Unbabel

June ’19 | 24
Language Technology Industry Summit

Language Technologies Beyond Customer Satisfaction

Paulo Dimas
パウロ・ディマシュ
VP of Product Innovation

12 people • 2015

30 people · 2016

55 people • 2017

160 people • 2018

220 people • 2019

Leading Unbabel Labs

Current translation solutions are not working

Current translation solutions are not working

Machine-Only

Lacks the quality for a reliable customer experience

Current translation solutions are not working

Machine-Only

Lacks the quality for a reliable customer experience

VS

Human-Only

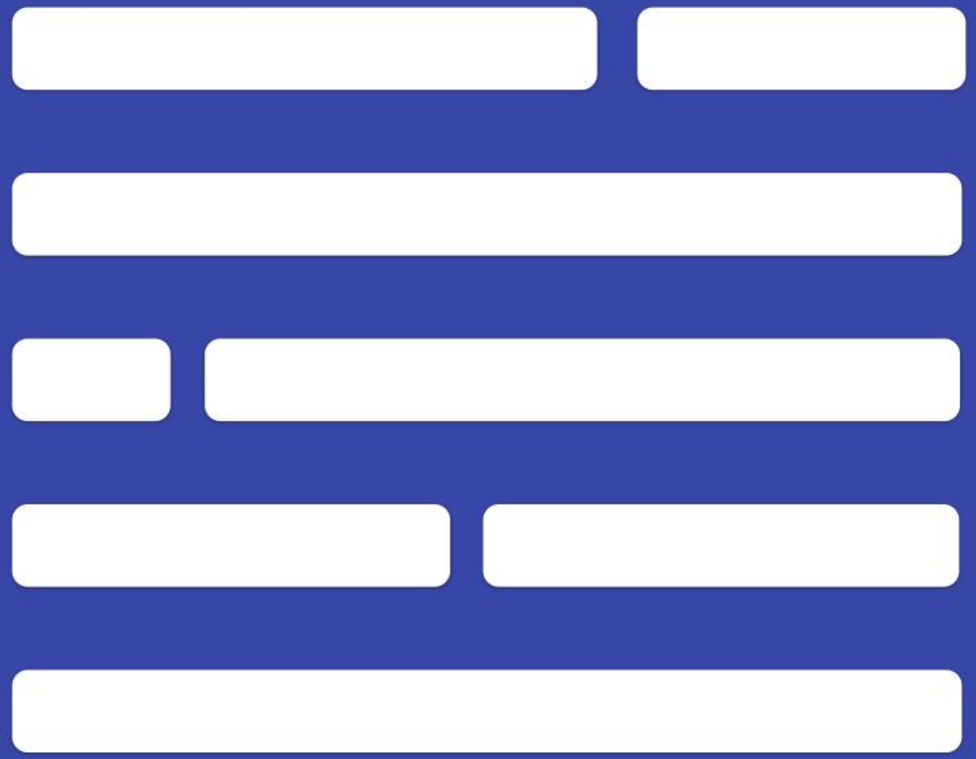
Unable to scale

Unbabel Solution

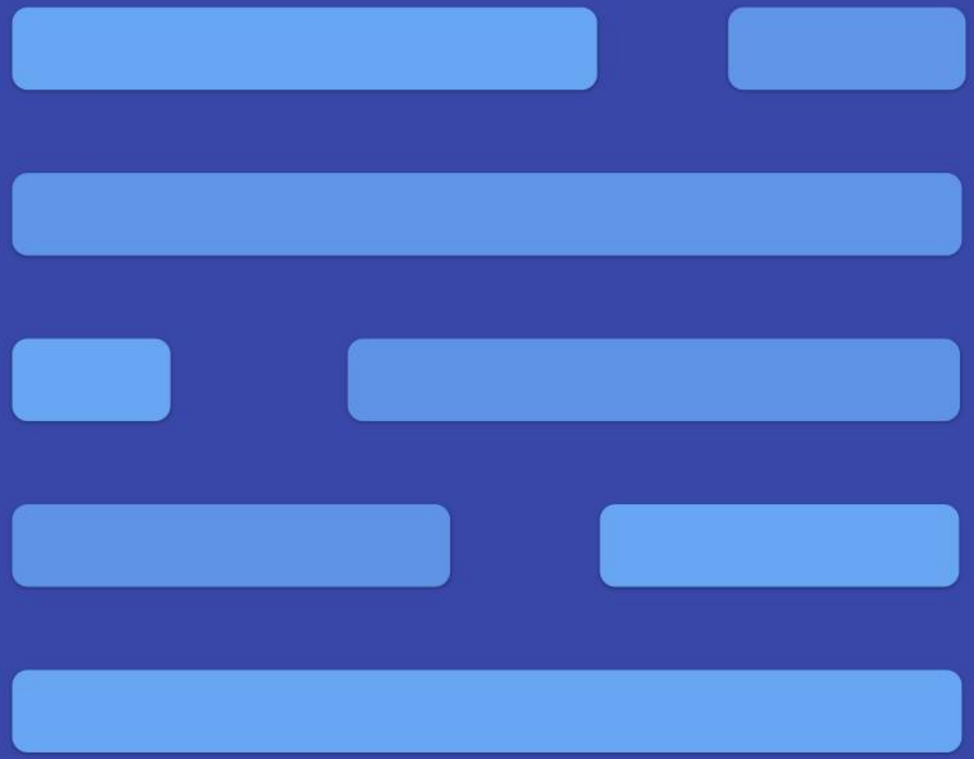
Machine Inteligence

