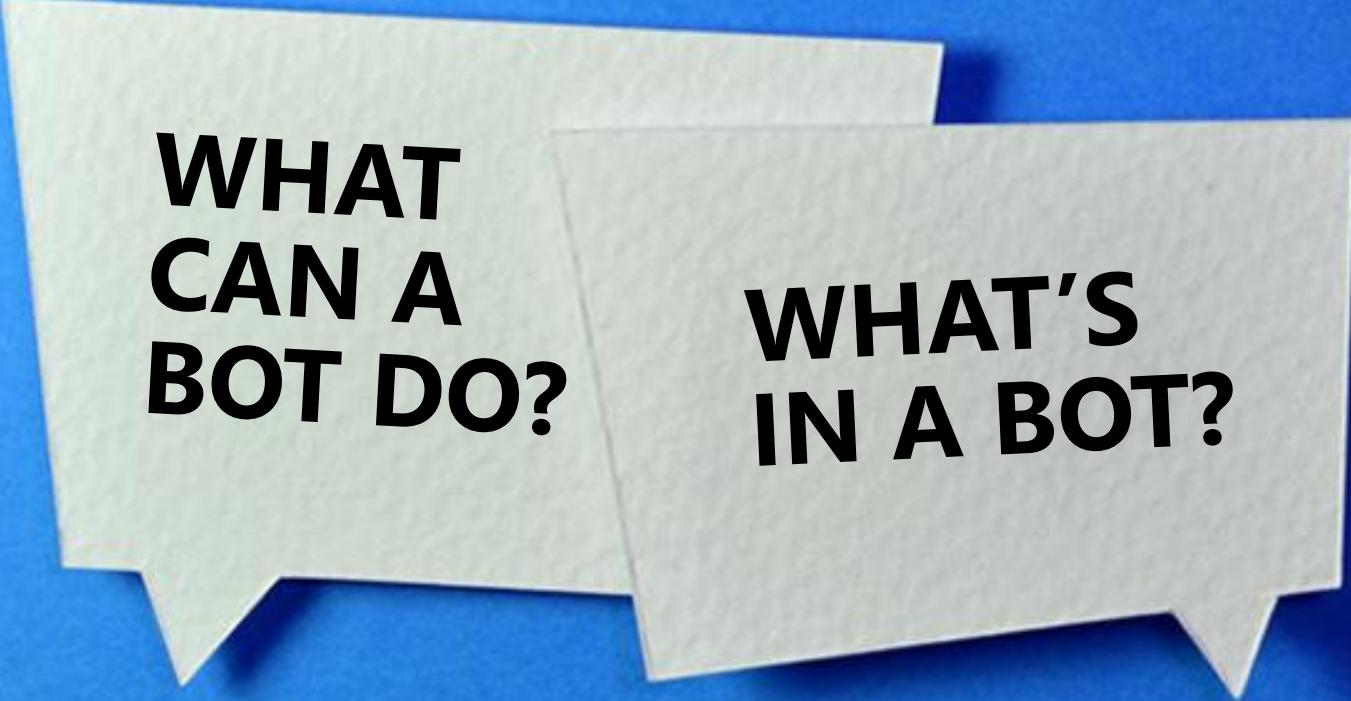




WHAT IS A CHATBOT, REALLY?

A Chatbot is a computer program, which simulates human conversation through the text chats or voice commands or at times, both.

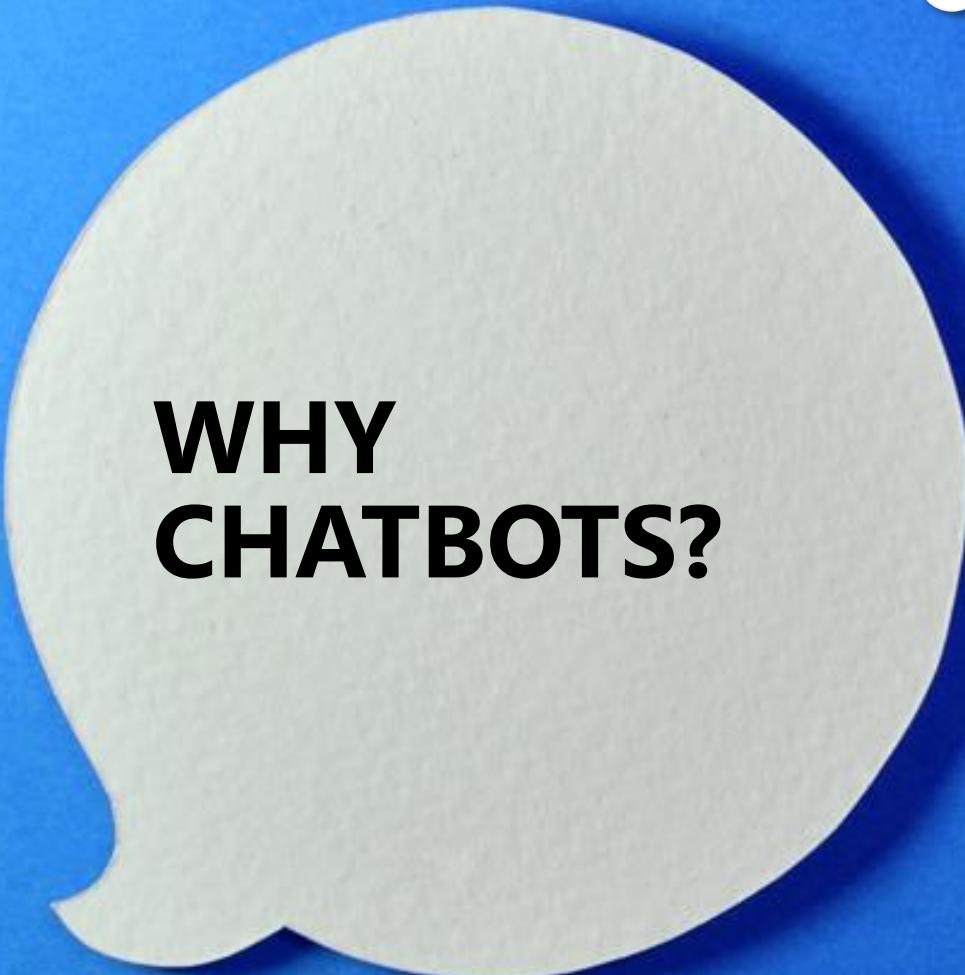
The software can either be incorporated in your existing application or it can also act as a standalone app like Siri.



**WHAT
CAN A
BOT DO?**

**WHAT'S
IN A BOT?**

- Can answer simple questions to engage in sophisticated conversations.
- Can be used to shift simple, repetitive tasks to automated systems
 - setting an alarm
 - telling you the weather
 - making a dinner reservation
 - adding an appointment to your calendar



WHY CHATBOTS?

Feels less like using a computer and more like dealing with a person

Available 24X7

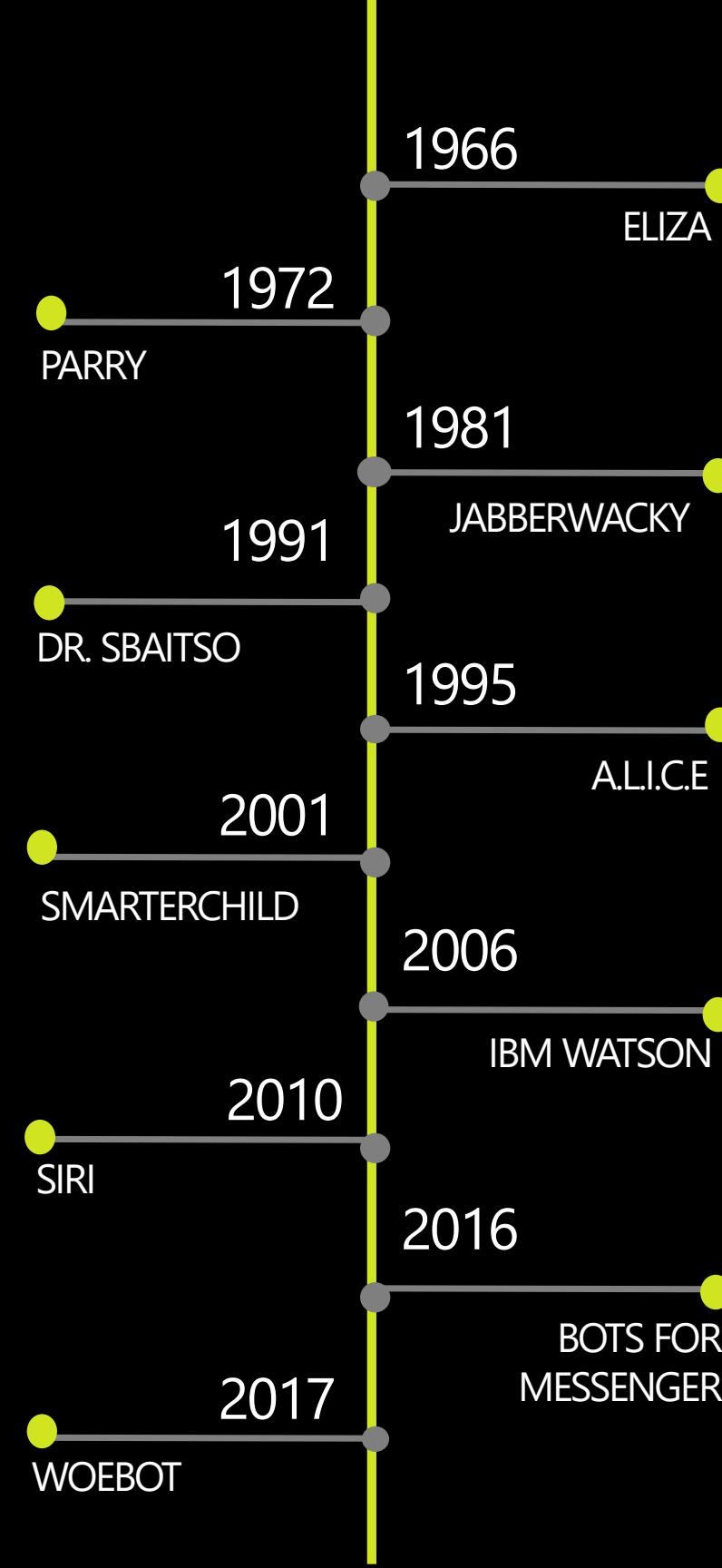
Immediate Response

Reduce Costs

Reach New Channels

Increase Engagement

History



70%

white-collar workers
will interact with
conversational
platforms on a daily
basis, by 2022

