# Google Cloud: AI/ML Tools

November 5th 2021

### **Overview**

- Geek Week: Google Keynote
  - Al Solutions
  - Al Tools
- Google Al Tools: Demo
  - Speech-to-Text
  - Audio Search

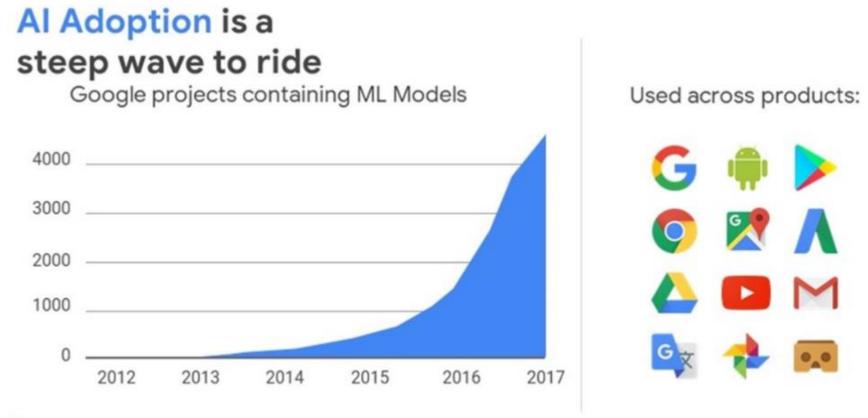
# **Geek Week:** Innovation Through AI/ML





Google Cloud

## Google Cloud: Al Adoption





## Google Cloud: Al Adoption



#### Assistant

Query understanding Conversation



#### Cloud

Cloud ML APIs TPU



#### Clips

Smart image capture



#### Android

Keyboard input (also in iOS)



#### Maps

Street Viewimages Parsing local search



#### Search

Query understanding Search ranking



#### Home

Speech recognition Conversation



#### Gmail

Smart Reply Spam classification



#### Cardboard

Image stitching



#### Ads

Richer text ads Video summarization



#### YouTube

Video recommendations Better thumbnails



#### Translate

Text and speech translations



#### Photos

Photos / video search Auto-smile montage



#### Drive

Quickaccess



#### Play

App clustering Music recommendations



# Google Cloud: Al Use Cases



# Seeing

Deep Learning has become a better driver than humans by literally going from pixels to steering, throttle, distance, and more.

# Hearing

Deep Learning now powers real time audio speech translation for the top languages, allowing more humans to connect than before.



# Speaking

Deep Learning now generates realistic human speech, much how we evolved as mammals.

# Reading

Deep Learning can analyze 51 different file formats, condensing information to tensors for search, labeling and summarizing.

### Google Cloud: AI Products

#### Al building blocks

Easily infuse AI into applications with custom or pre-trained models.

#### Video Al

Video classification and recognition using machine learning.

#### Media Translation (beta)

Add dynamic audio translation directly to your content and applications.

#### Dialogflow

Conversation applications and systems development suite for virtual agents.

#### AutoML

Custom machine learning model training and development.

#### Cloud Natural Language

Sentiment analysis and classification of unstructured text.

#### Text-to-Speech

Speech synthesis in 220+ voices and 40+ languages.

#### AutoML Tables (beta)

Service for training ML models with structured data.

#### Vision Al

Custom and pre-trained models to detect emotion, text, more.

#### **Cloud Translation**

Language detection, translation, and glossary support.

#### Speech-to-Text

Speech recognition and transcription supporting 125 languages.

#### Cloud Inference API (alpha)

Quickly run large-scale correlations over typed time-series datasets.

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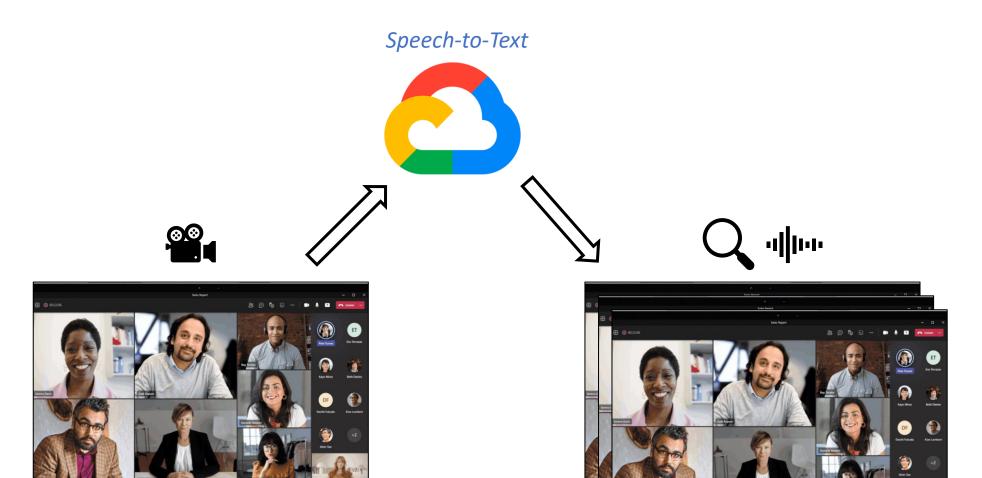
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### **Demo:** Audio Search





### **Demo:** Audio Search - Tutorials



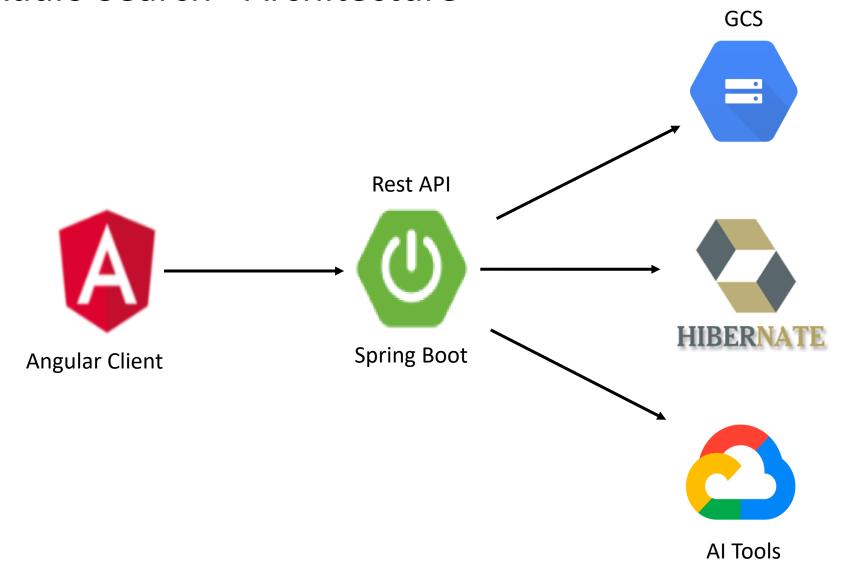






Applied AI Engineer @ Google Cloud.

### **Demo:** Audio Search - Architecture



### Demo