Human Intelligence

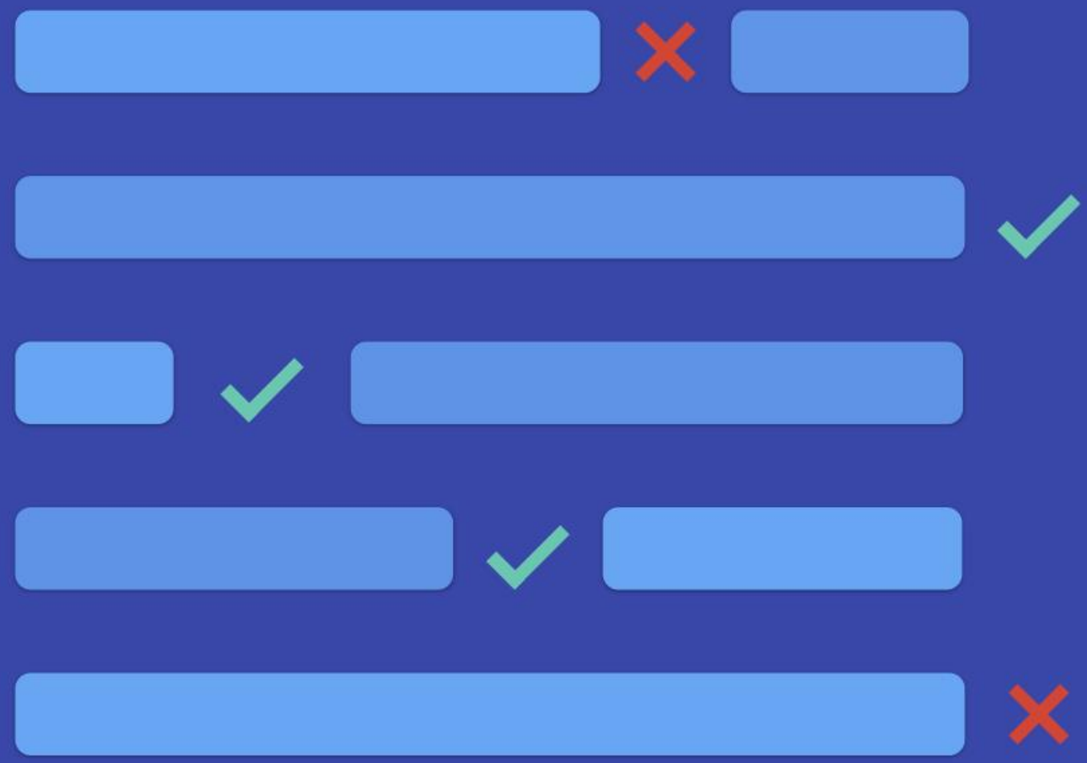
Original Text



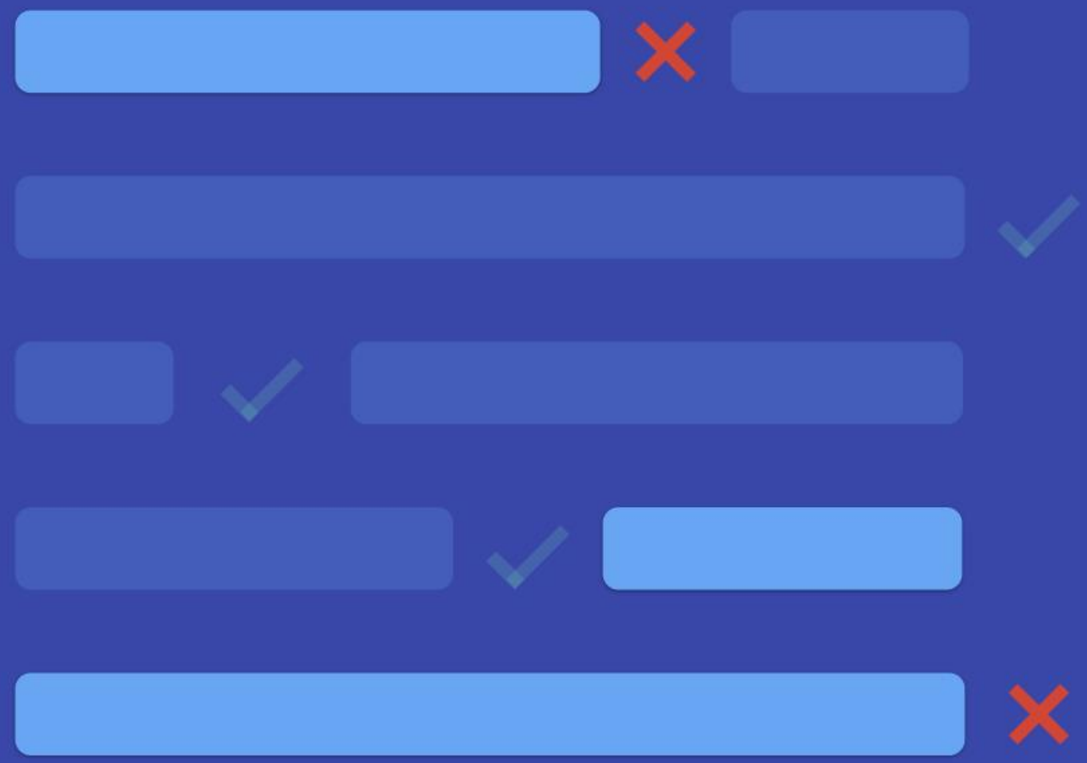
Machine Translated Text

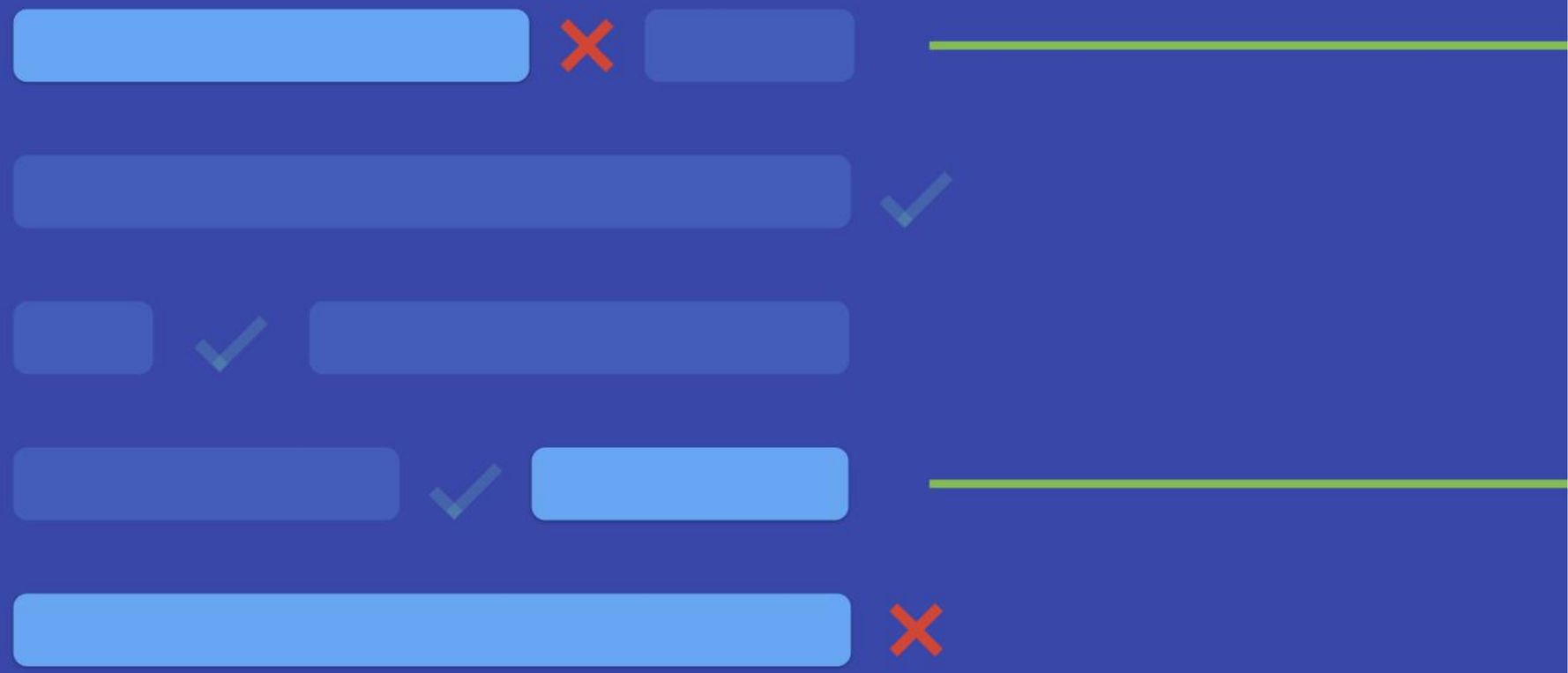


AI: Quality Estimation

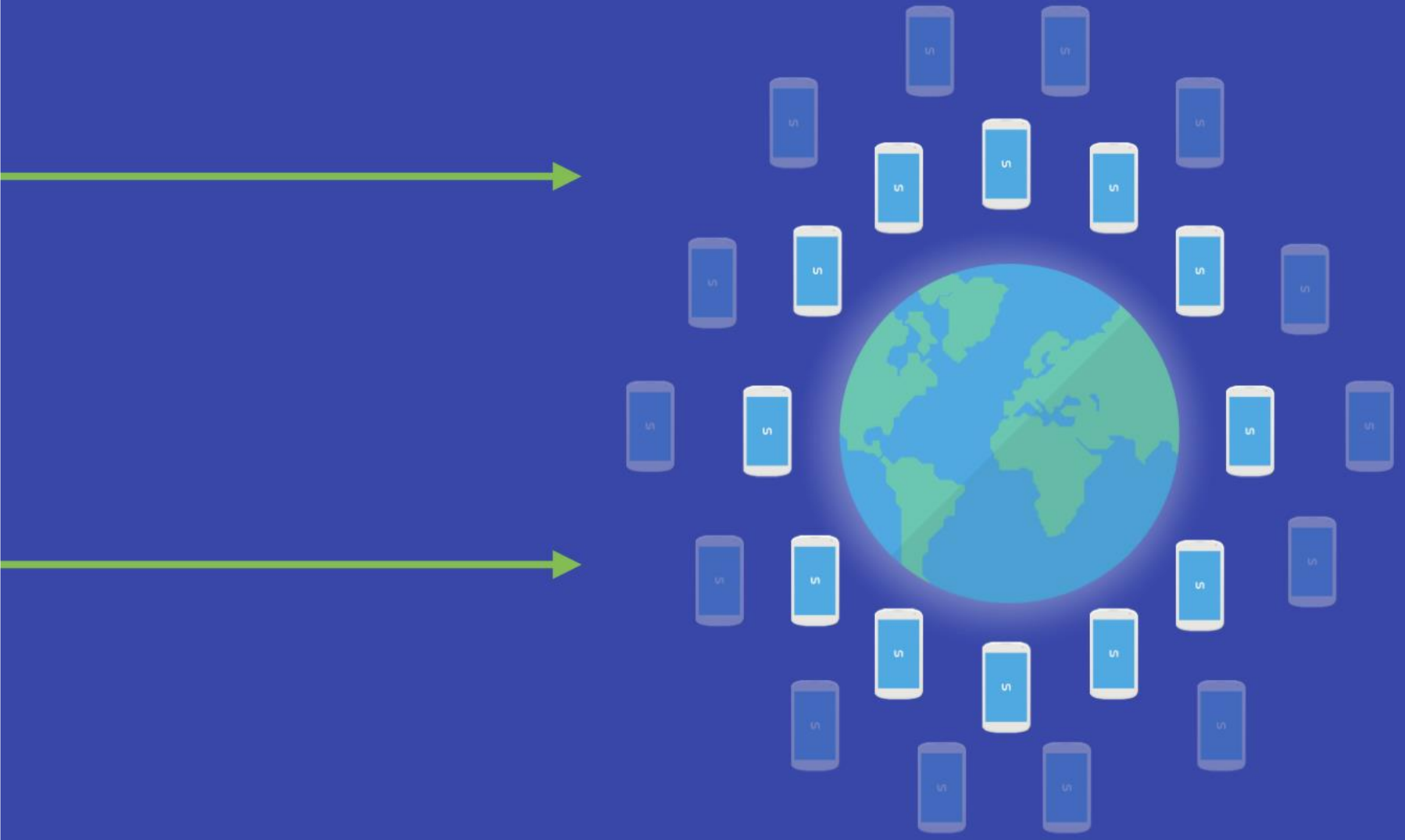


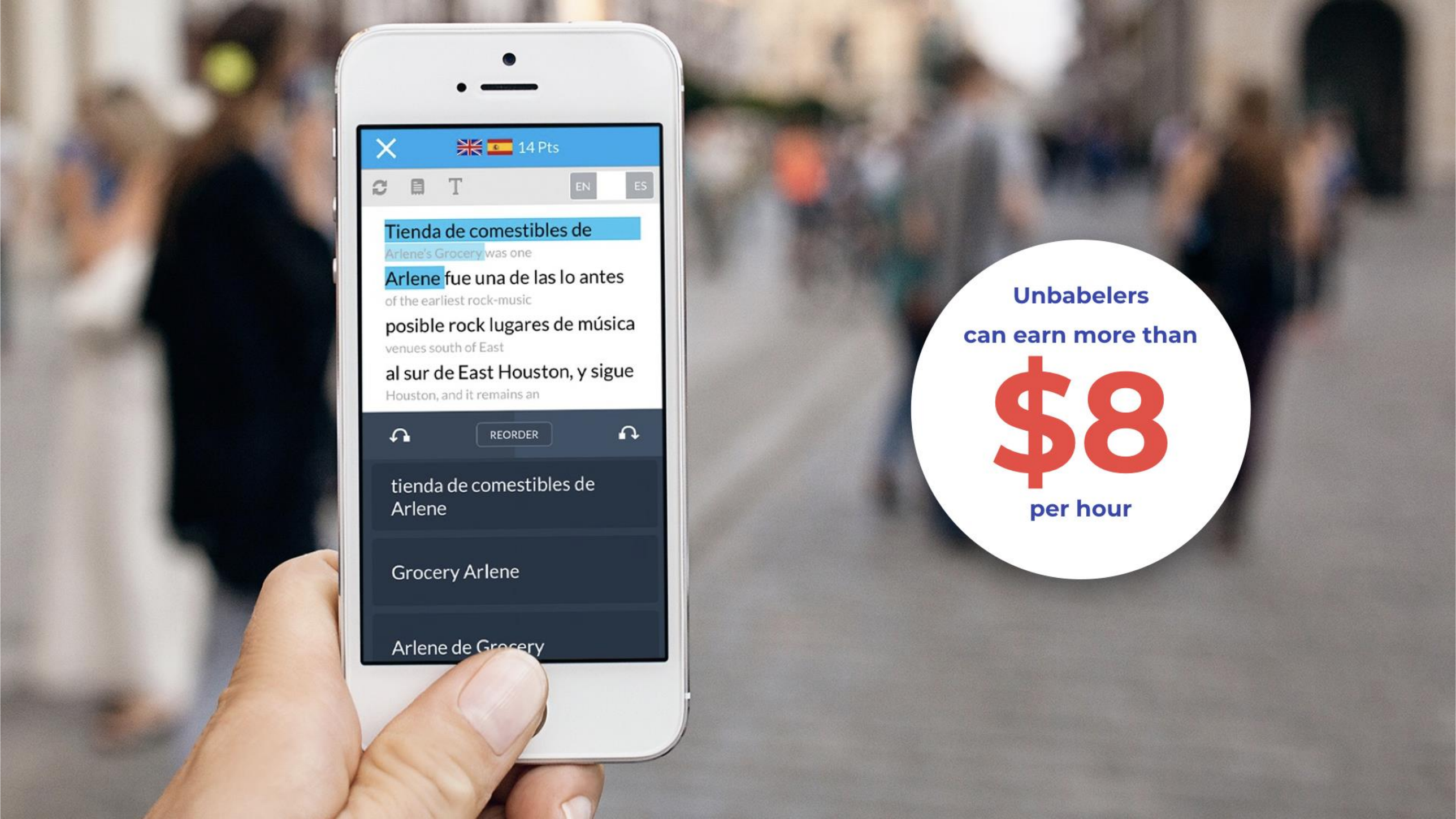
AI: Quality Estimation





Distributed to Unbabelers Worldwide




14 Pts
EN
ES
Tienda de comestibles de
Arlene's Grocery was one
Arlene fue una de las lo antes
of the earliest rock-music
posible rock lugares de música
venues south of East
al sur de East Houston, y sigue
Houston, and it remains an
REORDER
tienda de comestibles de Arlene
Grocery Arlene
Arlene de Grocery
Unbabelers
can earn more than
$8
per hour