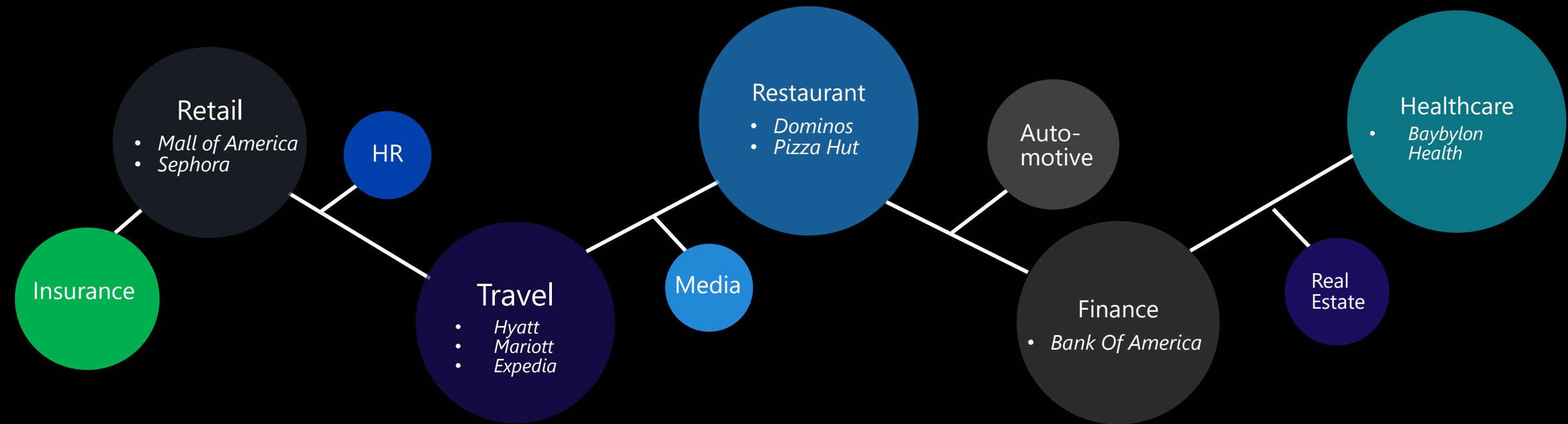
400%

Increase in customer
service transactions by
AI, between 2017-2021

95%

Customer Interactions
powered by AI bots,
including telephone
and online, by 2025

APPLICATION AREAS

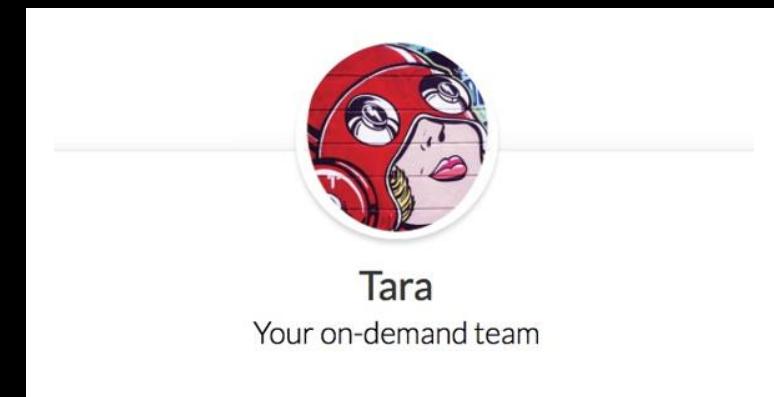


INNOVATIVE BOTS



Ross Intelligence

AI lawyer bot that helps human lawyers research faster and focus on advising clients



T.A.R.A

AI Recruiter bot built for Talent Acquisition and Recruiting Automation. 100+ data points on each candidate and recruit the most effective engineers for specific positions or coding tasks



Woebot

Talk therapy chatbot that uses the principles of cognitive behavioral therapy (CBT) - one of the most heavily researched clinical approaches- to treating depression

DEBUNKING CHATBOT MYTHS



1 Chatbots are a new technology

Truth: This technology is relevant and developing but not new

2 Chatbots can only support customer service

Truth: Chatbots can support different use cases.

3 All bots use AI

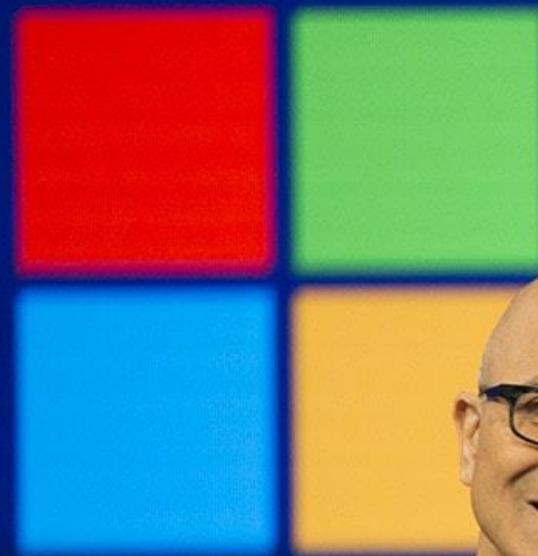
*Truth: Broadly 2 categories of chatbots:
Scripted or Rule-based chatbots & AI chatbots*

4 Chatbots vs humans

Truth: "Chatbots and humans"

5 Chatbots are difficult to build

Truth: This is both true and false.



Microsoft



“

Human language is the new UI layer,
bots are like new applications.

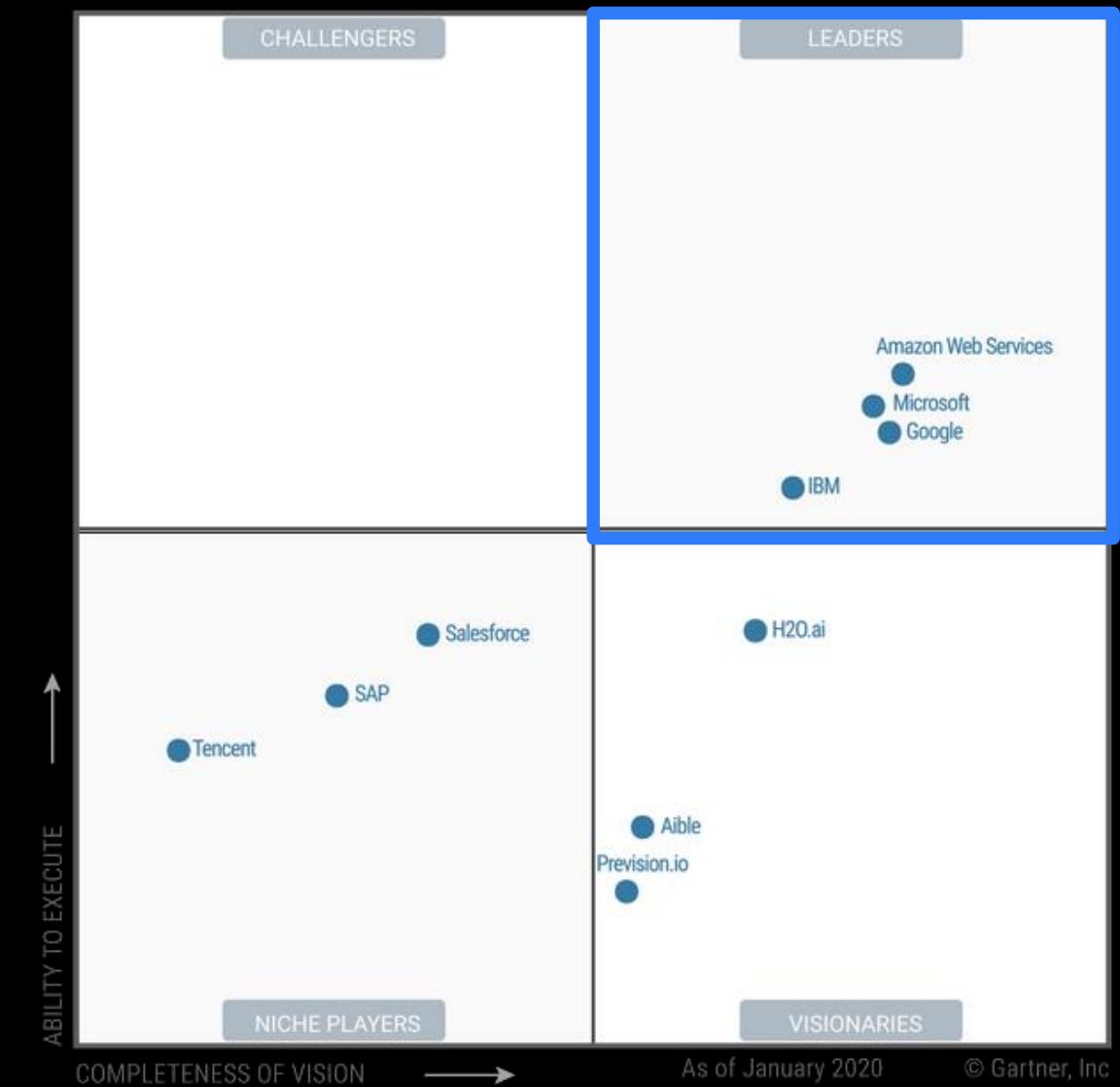
”

THE AI LANDSCAPE

Nearly every large company has an AI and bot strategy.

