Boost your Customer Service with

OPINION MINING

Hello!

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Microsoft MVP (AI)

Solution Architect (EY)

Agenda

◎ Projection of AI

    ◎ Why and Why Now?

◎ Current State of Customer Services with AI

    ○ Sentiment Analysis
    ○ Opinion Mining

◎ Cognitive Services

    ○ Text Analytics API
    ○ Demo

It's not enough just to sort of have AI capability that we can exercise — you also need the ability to democratize it so that every business can truly benefit from it.
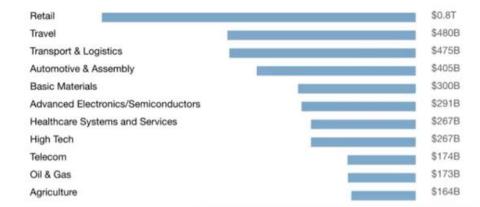
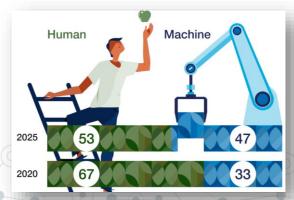—Satya Nadella

1.

Projection of AI

Why and Why Now?

Projection of AI

AI value creation by 2030

$13 trillion

Industry	Value
Retail	$0.8T
Travel	$480B
Transport & Logistics	$475B
Automotive & Assembly	$405B
Basic Materials	$300B
Advanced Electronics/Semiconductors	$291B
Healthcare Systems and Services	$267B
High Tech	$267B
Telecom	$174B
Oil & Gas	$173B
Agriculture	$164B

Rate of Automation →→ →→

Human | Machine

	Human	Machine
2025	53	47
2020	67	33

Cloud AI Developer Leaders
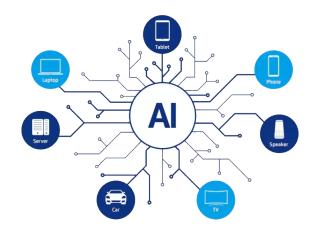
Figure 1: Magic Quadrant for Cloud AI Developer Services

Add AI to your stack
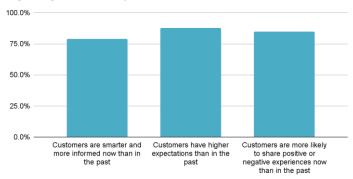

"The Full-Stack"

+

AI

2.

Customer Service

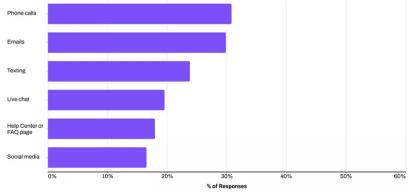Current State, Challenges and Improvements

Customer Service with AI

Percent of respondents who agree with the following statements regarding customer expectations and behaviors
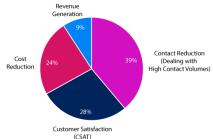

What support channels is your company using AI for?
Multiple choices possible

State of AI in Customer Service 2022
dialpad.com/blog/ai-customer-service-report

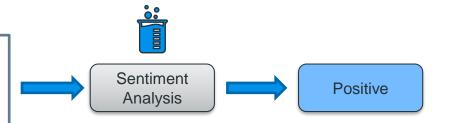What is Your Biggest Driver for Implementing AI?

Sentiment Analysis

- Process of detecting Positive or Negative
- Ability to get nuances in emotions
- Essential for many businesses

Sentence	Result (Sentiment)	Score
Does what it is supposed to do, convert HDMI from DSLR to camera choice within Windows for streaming or similar.	Positive	98%
I'd recommend you not to waste your time as their staff have insufficient knowledge to serve the customer at this branch.	Negative	78%
I've been going to get my regular haircut with Amy for years. She's really nice and a pro at what she does. Good price too. I highly recommend!	Positive	100%
Cupcakes were just yum. Filled with chocolate inside and generous frosting on the top. The desserts were also delicious but a little too sweet for us.	Positive	68%

Challenges of Sentiment Analysis

- Useful but not so meaningful
- Lack of actionable insights

Cupcakes were just yum. Filled with chocolate inside and generous frosting on the top. The desserts were also delicious but a little too sweet for us.

Sentiment Analysis

Positive

Opinion Mining

- Categorises data by aspect (attributes / nouns)
- Identifies the sentiment (adjective) associated to each aspect
- Also known as Aspect-based Sentiment Anaylysis

Cupcakes were just yum. Filled with chocolate inside and generous frosting on the top. The desserts were also delicious but a little too sweet for us.
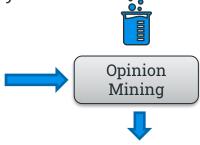
Opinion Mining

Aspect (Noun)	Opinion	Sentiment
Cupcakes	Yum	Positive
Frosting	Generous	Positive
Desserts	Delicious	Positive
	Too Sweet	Negative

3.