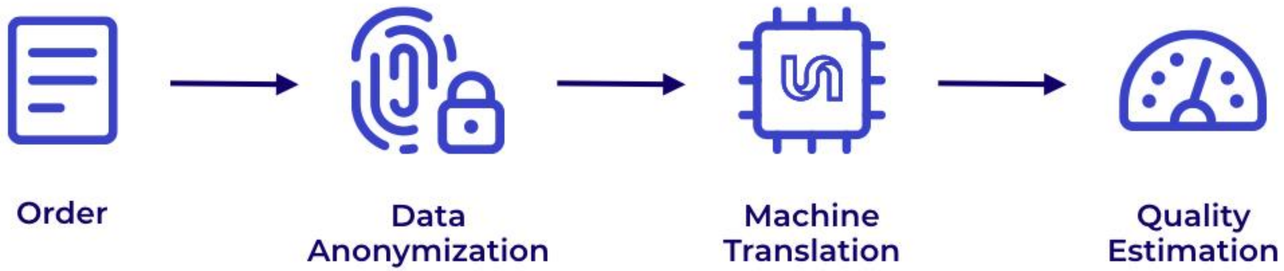
Unbabel Pipeline

Order

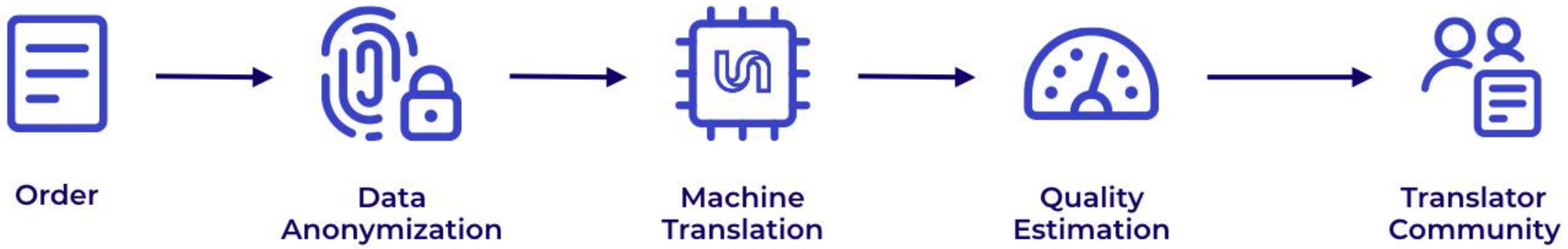
Unbabel Pipeline

Unbabel Pipeline

Unbabel Pipeline

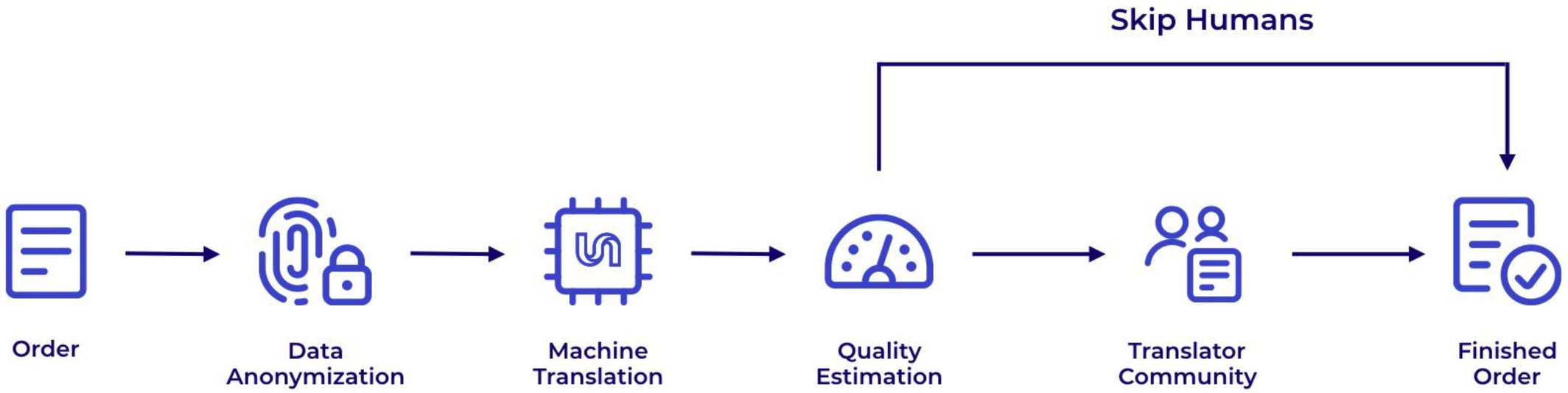


Unbabel Pipeline

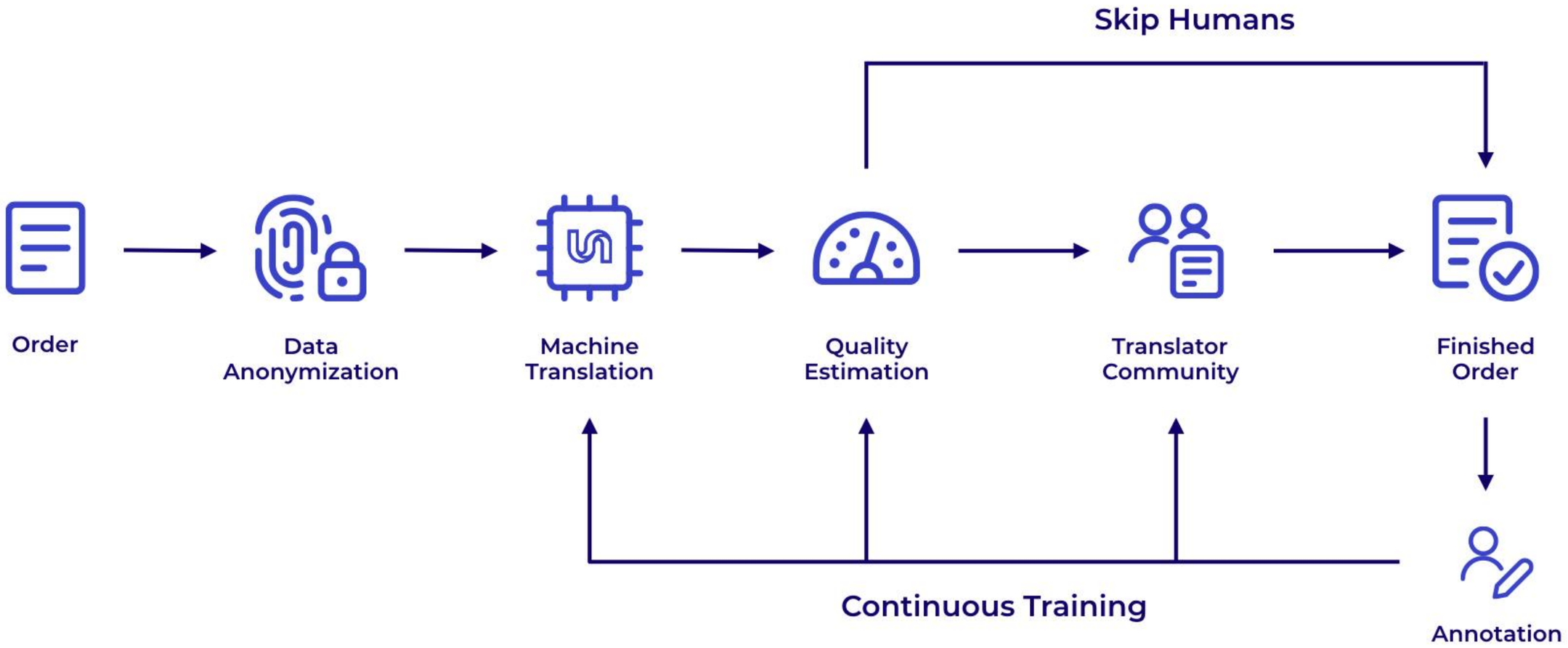


Unbabel Pipeline

Unbabel Pipeline



Unbabel Pipeline



Focus on Customer Service

Language matters.

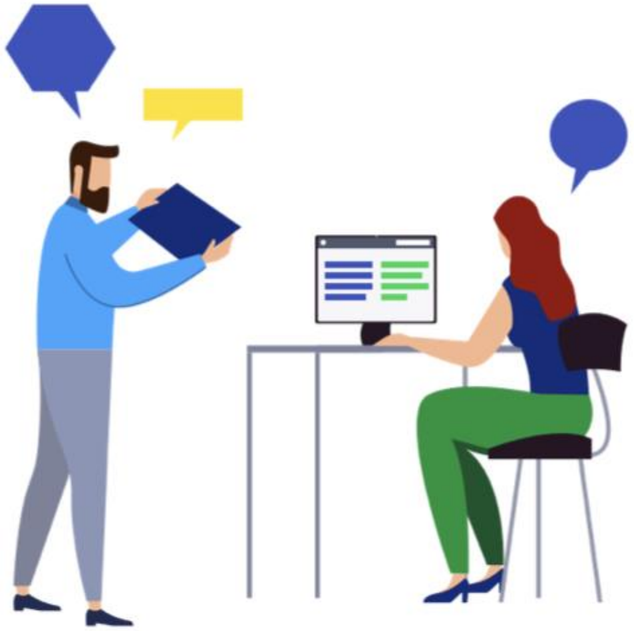
84%

Would buy more.

Focus on Customer Service

Struggling with language barriers.