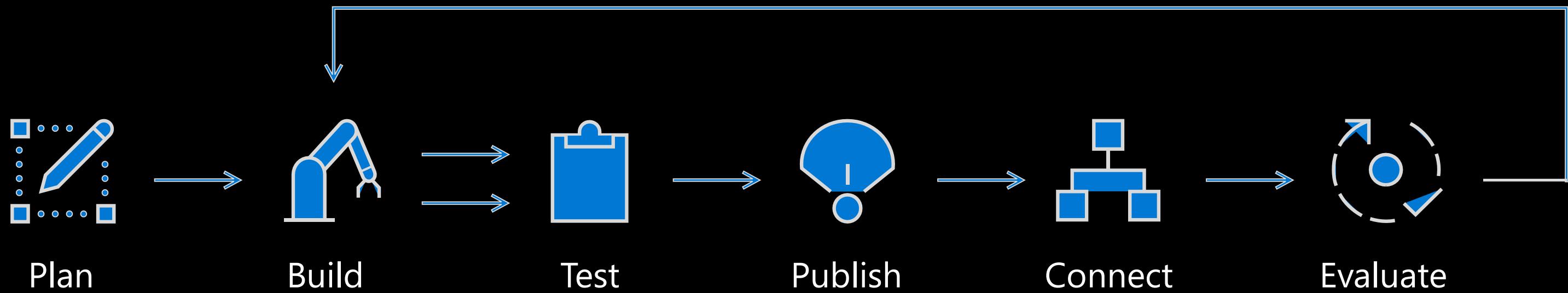
The presence of major players such as Amazon Web Services, Inc. (U.S.), Facebook, Inc. (U.S.), IBM Corporation (U.S.), Microsoft Corporation (U.S.) and so on are creating opportunity for large innovations in chatbot market.

The giants in this bot ecosystem **provide platforms** to develop bots, interpret natural language, and deploy bots.

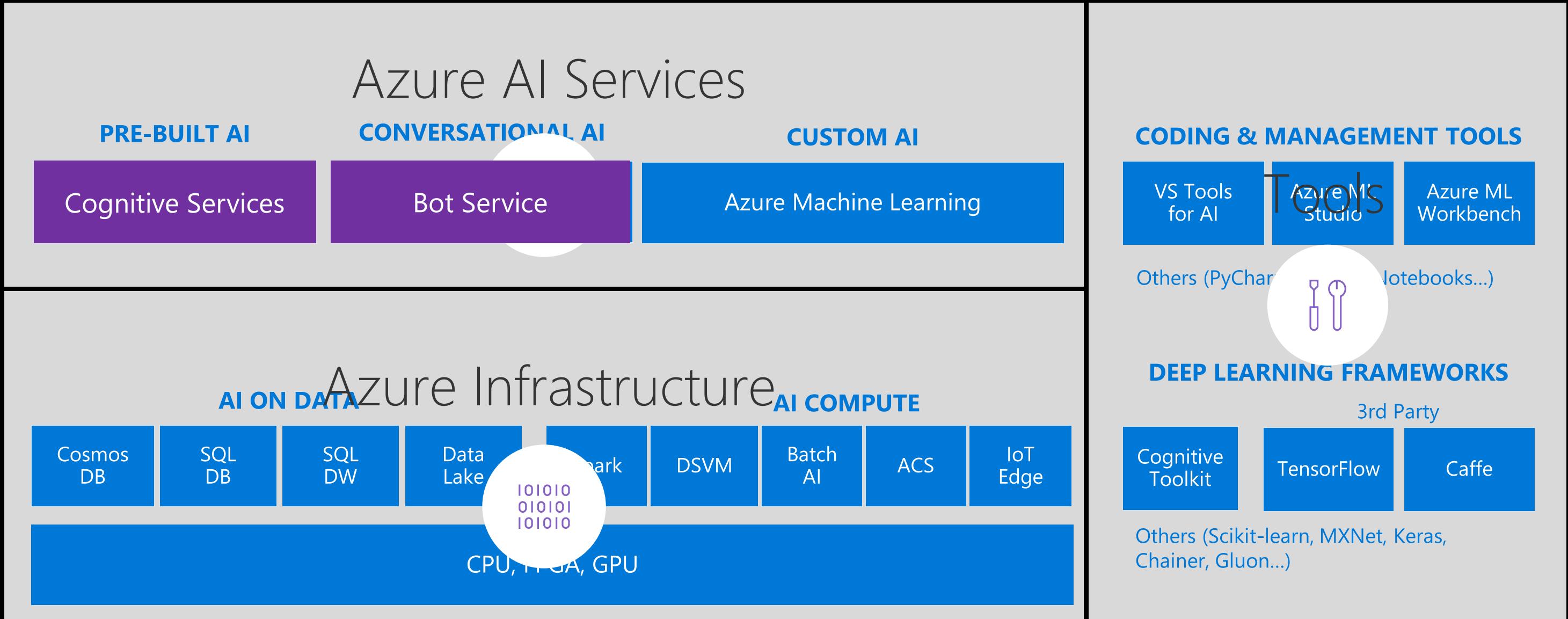


Gartner 2020 Magic Quadrant for Cloud AI Developer Services

BOT DEVELOPMENT LIFECYCLE

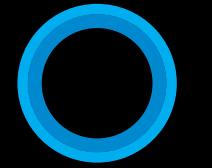


AZURE AI PLATFORM



AZURE BOT SERVICE

- Provides an integrated environment that is purpose-built for bot development.
- Use open-source SDK and tools to build, test and publish your bot to Azure
- Helps you manage, connect and deploy your bot across devices and popular channels.



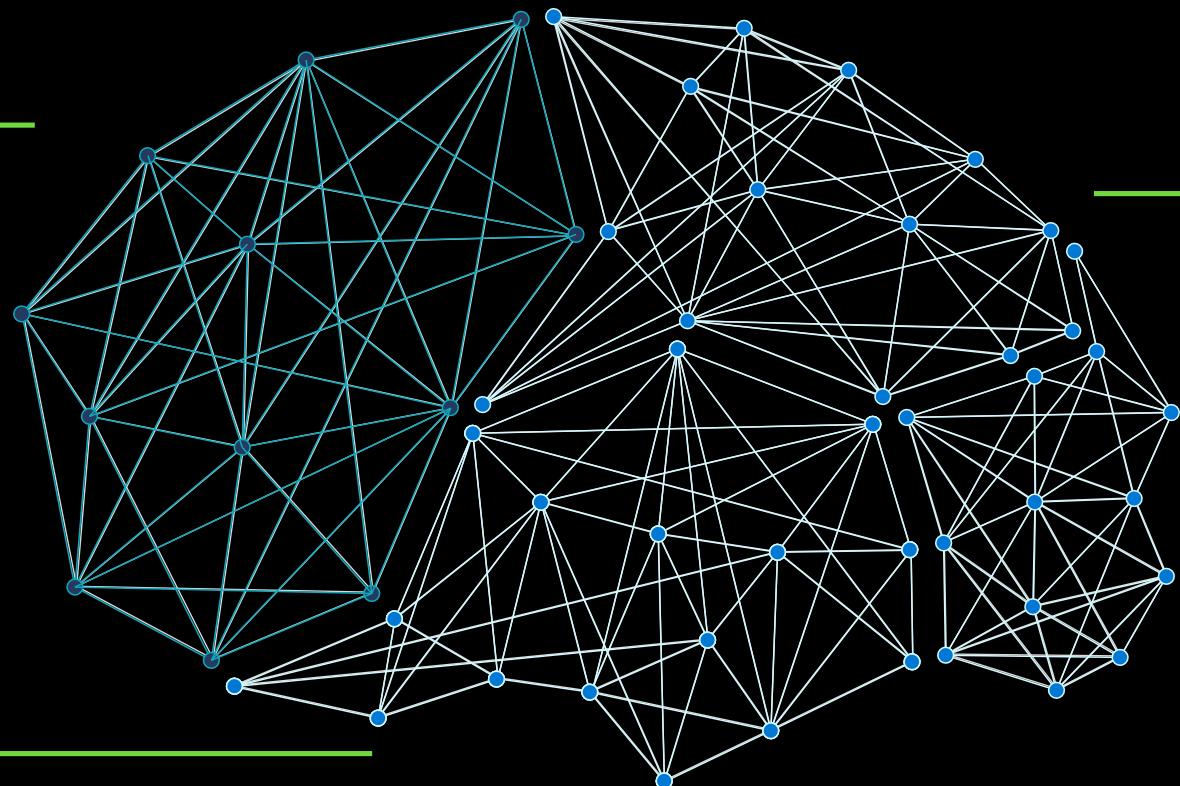


DEMO : AZURE BOT SERVICE

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ADDING HUMAN LIKE CAPABILITIES TO BOTS

