



# LANGUAGE & SPEECH SERVICES

Frances Tibble & Jamie Dalton



# WHY CONVERSATIONS?



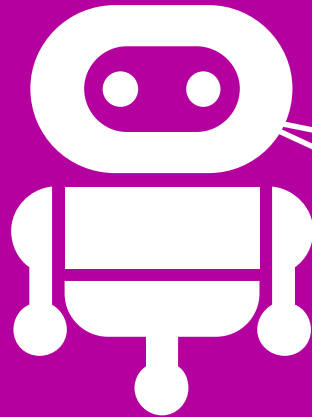
# HUMANS ARE THE BEST USER INTERFACE



- ▶ Natural
- ▶ Immediate
- ▶ No effort



# WHEN HUMANS ARE NOT AVAILABLE



Hiya ... I'm an app,  
you can talk to me  
too

# MAKE YOUR APPS CHATTY





Vision



Language



Speech



Search



Knowledge

Computer vision

Face

Emotion

Content Moderator

Video

Video Indexer

Text analytics

Spell check

Web language model

Linguistic analysis

Translator Text

Translator Speech

Speaker recognition

Bing Speech

Web search

Image search

Video search

News search

Autosuggest

Entity search

Academic knowledge

Entity linking service

Knowledge exploration

Recommendations

QnA maker

Custom

Vision Service

Custom

Language  
Understanding

Custom

Speech Service

Custom

Search

Custom

Decision Service

+6 Cognitive Services Labs APIs

# 30+ APIS



# LANGUAGE



Text Analytics  
Spell Check  
Web Language Model  
Linguistic Analysis  
Translator Text  
Custom Language Understanding

# **APIs TO PROCESS NATURAL LANGUAGE AND ANALYSE TEXT**

# **LANGUAGE**





# TEXT ANALYTICS



- Sentiment analysis
- Key phrase extraction
- Language detection





A new service from microso ft!

Microsoft



Director stephen  
Spielberg should use  
in the next AI movie!

Steven



I'm gona use this today!

gonna



Our engineers developed  
this four you ! for



Our service is like lyft  
for word processing!

Lyft

# SPELL CHECK

# TRANSLATOR TEXT



- ▶ Extend the reach of your apps
- ▶ Automatically detect languages
- ▶ Build custom translation systems



No SIM

10:36 AM

100%

< Leave

KCWEH



You are now muted

Hey Harry Shum, welcome to the conversation! Tap the conversation code above at any time to invite more people.