Finding bilingual agents

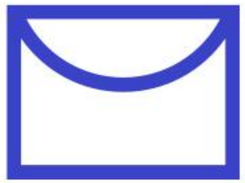


Manually copy-and-pasting with translation tools

Asking native speaker employees for help

Focus on Customer Service

Products



Unbabel Tickets

Unbabel Chat

Unbabel FAQs

Chat

Agent

Message

Data Anonymization

Adapted Machine Translation

Translated Message

Customer

Chat

Agent

Message

Data Anonymization

Adapted Machine Translation

Translated Message

Customer

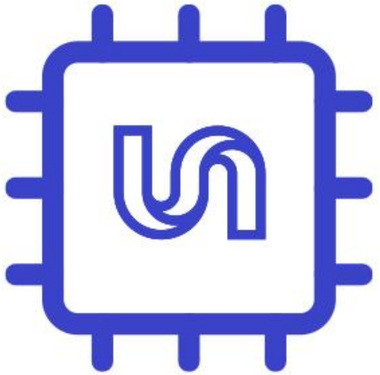
Quality Estimation

Translator Community

Offline Retraining Cycle

Skip Human

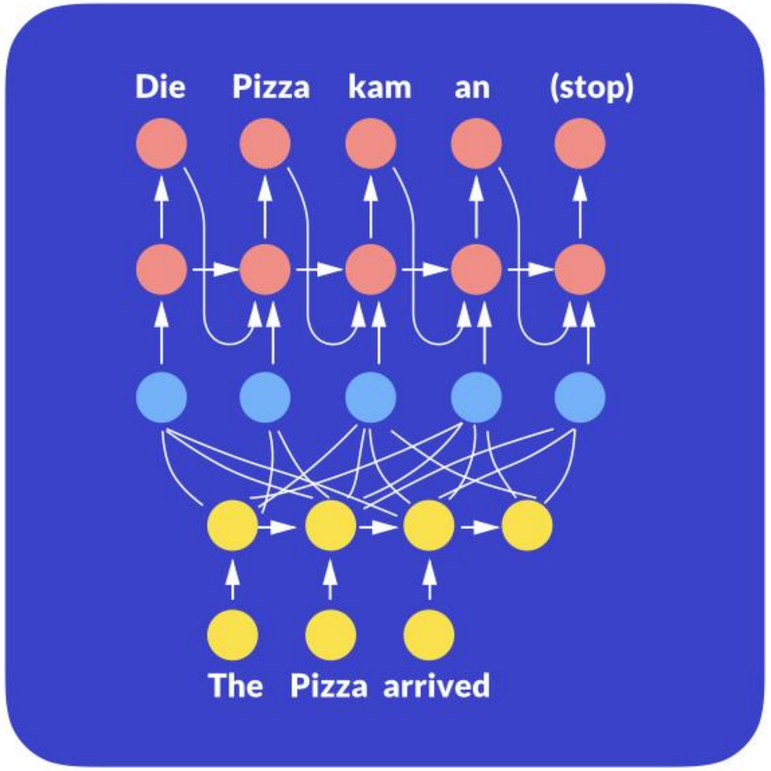
Multilingual Chat Key Technologies



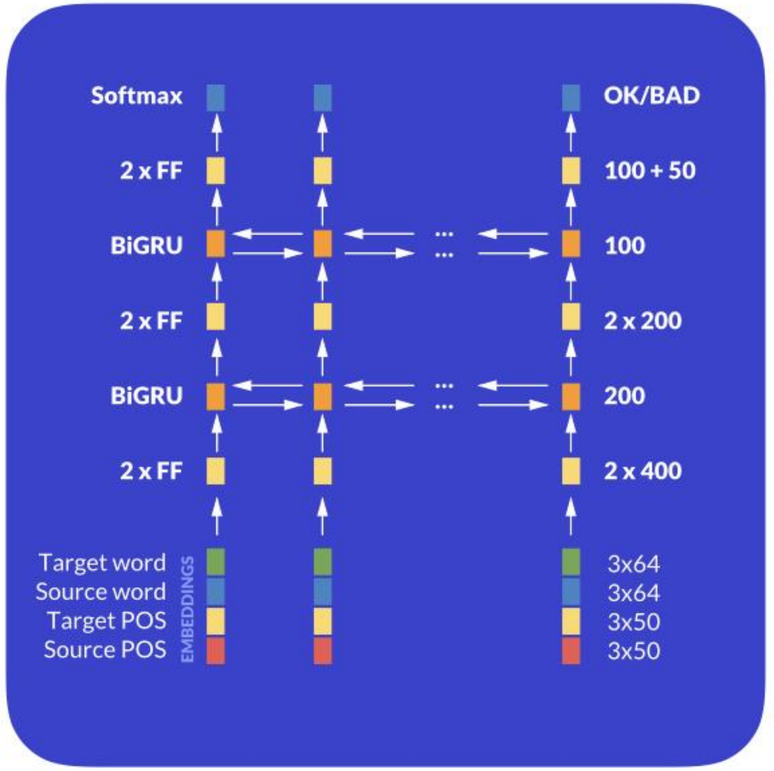
Adapted Neural Machine Translation

Quality Estimation

Multilingual Chat Key Technologies

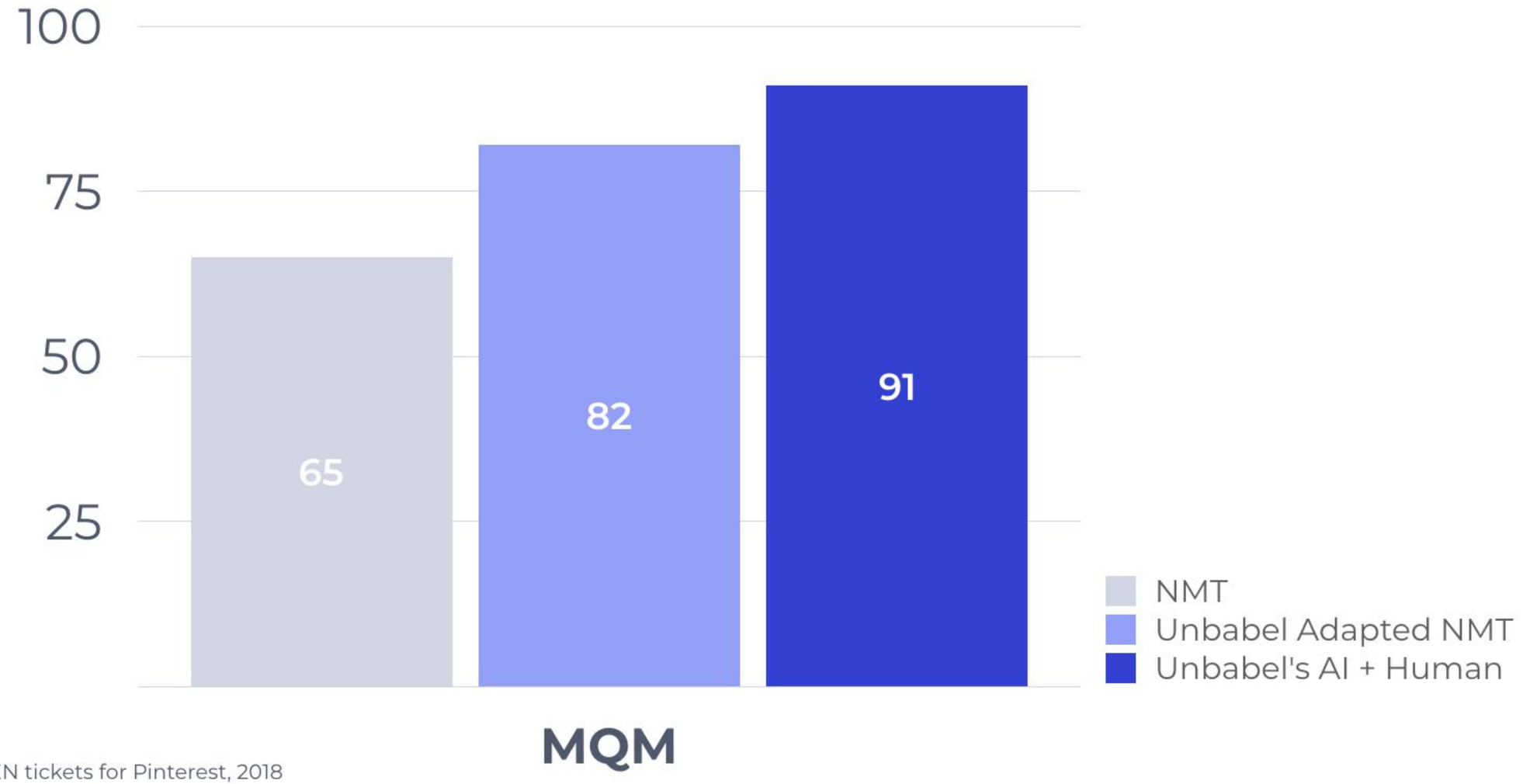


Adapted Neural Machine Translation



Quality Estimation

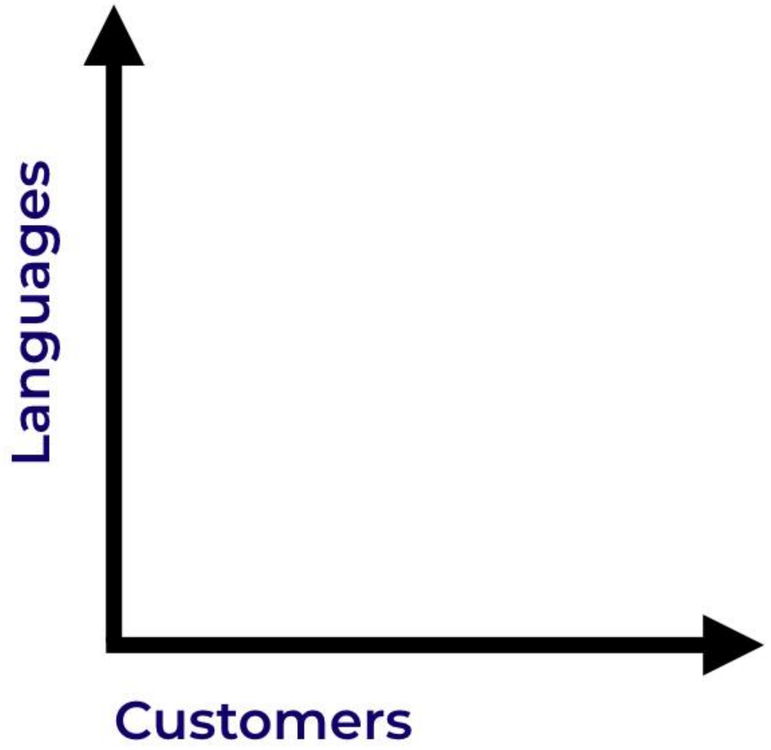
Adapted NMT



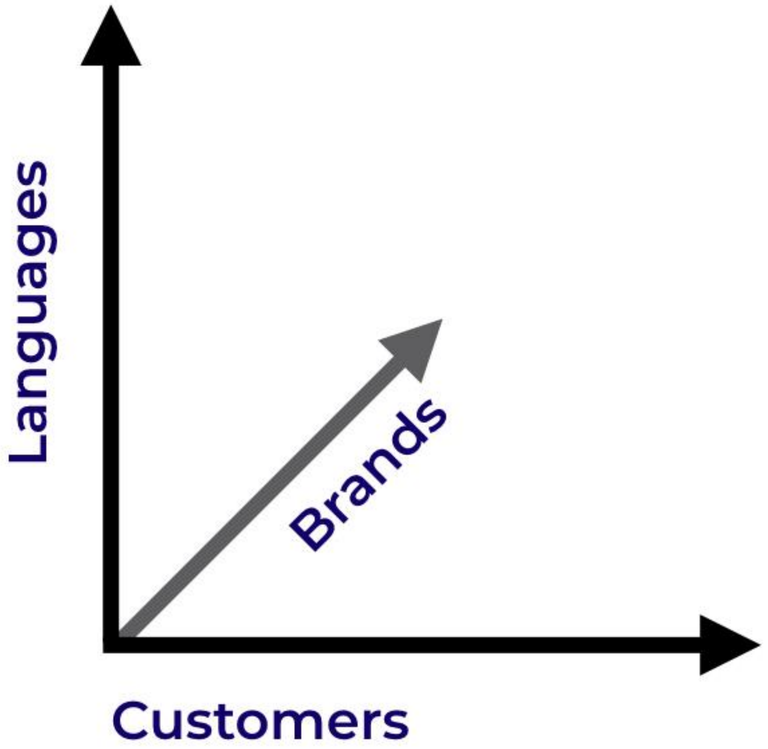
From an internal analysis of ES-EN tickets for Pinterest, 2018