Decision

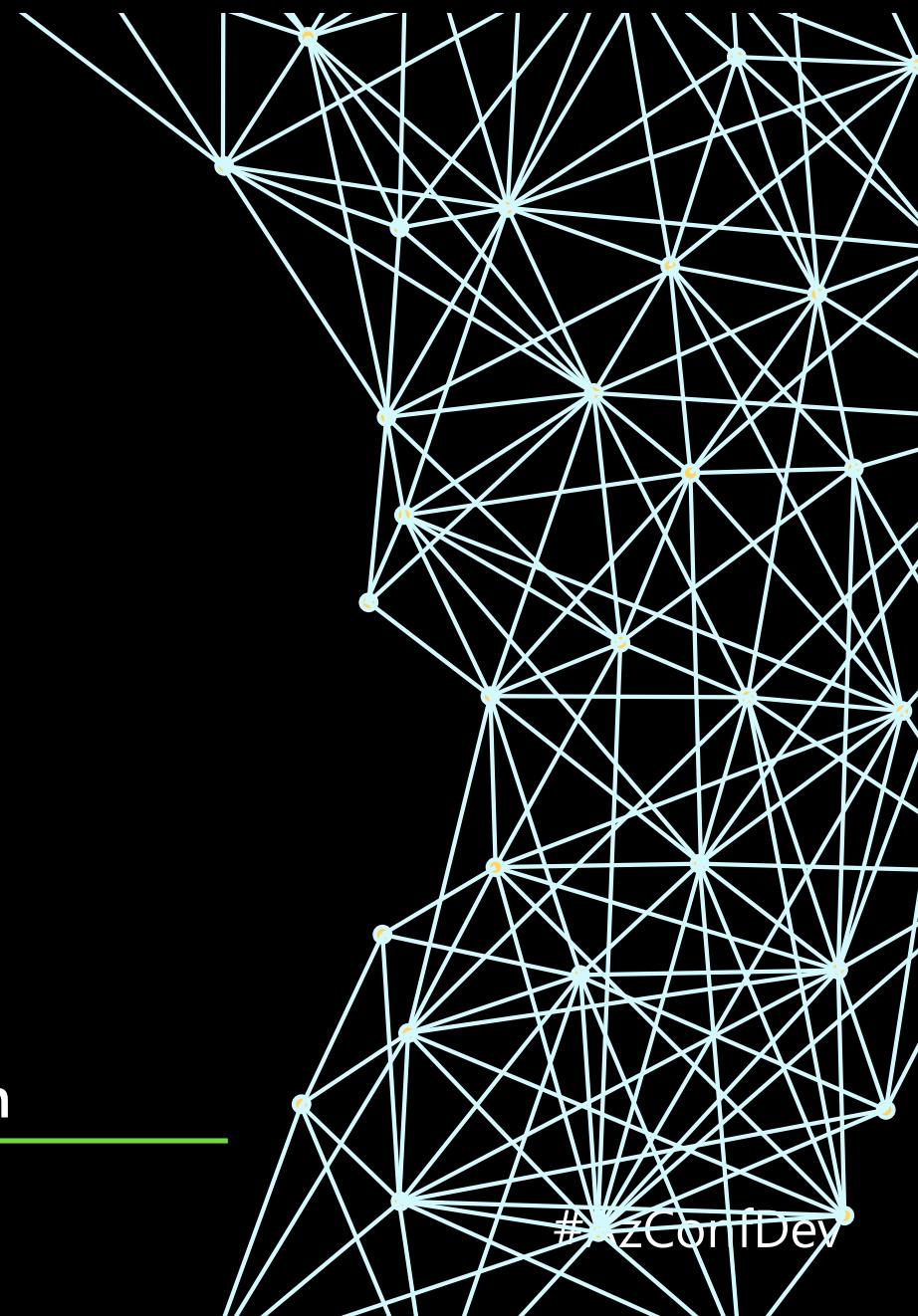


Speech

Language

Vision

Search



COGNITIVE SERVICES

The most comprehensive pre-trained AI

Personalizer
Decision
Content Moderator
Anomaly Detector

Ink Recognizer
Computer Vision
Video Indexer
Face
Custom Vision
Form Recognizer

Text Analytics
Translator Text
Language
Language Understanding
Immersive Reader
QnA Maker

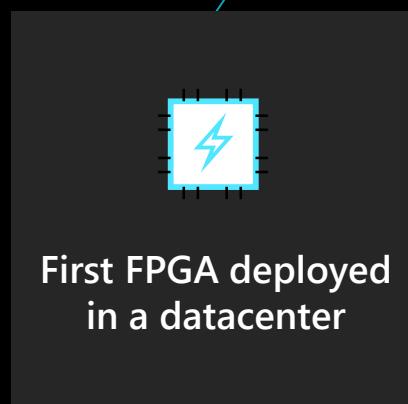
Custom Speech
Speech transcription
Speech
Text-to-Speech

Bing Custom Search
Bing News Search
Bing Web Search
Bing Image Search
Bing Visual Search
Bing Spell Check
Bing Autosuggest
Bing Video Search
Bing Entity Search
Bing Local Business Search

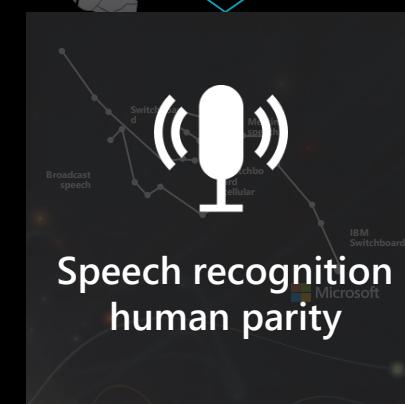
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MICROSOFT AI

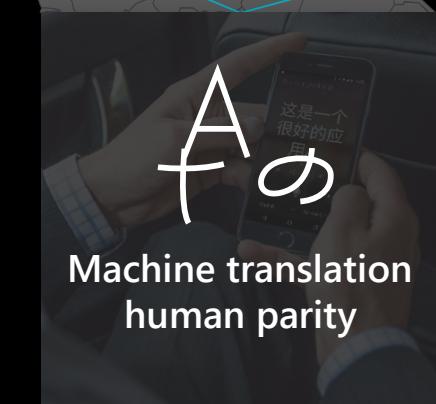
Fueled by Microsoft breakthrough research