Conversation bot



Conversation is locked

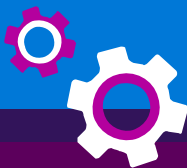


# SPEECH

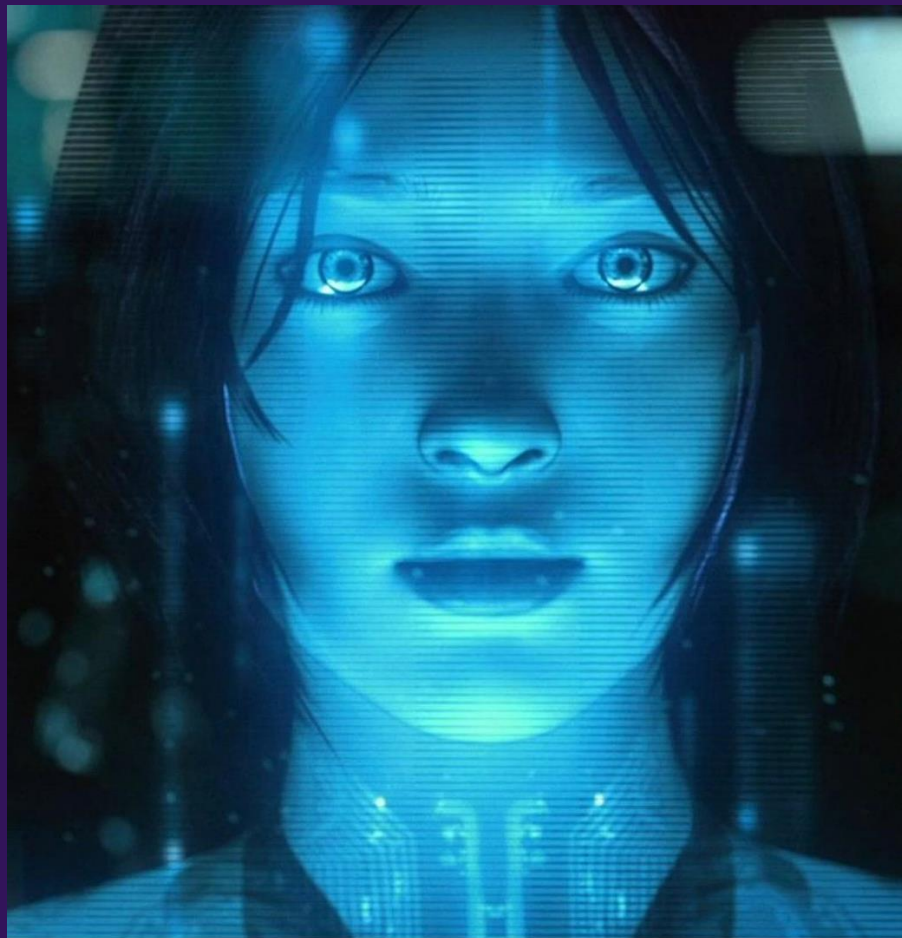


**MICROSOFT SPEECH  
HAS HIGHER  
ACCURACY THAN  
HUMANS**

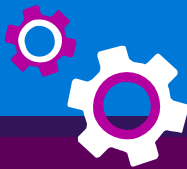
# THE SWITCHBOARD TEST



- ▶ Industry standard speech recognition test
- ▶ Word error rate of 5.1%
- ▶ Less than human transcriptionists
- ▶ Lowest ever recorded
- ▶ [aka.ms/SpeechSwitchboardTest](https://aka.ms/SpeechSwitchboardTest)



# BING SPEECH

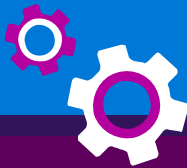


- ▶ Speech Recognition
- ▶ Text to Speech
- ▶ Real-time, partial results





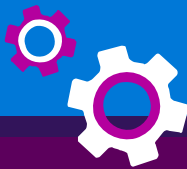
# TRANSLATOR SPEECH



- ▶ Transcribe and translate
- ▶ 60 languages
- ▶ Built on Microsoft Translator Hub



# SPEAKER RECOGNITION



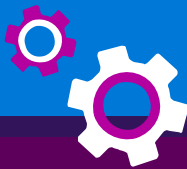
- ▶ Speaker identification
- ▶ Users enrol to the service
- ▶ Audio verification



DEMO

# SPEECH DEMO

# CUSTOM SPEECH



- ▶ Built on Bing Speech
- ▶ Custom Language Models
- ▶ Custom Acoustic Environments



DEMO

# CUSTOM SPEECH DEMO

DEMO

# STARSHIP COMMANDER

[AIDay.info/StarshipCommander](https://AIDay.info/StarshipCommander)

[AIDay.info](https://AIDay.info)





# IN SUMMARY



- ▶ Users are talking to apps
- ▶ Speech & language goes beyond bots
- ▶ Custom speech for specific applications





# CONTACT ME

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9:00	<b>The Microsoft AI Platform</b>	Martin
9:45	<b>Computer Vision Services</b>	Frances
10:30	Break	
10:45	<b>Bots &amp; Conversational Apps</b>	Jamie
11:45	<b>Knowledge Services</b>	Martin
12:30	Lunch	
13:15	<b>Language &amp; Speech Services</b>	Frances & Jamie
14:00	<b>Machine Learning</b>	Andrew
14:45	<b>Summary &amp; Envisioning Intro</b>	Martin
15:00	Break	
15:15	<b>Envisioning</b>	Groups
17:00	Close	