Domain Adaptation Dimensions

Domain Adaptation Dimensions

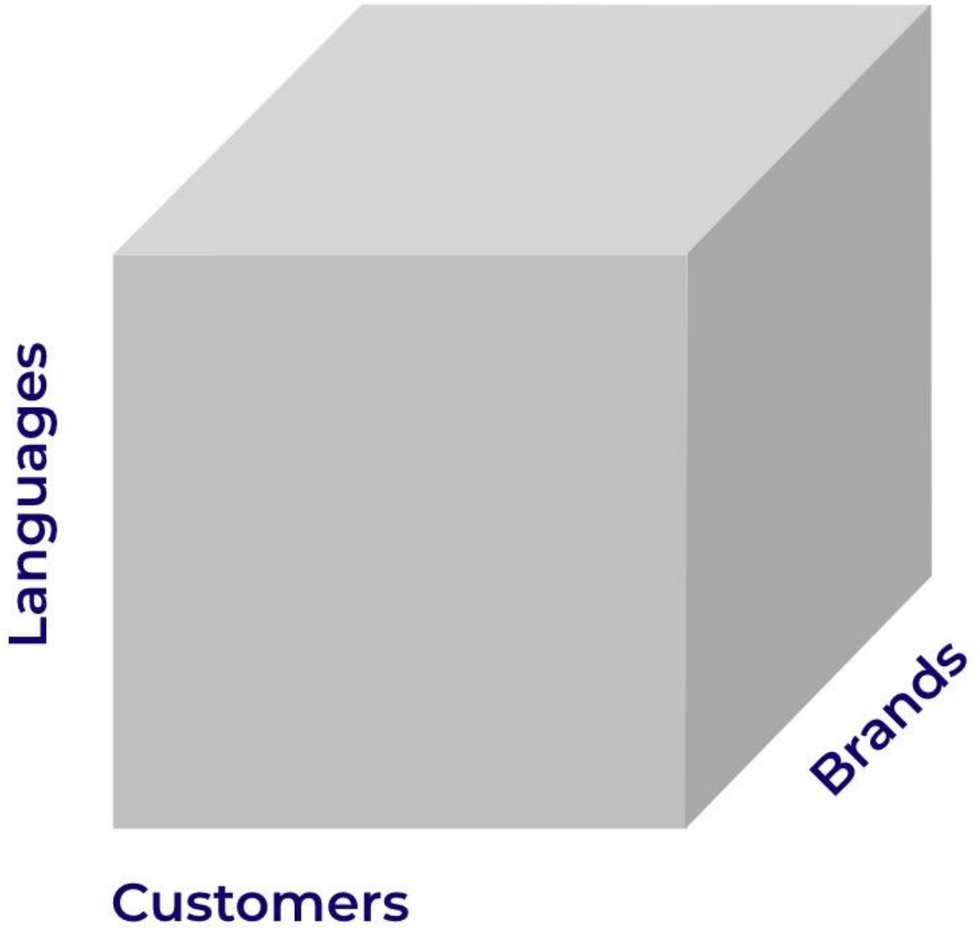


Domain Adaptation Dimensions



Domain Adaptation Dimensions

Hundreds of models



Domain Adaptation Dimensions

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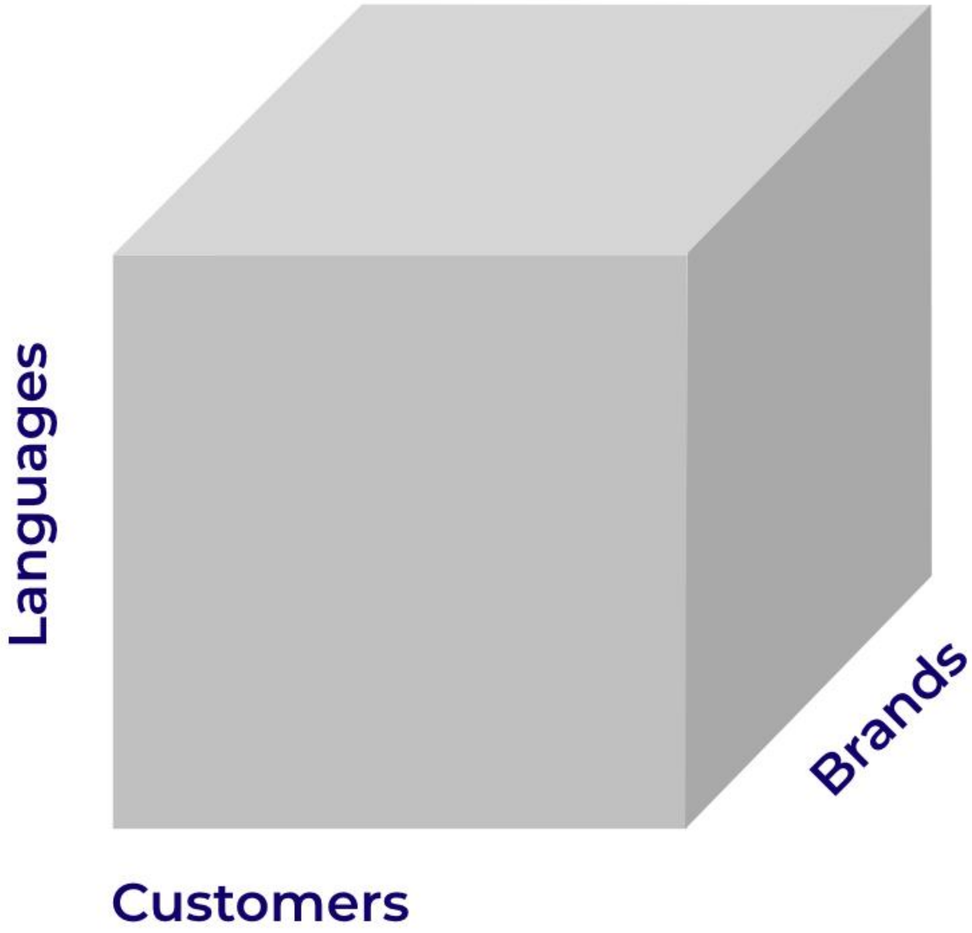

Dynamic Domain Adaptation

Quality Estimation

Source

This is a simple sentence with a little mistake .

Machine Translation

C’est une phrase compliquée avec une petite erreur .

Quality Estimation

Source

This is a simple sentence with a little mistake .

Machine Translation

C’est une phrase compliquée avec une petite erreur .

Quality Estimation (Word Level)

['OK','OK','OK','OK', 'BAD', 'OK','OK','OK','OK','OK']

C’ est une phrase compliquée avec une petite erreur .

ACL WMT '19 Competition Winner

	Participant	Run	Pearson	Spearman
1	UNBABEL	Ensemble 2	0.5923	0.5388
2	UNBABEL	Ensemble	0.5889	0.5411
3	ETRI		0.5327	0.5222
4	CMULTIMLT	1	0.4575	0.4039
5	CMULTIMLT	2	0.4292	0.3628

['C' 'est' 'une' 'phrase' 'compliquée' 'avec' 'une' 'petite' 'erreur' '.']

C' est une phrase compliquée avec une petite erreur .

Focus on Customer Service

Case Studies

60 million monthly users

Peak-season volumes

Long-tail languages

Keep CS team lean

Focus on Customer Service

Case Studies

skyscanner

60 million monthly users

- Peak-season volumes
- Long-tail languages
- Keep CS team lean

easyJet

88 million passengers in 2018

- Move Dutch and German chat to Delhi
- More flexible operations
- Increase CSAT for Dutch and German

Focus on Customer Service

Case Studies

skyscanner

60 million monthly users

- First Response 17H → 5H
- CSAT 75 → 92
- 10 people CS team

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Focus on Customer Service

Case Studies

skyscanner

60 million monthly users

- First Response 17H → 5H
- CSAT 75 → 92
- 10 people CS team

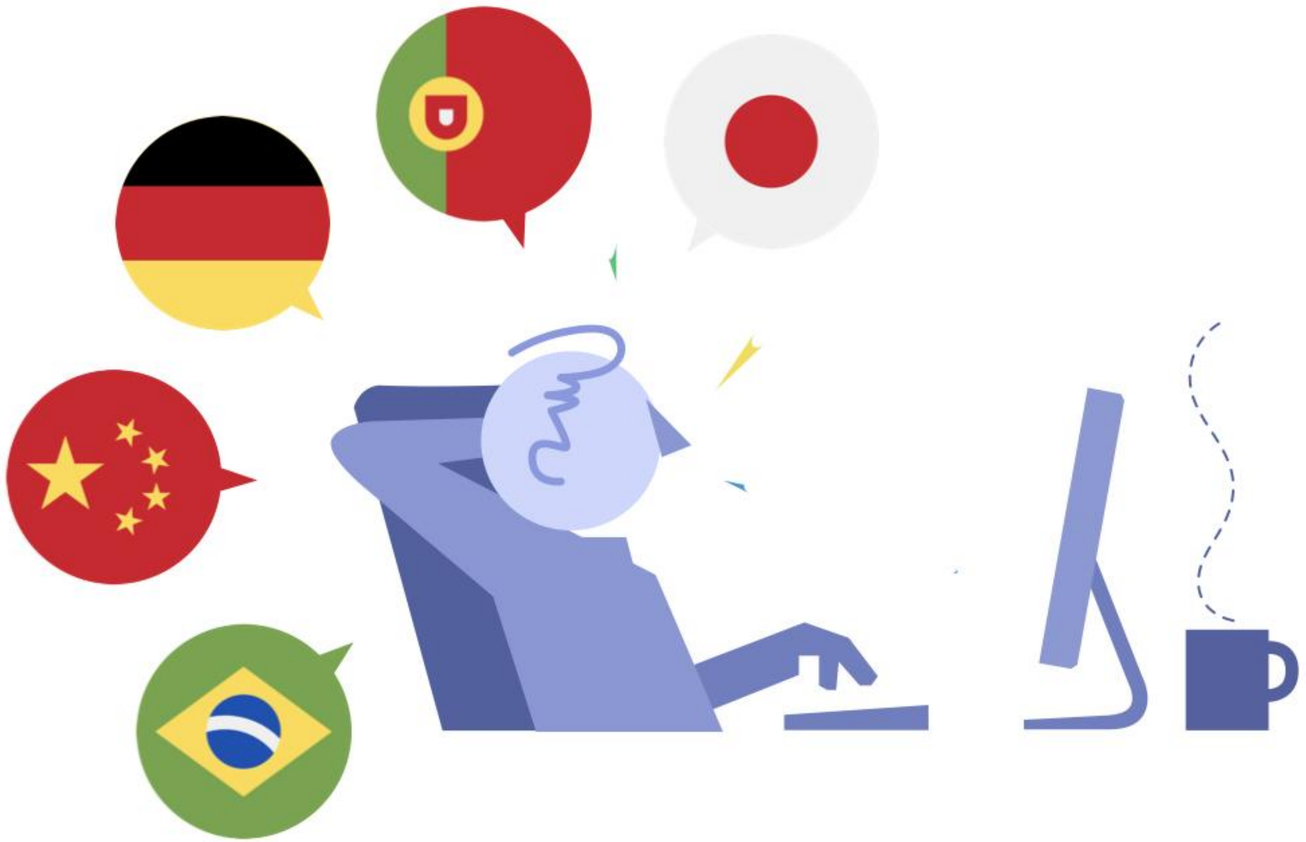
easyJet

88 million passengers in 2018

- First Time Covering Dutch
- 76% cost savings
- CSAT 4.2% higher than other languages

Multilingual Agents

Driving this CSAT results.

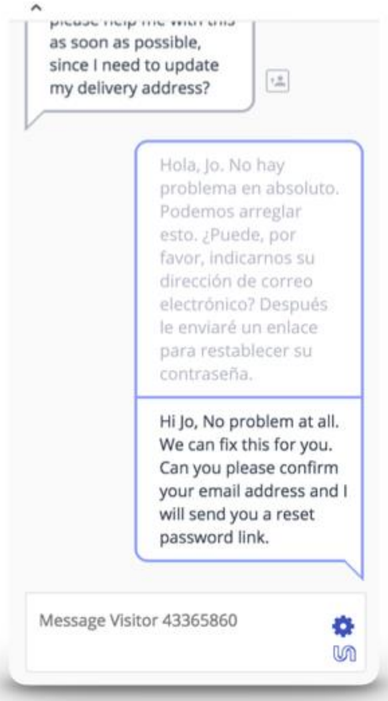


Natives in 28 languages

Chat Integrations

Invisible translation layer.