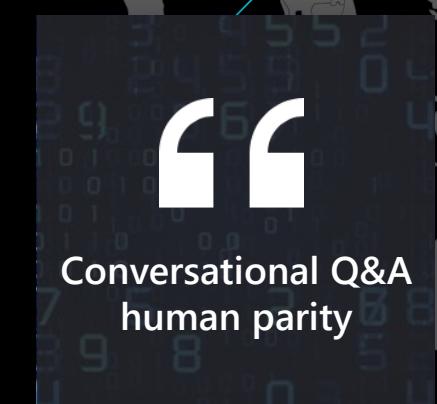
39.5 Teraflops with Intel Stratix 10



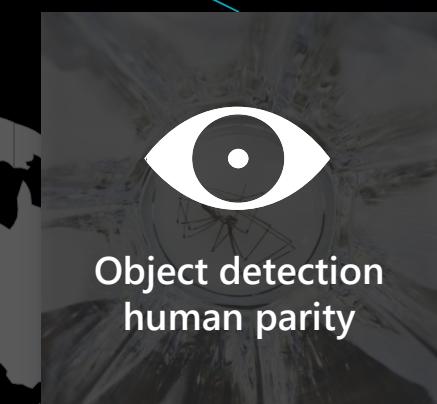
94.9% on Switchboard test



69.9% with MT Research system



89.4% on Stanford CoQA test



96% on RESNET vision test

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AI ACROSS MICROSOFT

Tested at scale in Microsoft solutions



280K

Ad Insight
recommendations daily



Office 365



4.1M

PowerPoint Designer
slides used in a day



XBOX

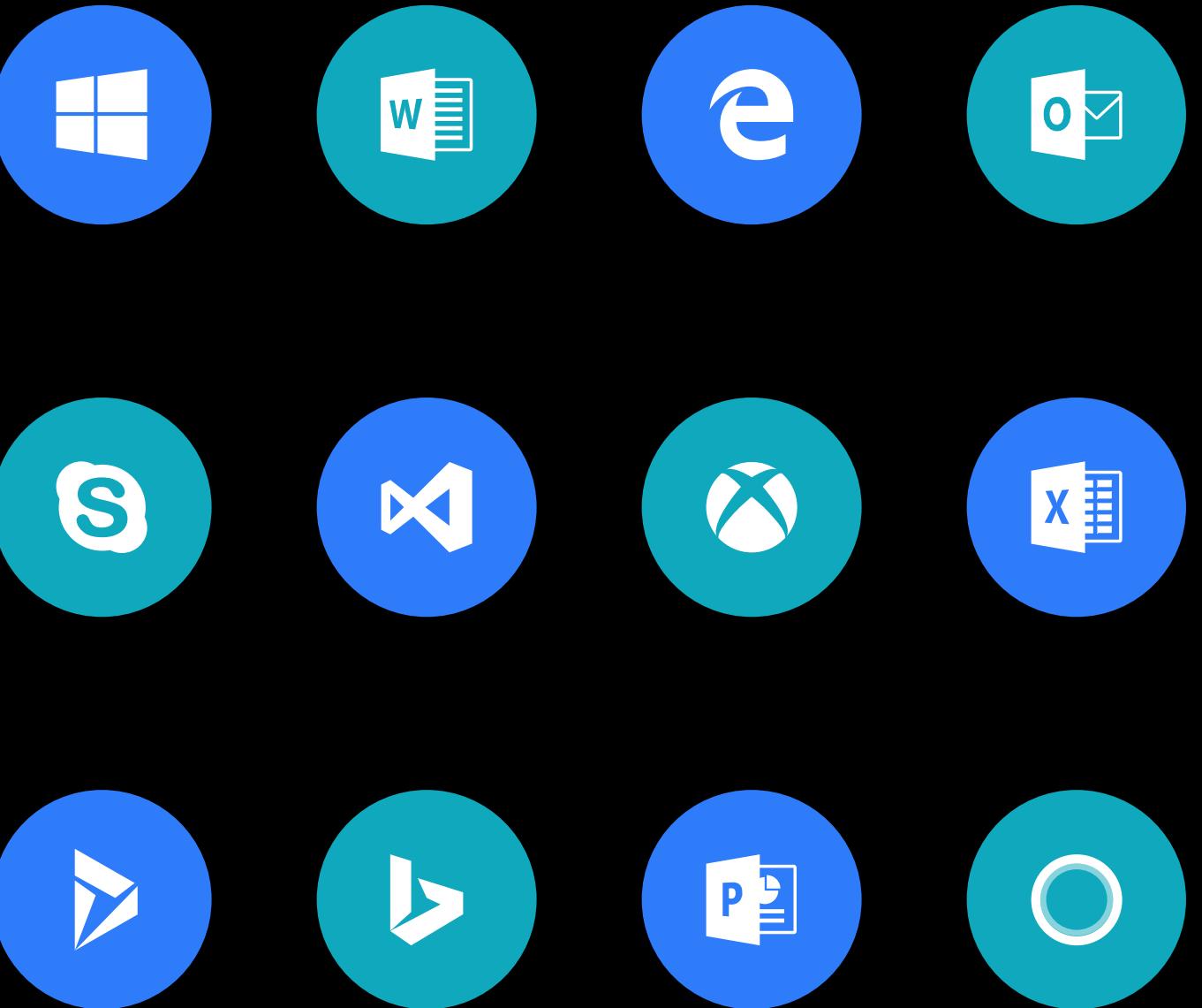


6M

Personalized experiences
delivered daily

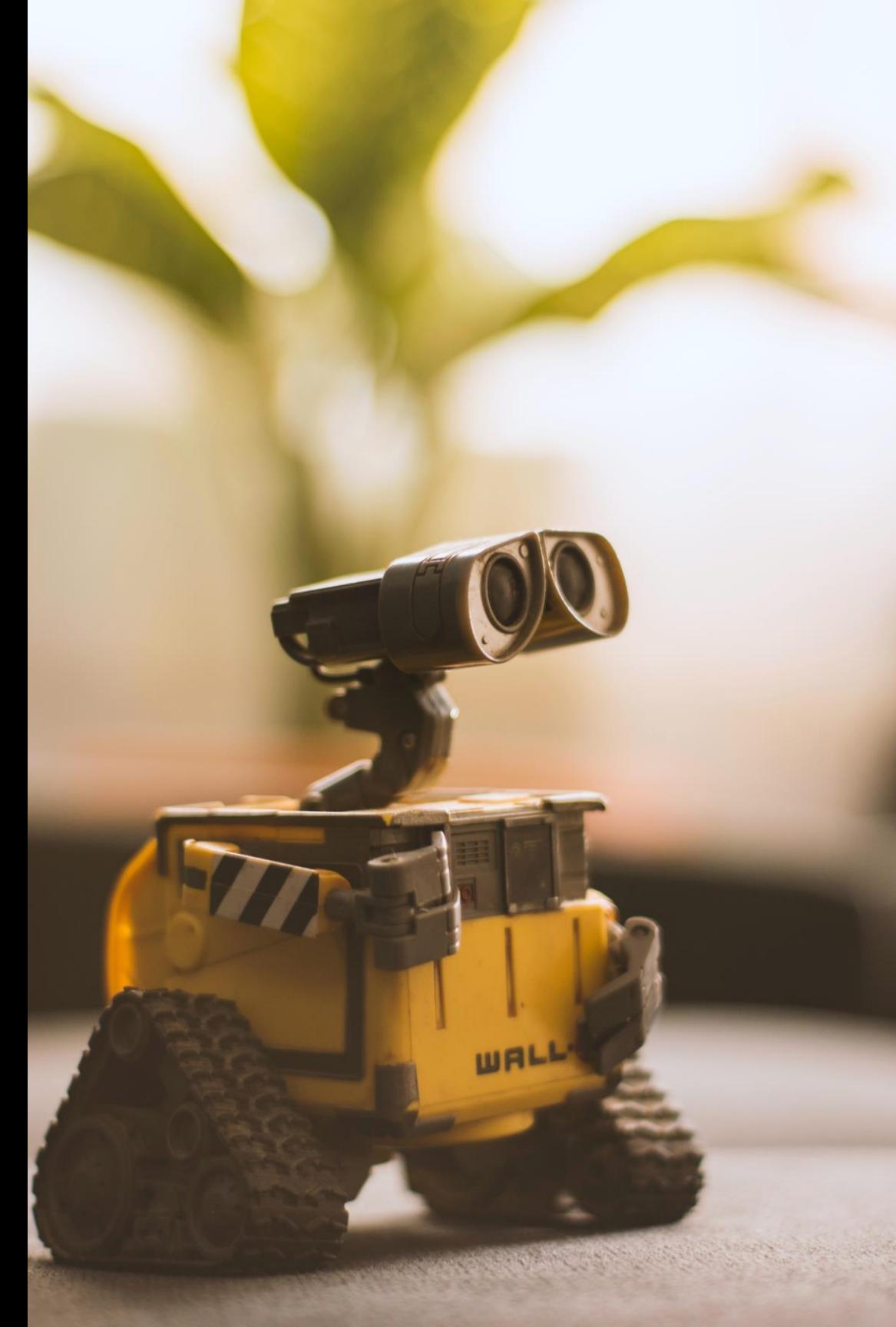
Turning Ideas into Reality

Next generation of Microsoft applications

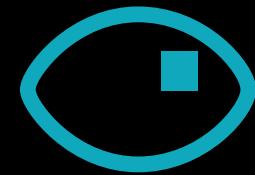


COGNITIVE SERVICES

- Set of machine learning algorithms to address major AI challenges
- The fastest route for businesses to integrate AI into new or existing applications
- Lets you build apps with powerful algorithms using just a few lines of code.
- Helps build intelligent applications that will interact with humans in the same way as a live person would.



AZURE COGNITIVE SERVICES



Vision

Recognize, identify, caption, index, and moderate your pictures, videos, and digital ink content.



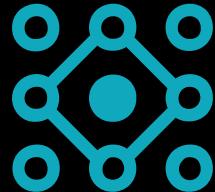
Speech

Convert spoken audio into text, use voice for verification, or add speaker recognition to your app.



Language

Allow your apps to process natural language with pre-built scripts, evaluate sentiment and learn how to recognize what users want.



Decision

Build apps that surface recommendations for informed and efficient decision-making.

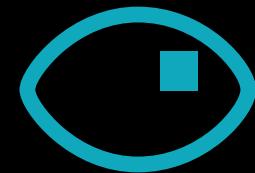


Search

Add Bing Search APIs to apps and harness the ability to comb billions of webpages, images, videos, and news with a single API call.

Give your apps a human side

AZURE COGNITIVE SERVICES



Vision

Video Indexer
Computer Vision
Face
Custom Vision
Form Recognizer
Ink Recognizer



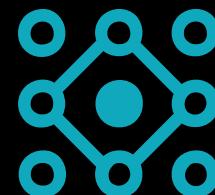
Speech

Speaker Recognition
Speech Services



Language

Text Analytics
Bing Spell Check
Translator Text
QnA Maker
Language Understanding (LUIS)



Decision

Anomaly Detector
Content Decision
Personalizer

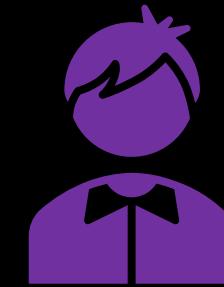


Search

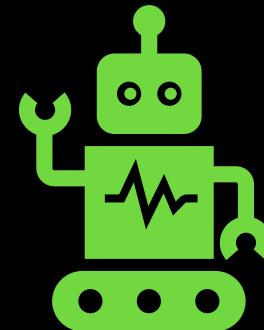
Bing Entity Search
Bing Autosuggest
Bing Web Search
Bing Visual Search
Bing Video Search
Bing Custom Search
Bing News Search
Bing Image Search
Bing Local Business Search

AZ CONFERENCE BOT

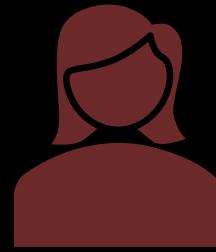
When is the conference happening?