Azure Cognitive Services

AI as a Service

Azure Cognitive Services

Breakthrough AI within reach

Built for mission-critical deployments

Responsible AI in action

Speech
- Speech to Text
- Text to Speech
- Speech Translation
- Speaker Recognition

Language
- Entity recognition
- Sentiment Analysis
- Question Answering
- Conversation Language Understanding
- Translator

Vision
- Computer Vision
- Custom Vision
- Face API

Decision
- Anomaly Detector
- Content Moderator
- Personalizer

Open AI Service
- GPT-3 (Preview)
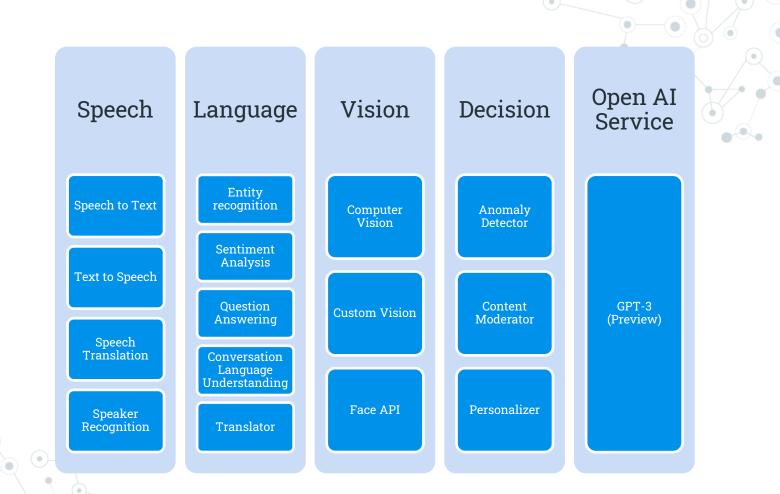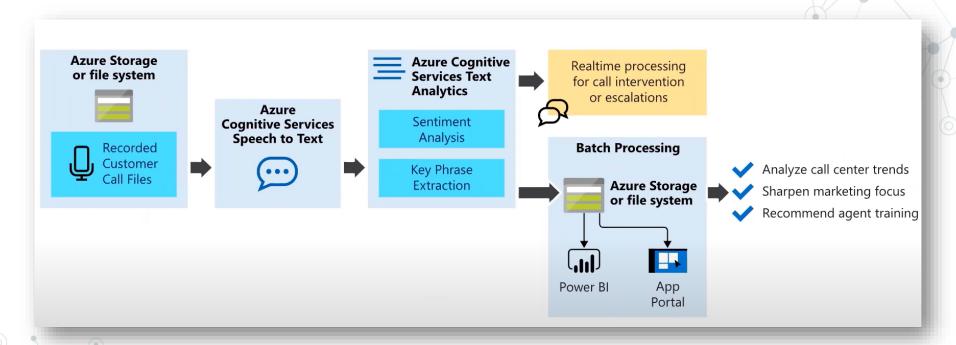
Text Analytics API

- Create an Azure Language Resource
  - Get the endpoint URL and a Key

- Create a Request using REST API or your favorite SDK

- Send the request containing your data
  - Pass any sentence into the request (hint: check out the existing samples, link is provided at the last slide)
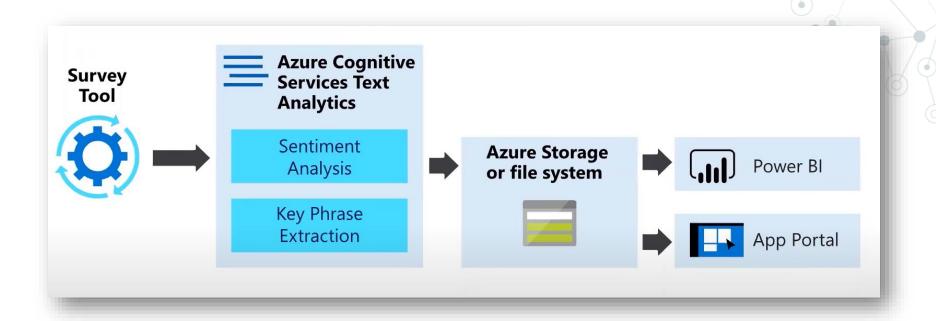
- Stream or store the response locally

Demo

Text Analytics API

Inbound customer call analysis

Survey Analysis

Resources

👨‍💻 CognitiveRocket repo - **https://github.com/arafattehsin/CognitiveRocket**

📬 Blog Post - **https://www.arafattehsin.com/customer-service-with-opinion-mining/**

📊 Sentiment Analysis and Opining Mining - **https://docs.microsoft.com/en-us/azure/cognitive-services/language-service/sentiment-opinion-mining/overview**

🥷 Samples - **https://docs.microsoft.com/en-us/samples/azure/azure-sdk-for-net/azure-text-analytics-client-sdk-samples/**

Thanks!

Any questions?

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