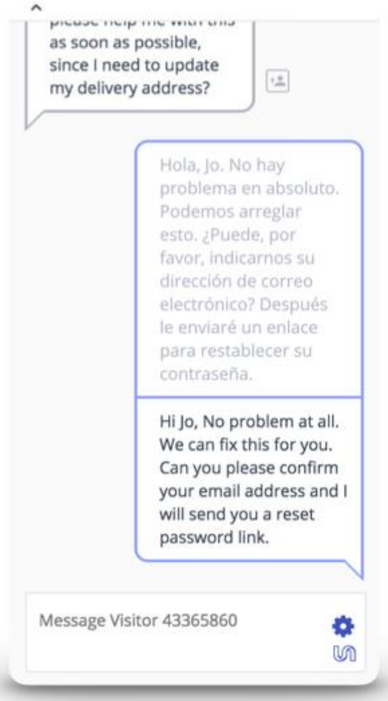
zendesk

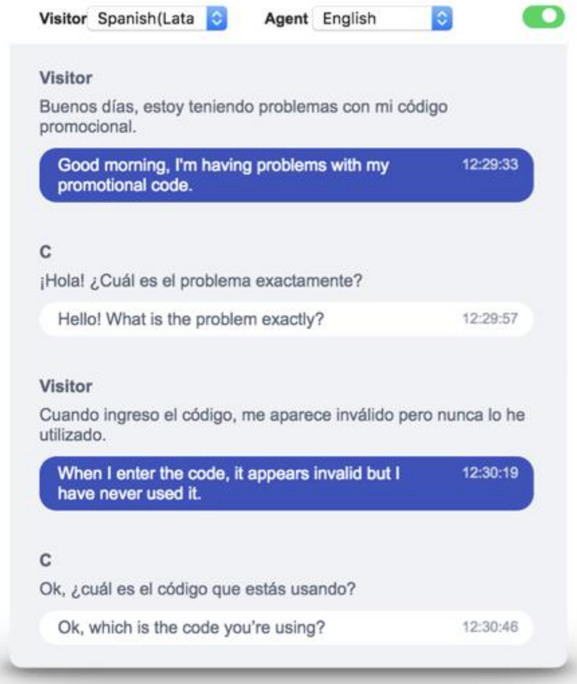


Chat Integrations
Invisible translation layer.

zendesk

salesforce





Chat Integrations
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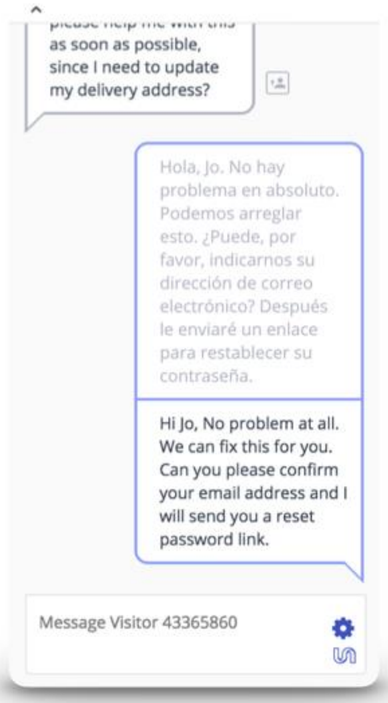
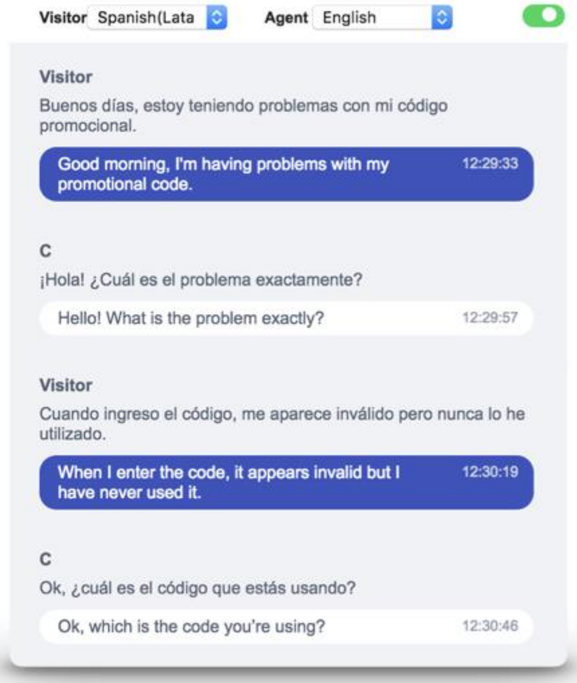
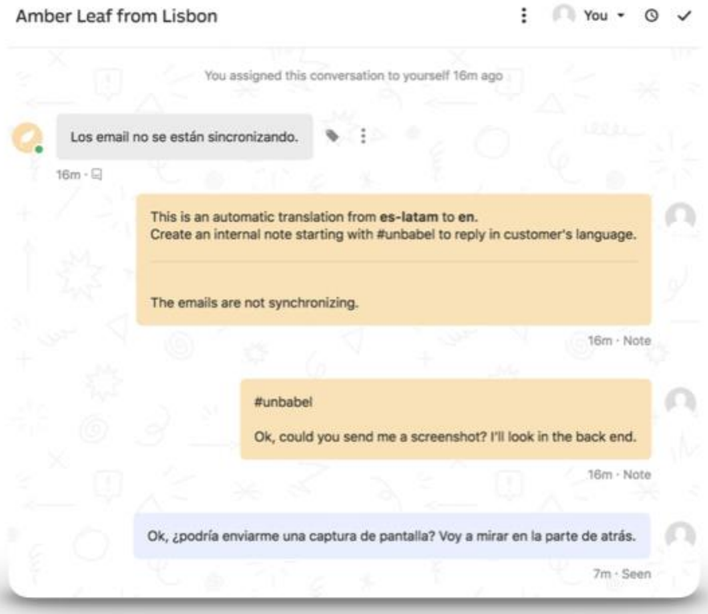


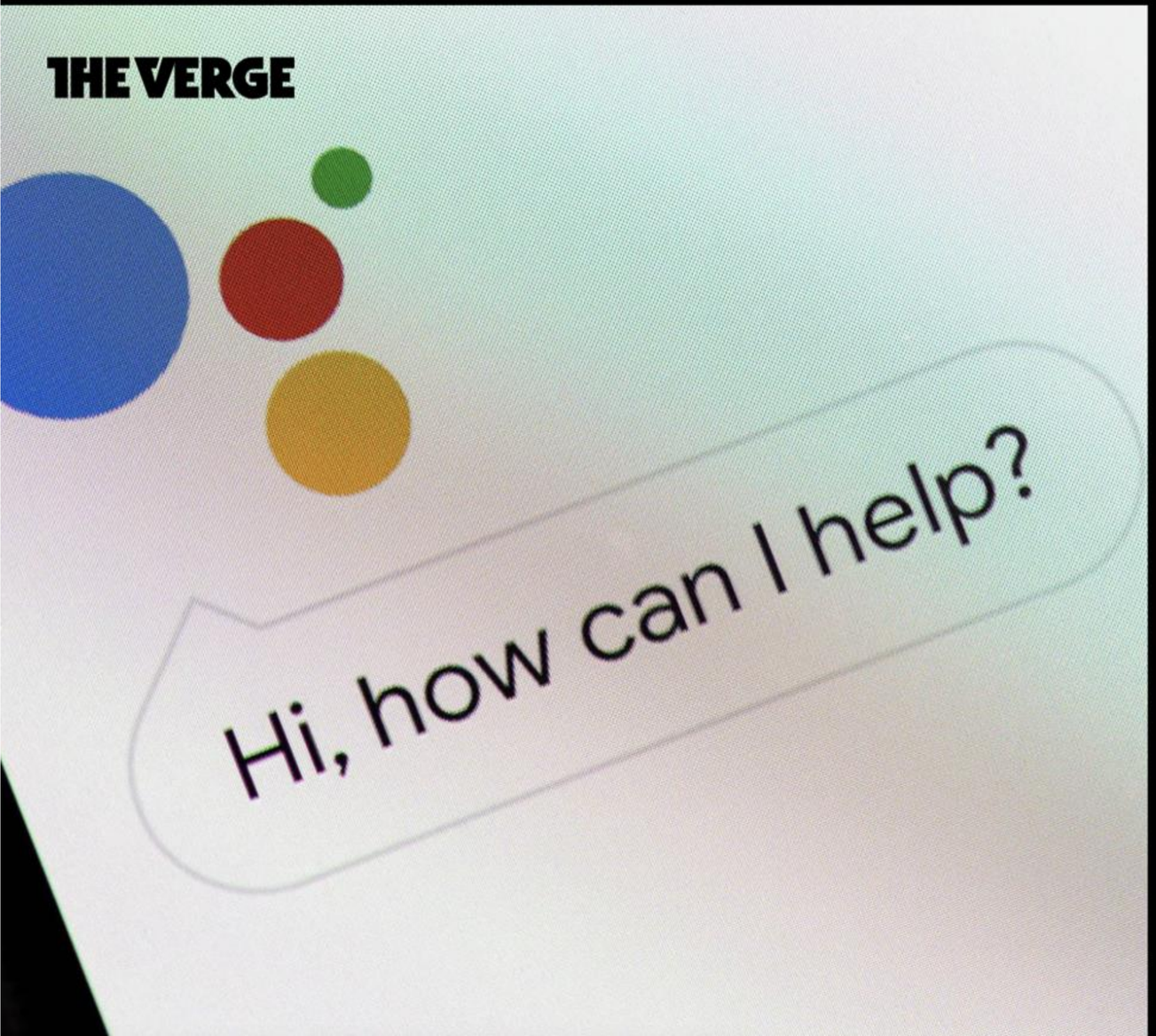
salesforce



INTERCOM



Future



GOOGLE

ONE YEAR LATER, RESTAURANTS ARE STILL CONFUSED BY GOOGLE DUPLEX

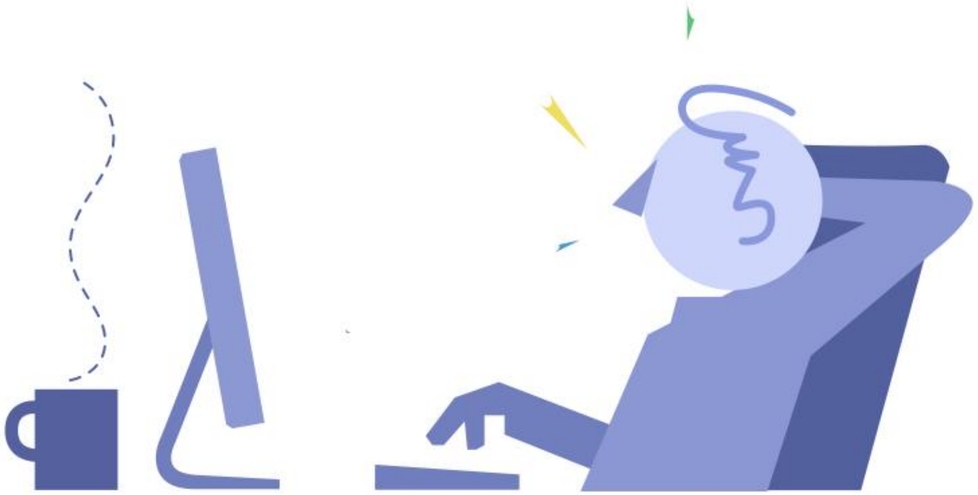
Google Duplex works until it breaks in unexpected ways

By Natt Garun | @nattgarun | May 9, 2019, 11:00am EDT

Can AI have empathy?