**24 - 26 November, 2020
09.00 am to 05.00 pm - IST**

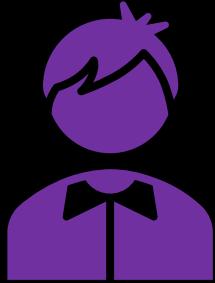


AZ CONFERENCE BOT

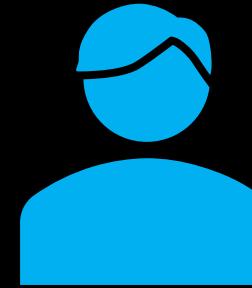


Dates of conference

When is the conference happening?

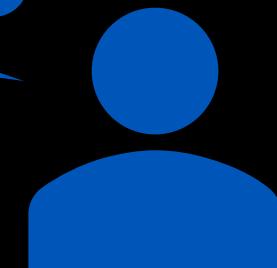


When is the Azure Community conf?



Az community conference dates

Is the conference on 24th Nov?



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AZ CONFERENCE BOT

When is the conference
happening?

Dates of conference

When is the Azure Community conf?

Az community conference dates

Is the conference on 24th Nov?

AZ CONFERENCE BOT

Questions

When is the conference happening?

Dates of conference

When is the Azure Community conf?

Az community conference dates

Is the conference on 24th Nov?

Answer

**24 - 26 November, 2020
09.00 am to 05.00 pm - IST**

Knowledge base

Search the KB



91 QnA pairs



Add QnA pair



View options

Enable rich editor



1

2

3

4

5

...

10

Next



Question

Answer

Source: Editorial

When is the conference happening?

24 - 26 November, 2020



Dates of conference

09.00 am to 05.00 pm - IST

When is the Azure Community conf?

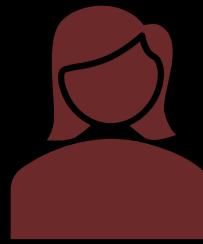
+ Add follow-up prompt

Az community conference dates

Is the conference on 24th Nov?

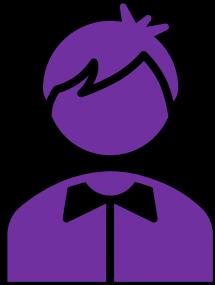
+ Add alternative phrasing

AZ CONFERENCE BOT

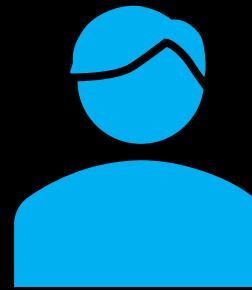


Do you have a session
on chatbots

Looking for talks on chatbot

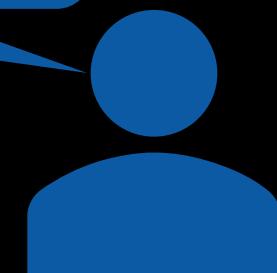


Help me find a session on chatbots



Find session on chatbots

Is there a session on chatbots



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AZ CONFERENCE BOT

Looking for talks on chatbot

Do you have a session on chatbots

Help me find a session on chatbots

Find session on chatbots

Is there a session on chatbots

AZ CONFERENCE BOT

Looking for talks on <topic>

Do you have a session on
<topic>

Help me find a session
on <topic>

Find session on <topic>

Is there a session on <topic>

UTTERANCES

INTENT: FindSession

ENTITY: Topic

✓ Confirm all entities Move to Delete ...View options Y @

App Assets

Intents

Entities

Prebuilt Domains

Improve app performance

Review endpoint utterances

Features

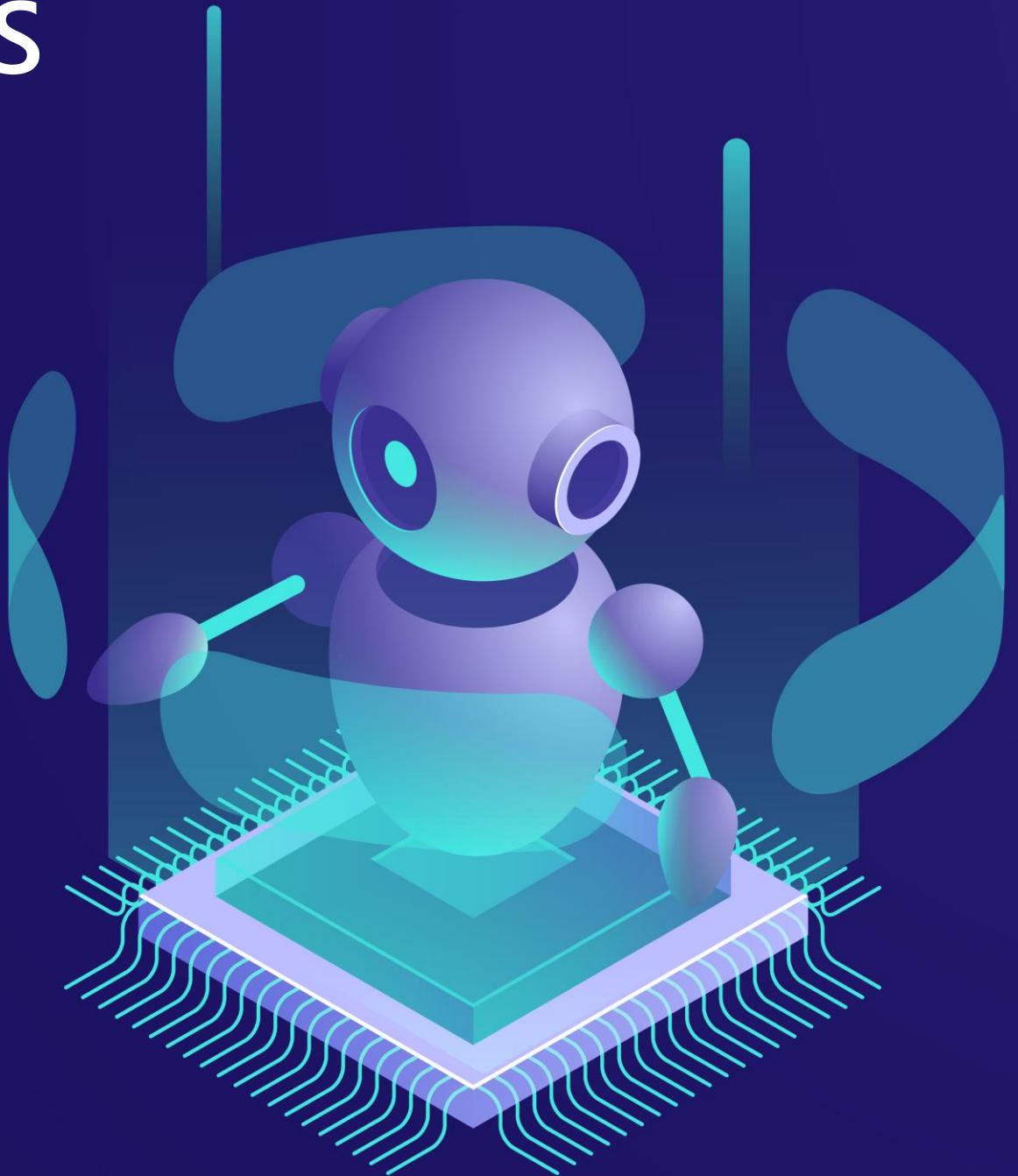
Patterns

looking for talks on blockchain	topic	0.965
do you have a session on mongodb	topic	0.982
help me find a session on azure data platform	topic	0.984
find session on chatbots	topic	0.974
is there a session on mixed reality	topic	0.981