Chatbots vs Human Agents

VS

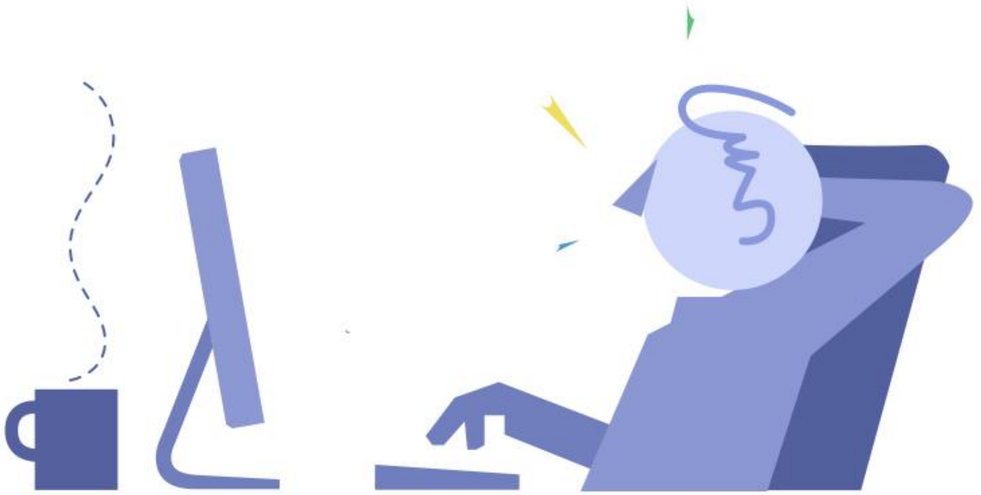


Chatbots

Human Agents

Chatbots vs Human Agents

VS



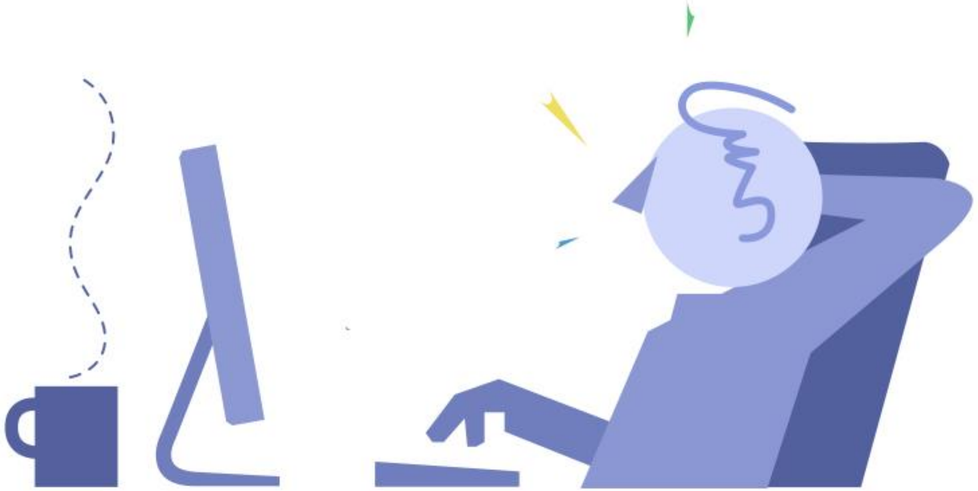
Chatbots

Human Agents

70% people prefer talking with a human.

Study released 3 weeks ago (Pega, June ’19).