INTELLIGENT CONVERSATIONS

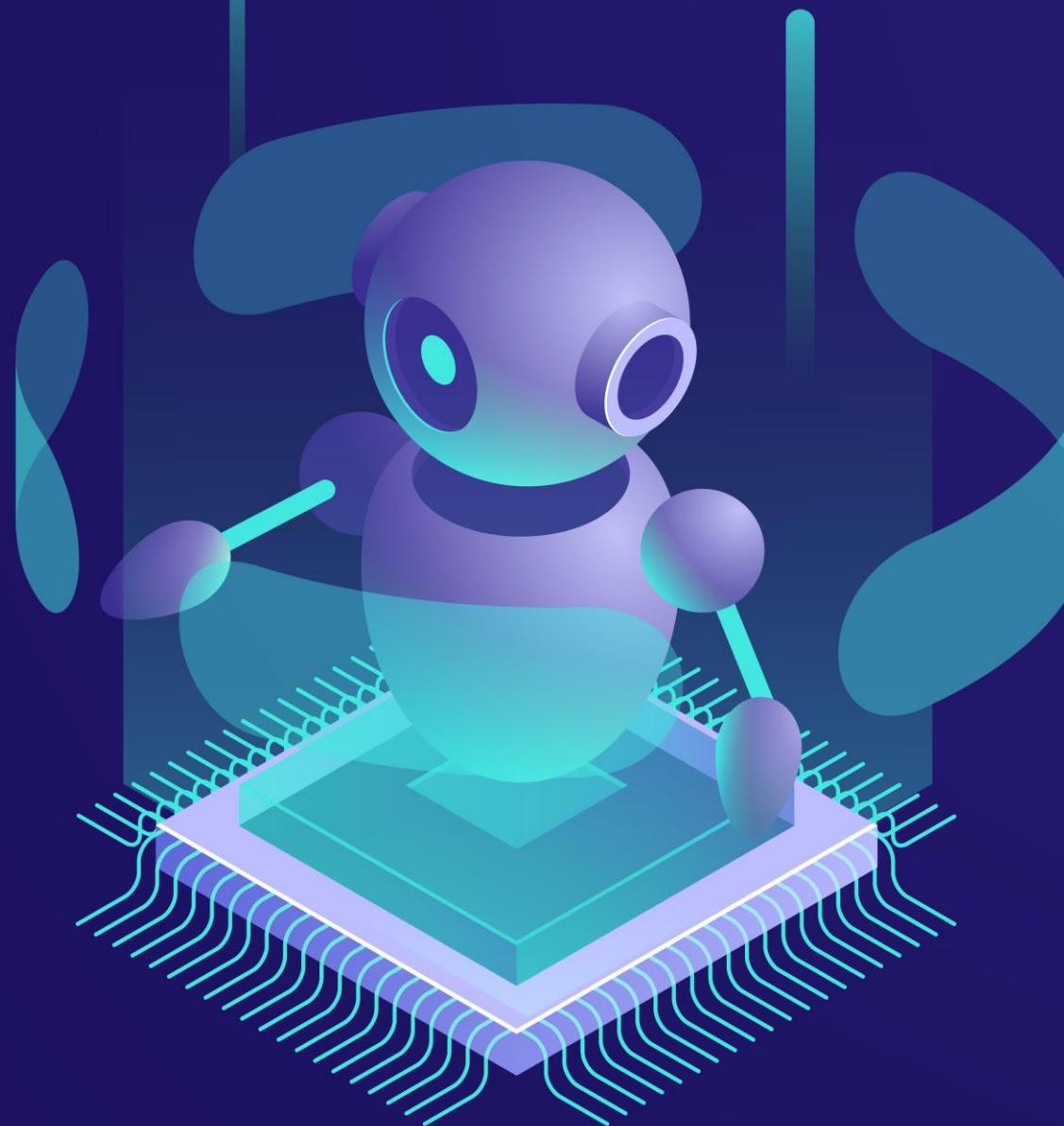


1. *Understand user's ask* : **Luis**



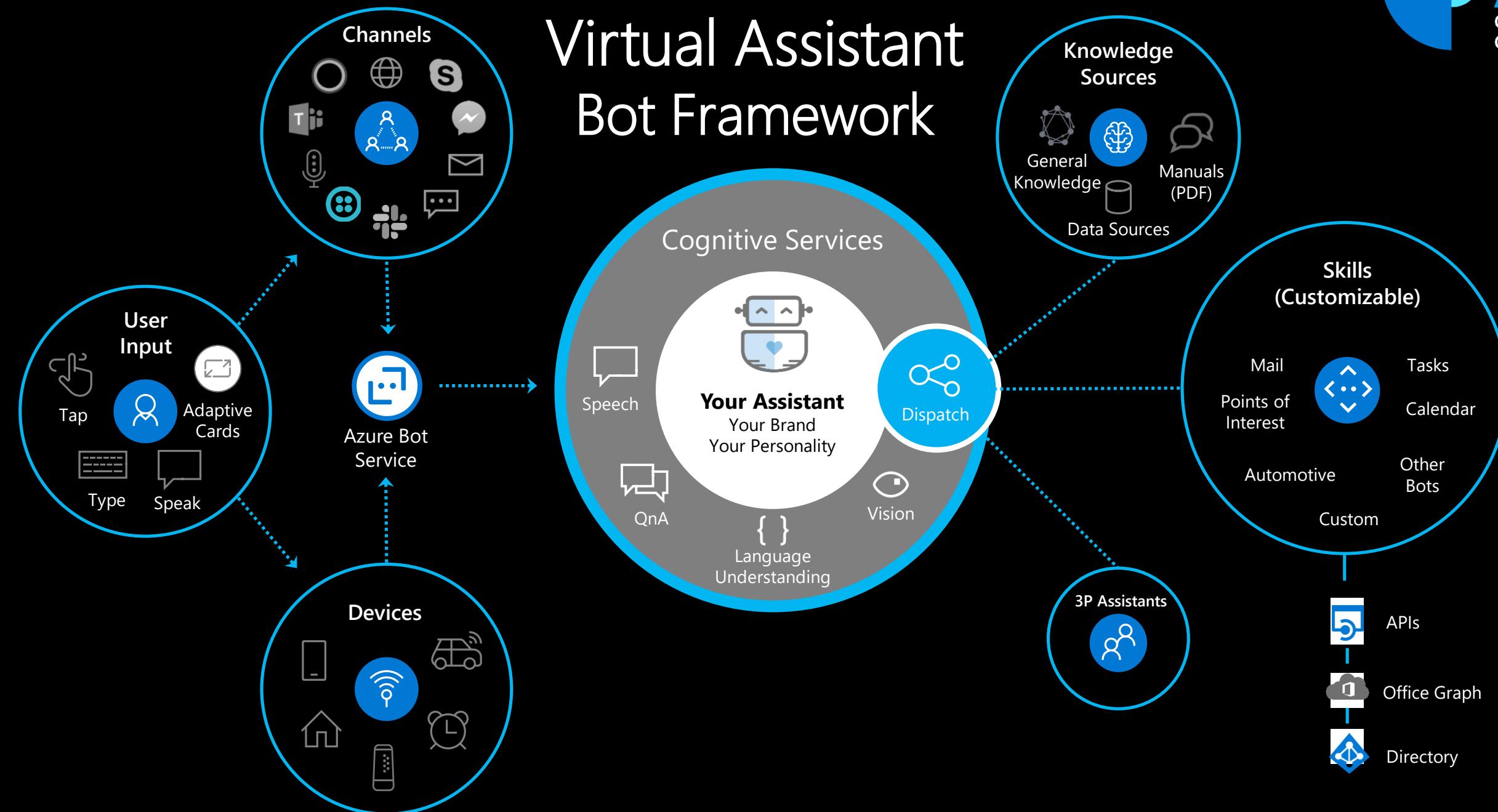
2. *Know what to respond* : **QnA Maker**

INTELLIGENT CONVERSATIONS



1. *Understand user's ask:* **LUIS**
2. *Know what to respond:* **QnA Maker**
3. *Proof-Read:* **Bing Spell Check**
4. *Review Content:* **Content Moderation**
5. *Search custom site:* **Bing Custom search**
6. *Voice support:* **Speech**
7. *Multilingual:* **Translation**
7. *Analyze Sentiments:* **Text Analytics**

Virtual Assistant Bot Framework



VIRTUAL ASSISTANT



LaLiga

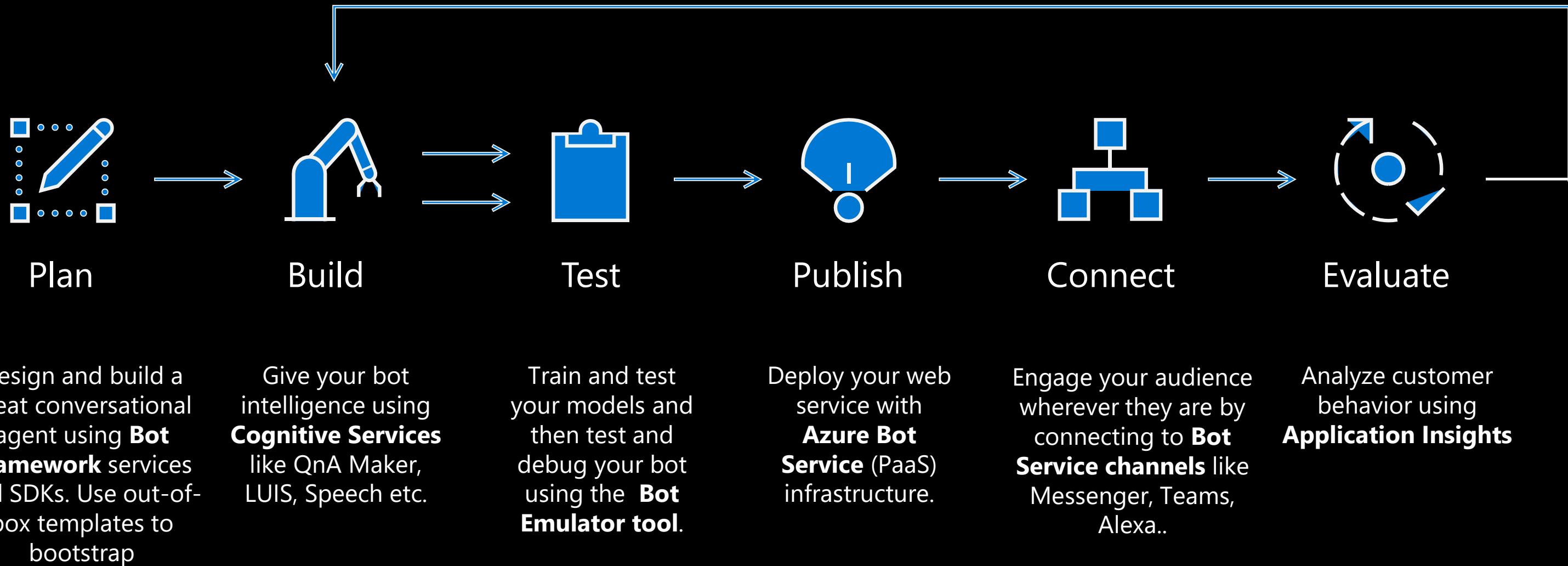
The screenshots demonstrate the app's conversational interface and its ability to provide real-time information:

- Match Information:** Shows a message about the next match between Real Sociedad and Betis, followed by a summary card for the R. SOCIEDAD vs BETIS match on April 4, 2019, at Anoeta stadium.
- Player Profile:** Displays detailed stats for Lionel Messi, including his position (Forward-BCN), season stats (Games played: 27 Minutes played: 2247 Goals: 31 Assists: 12 Shots: 72 Red cards: 0 Yellow cards: 2), and a "What's next for you?" prompt.
- Team Lineups:** Shows the starting lineups for both teams, with R. SOCIEDAD on the left and BETIS on the right.
- Match Summary:** Provides a summary of the last match between BETIS and SEVILLA, held on September 2, 2018, with a score of 1 - 0.

CUSTOMER MOMENTUM



BDLC IN AZURE



RESPONSIBLE AI



A photograph showing several people working together at a wooden table. One person in the foreground is looking at a tablet displaying a statistic: "BASED ON A SURVEY 85.00%". Another person is using a laptop with a screen showing "Discussion Outline". The scene is collaborative, with multiple devices and papers on the table.

"If developers are writing the script for the future, that puts you, the developer, in the front seat of this larger conversation. Every line of code is a decision made by the developer. We are building the future out of those decisions."

~Joel Spolsky, CEO of Stack Overflow

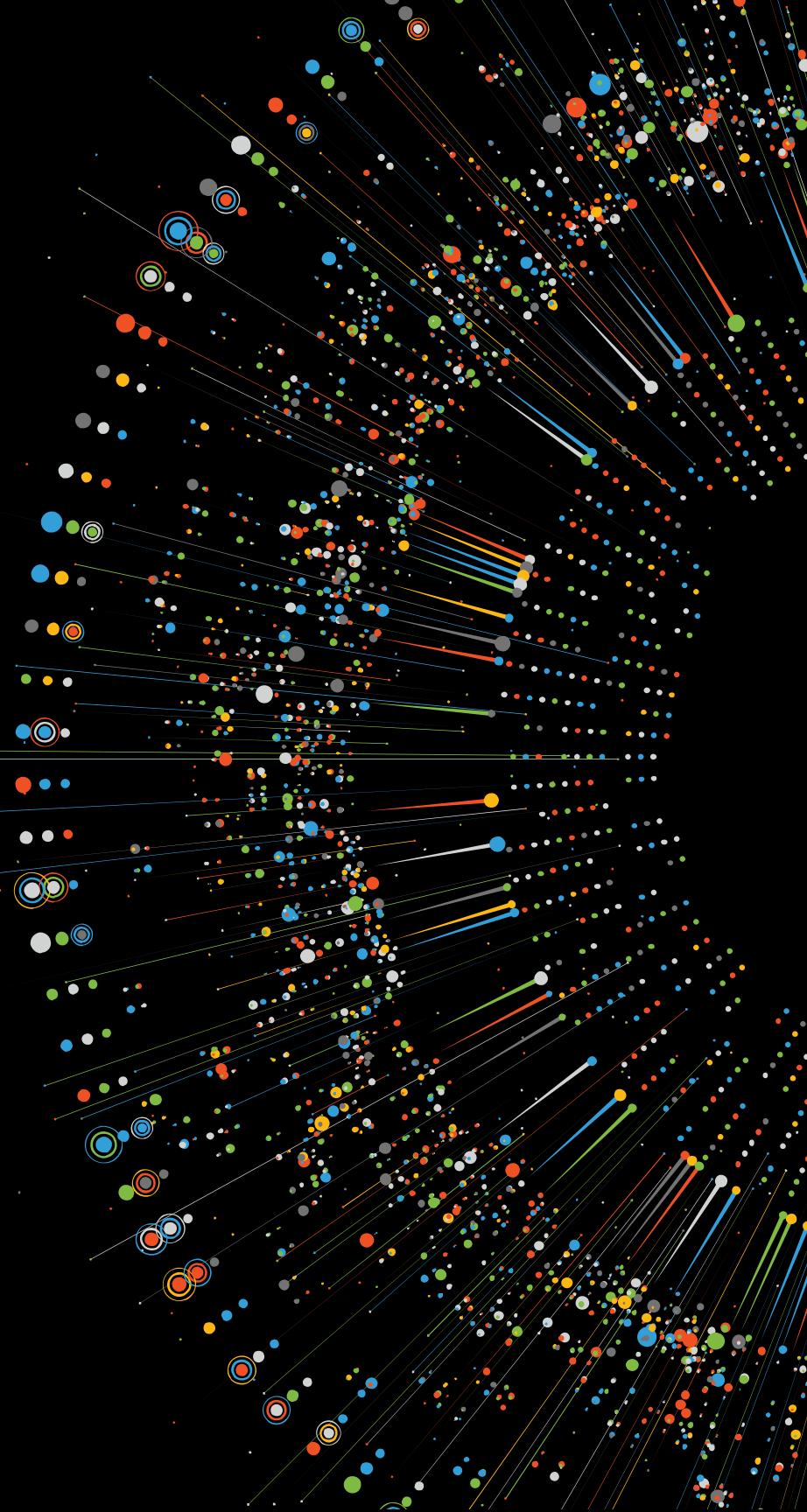


Liji Thomas

Manager, Modern Application Development,
Valorem Reply

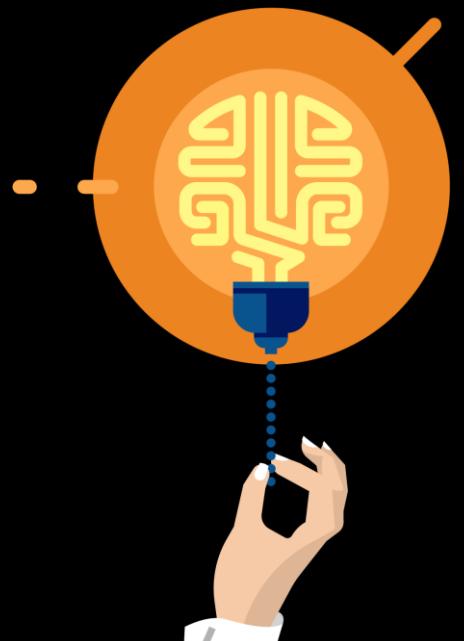
Thank You!

#AzConfDev

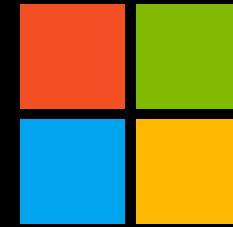


REFERENCES

1. Get Started with [Azure Bot Service](#) and [Bot Framework SDK](#)
2. Get the [Bot Framework Emulator](#)
3. Use [QnA Maker](#) to answer your questions
4. Add [natural language understanding](#) to your bot
5. How to [connect your bot to Alexa](#)

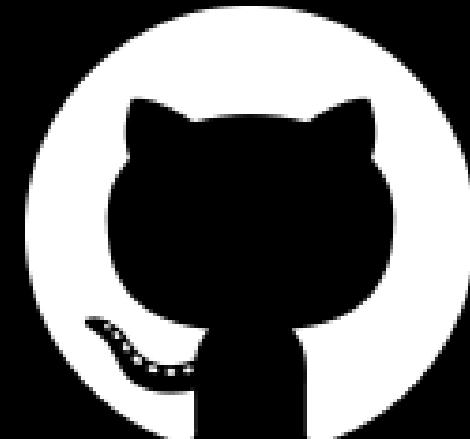


Sponsors

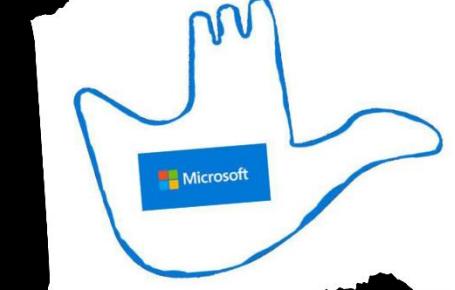
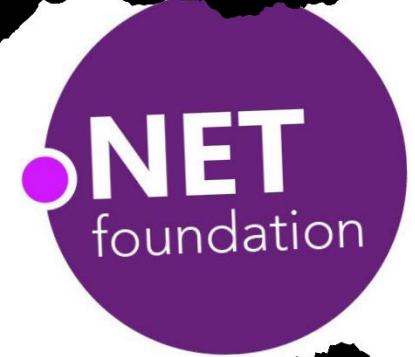
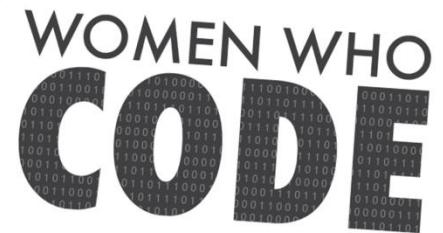


Microsoft

DevOps Partner



Communities



Communities