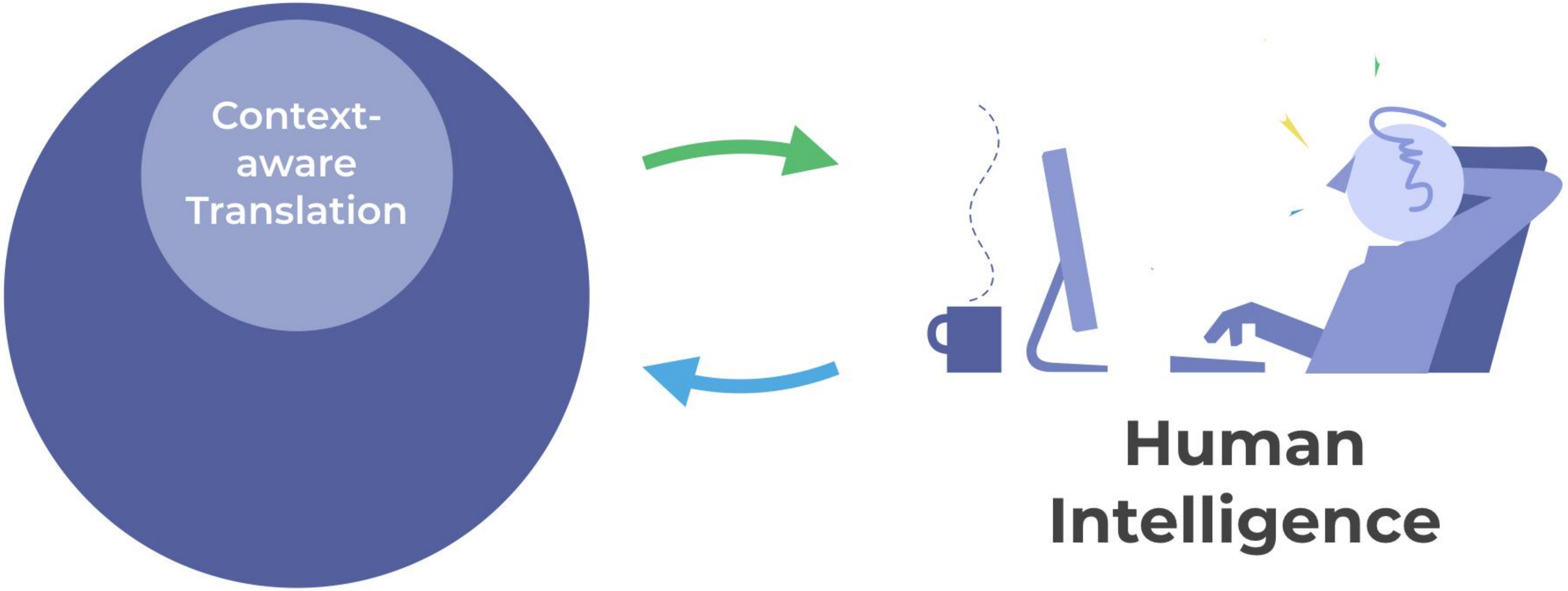
Multilingual AI Assisted Agents



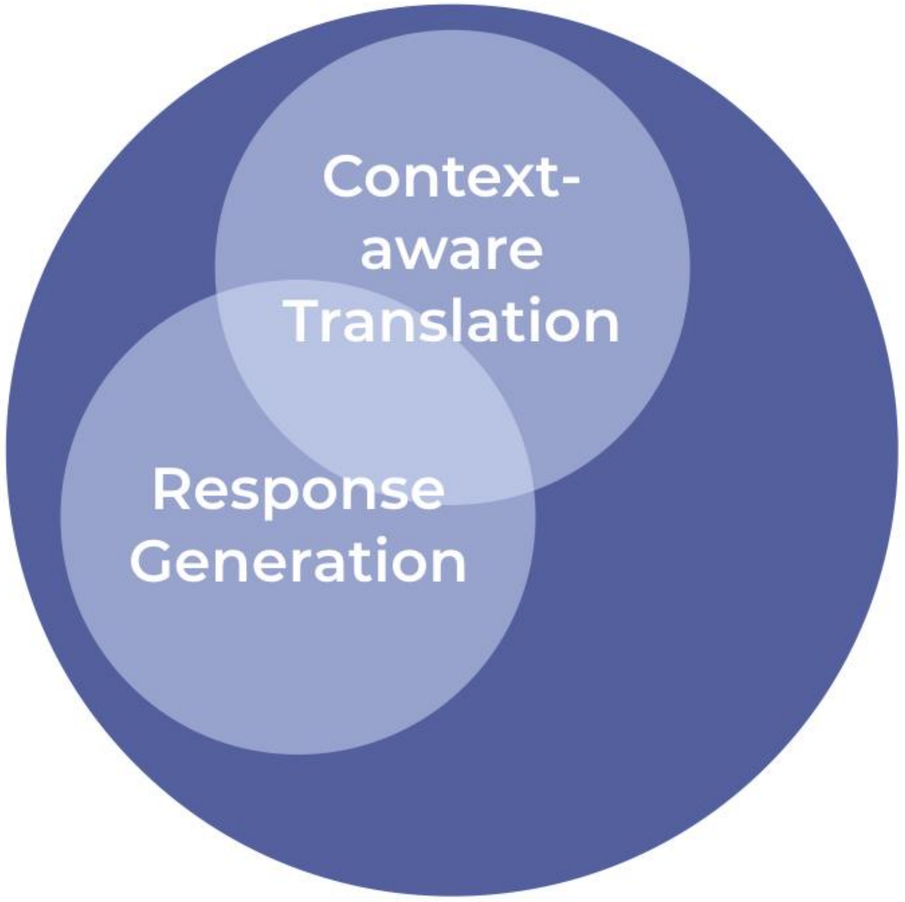
Machine Intelligence

Human Intelligence

Multilingual AI Assisted Agents

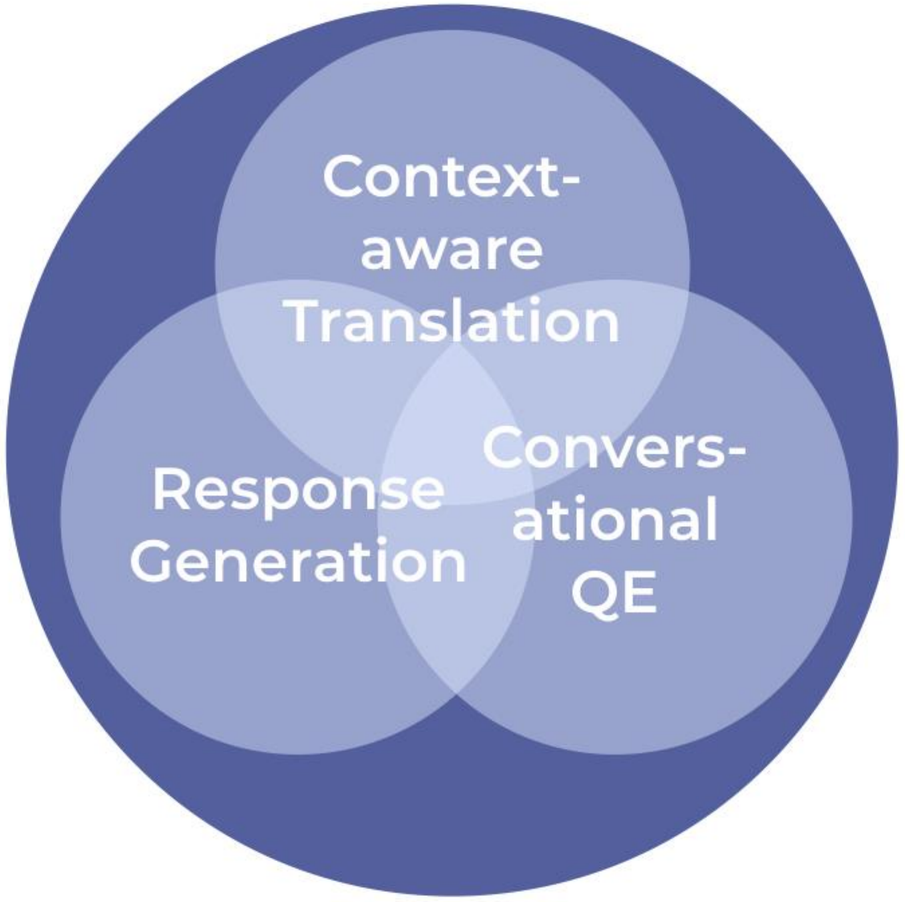


Multilingual AI Assisted Agents

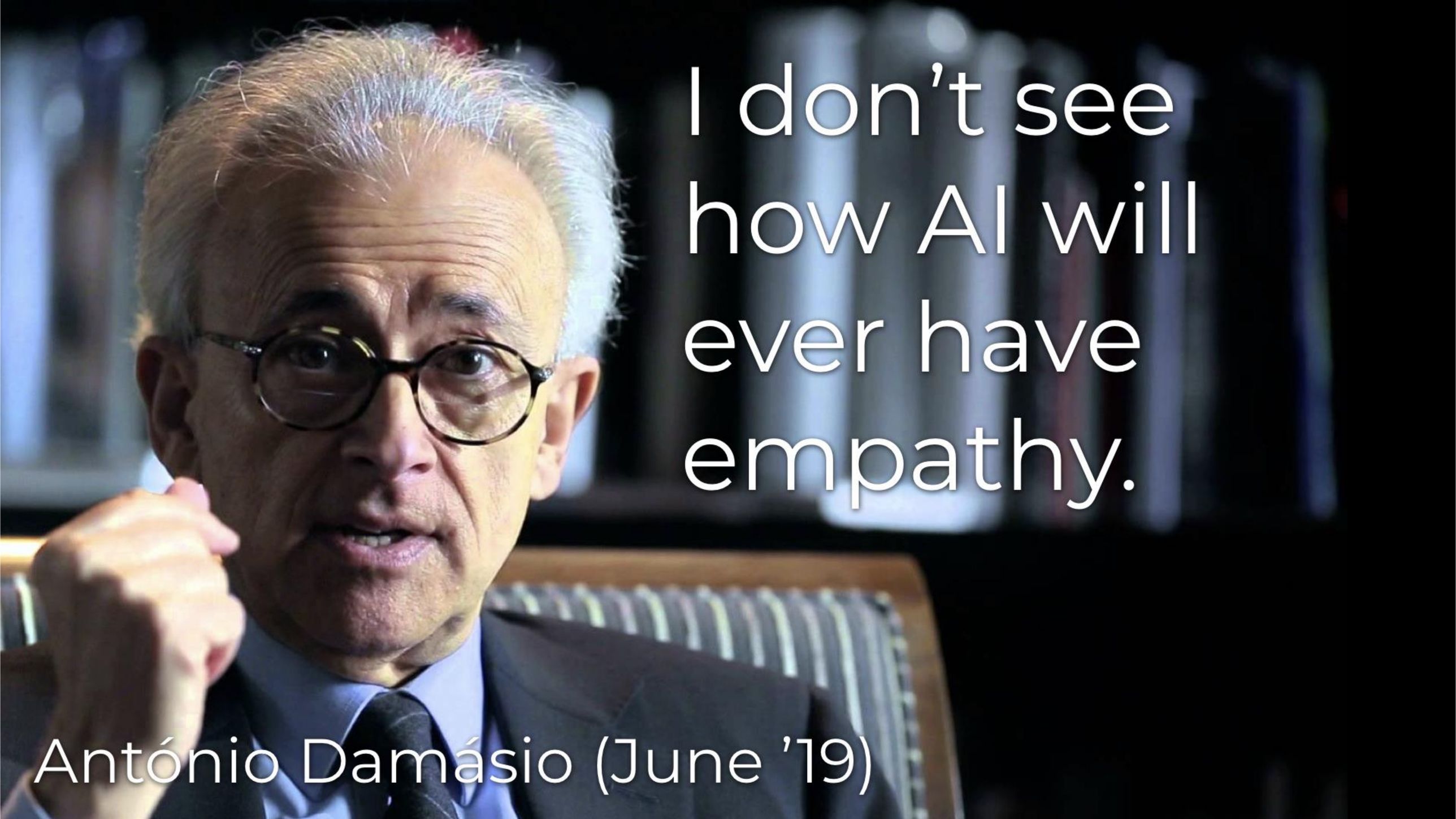


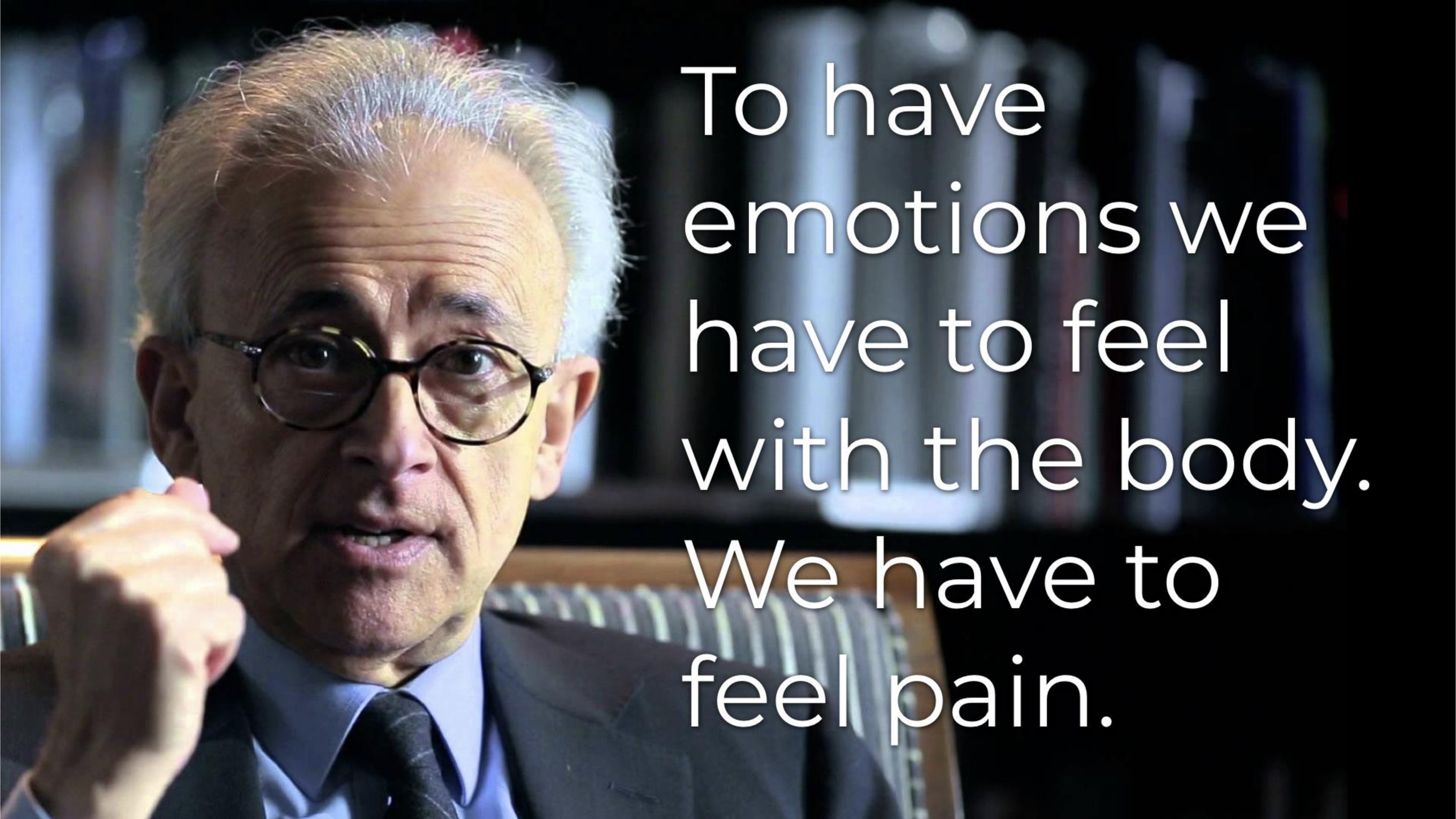
Human Intelligence

Multilingual AI Assisted Agents

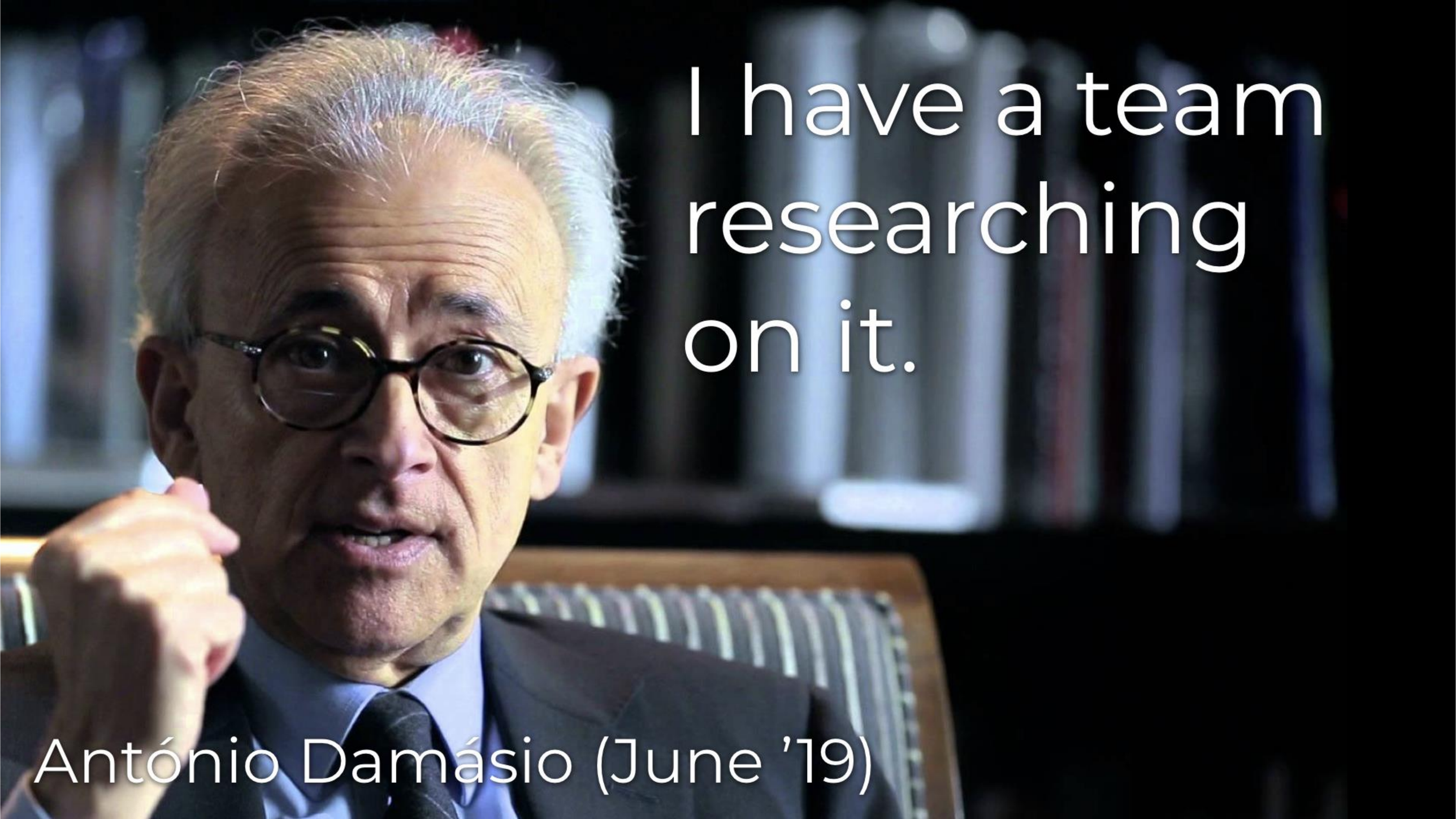


Human
Intelligence


I don’t see how AI will ever have empathy.
António Damásio (June ’19)


To have emotions we have to feel with the body. We have to feel pain.

Still...


I have a team researching on it.
António Damásio (June ’19)

Unbabel

Thank you.

ありがとう

谢谢

paulodimas