



# Building Your Smart Applications with Amazon AI

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# **Our mission**

**Put Machine Learning in the hands  
of every developer and data scientist**

**Application  
Services**

API-driven services: Vision & Language Services, Conversational Chatbots

**Platform  
Services**

Deploy machine learning models with high-performance machine learning algorithms, broad framework support, and one-click training, tuning, and inference.

**Frameworks  
&  
Infrastructure**

Develop sophisticated models with any framework, create managed, auto-scaling clusters of GPUs for large scale training, or run inference on trained models.

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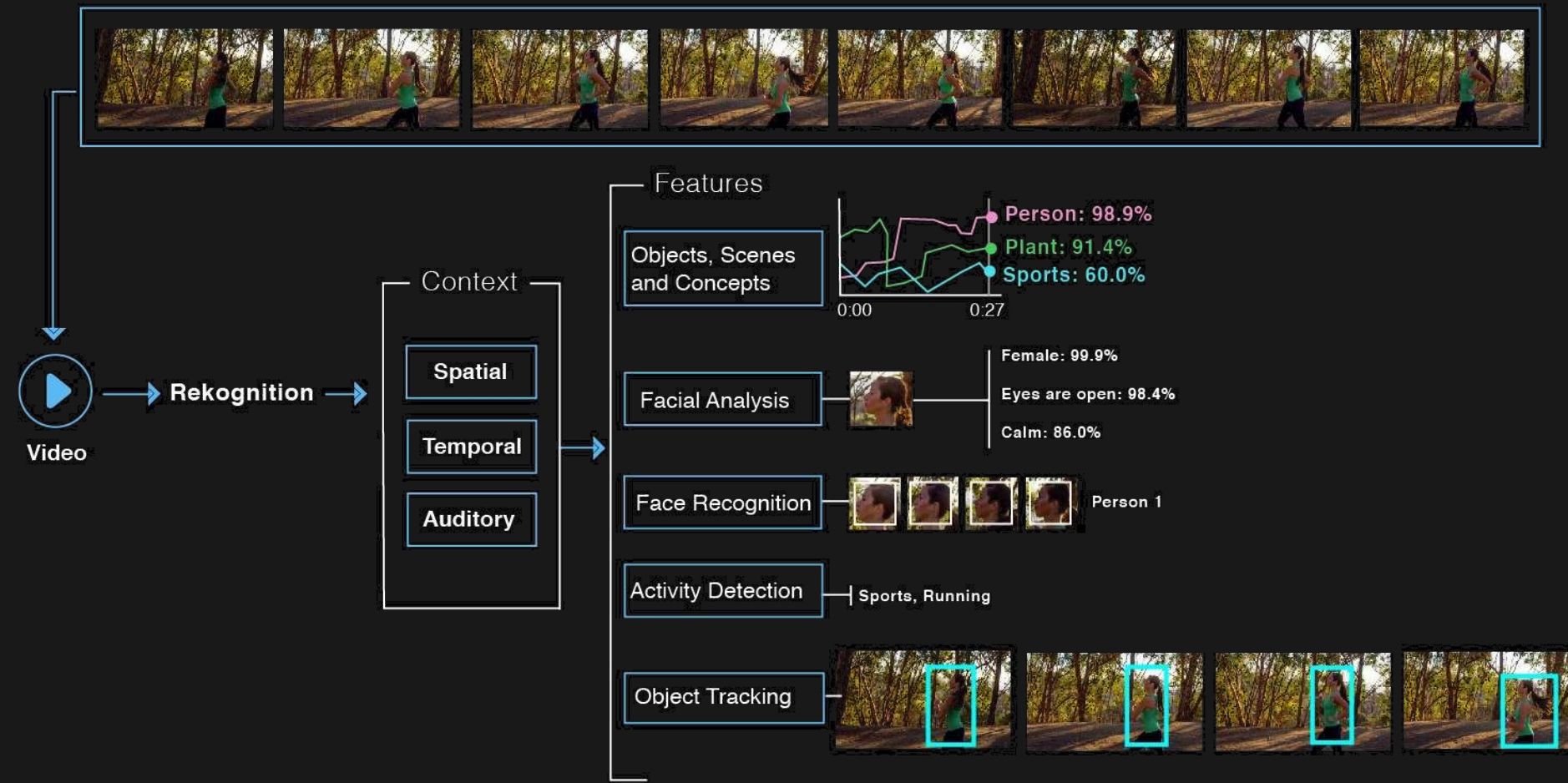
# Amazon Rekognition: image content



Amazon  
Rekognition

Object and scene detection  
Facial analysis  
Face comparison  
Celebrity recognition  
Image moderation  
Text in image

# Amazon Rekognition Video: video content

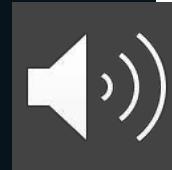
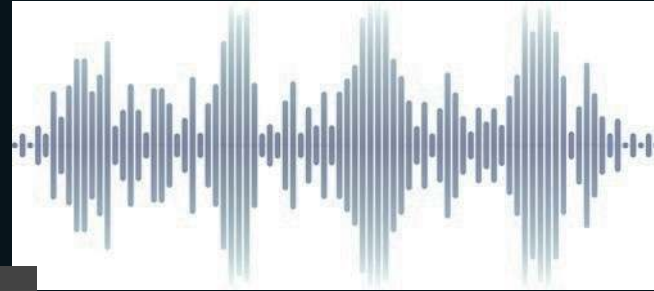
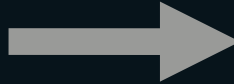


# Amazon Polly: text to speech

“Hejsan! Jag heter Astrid och läser upp det som skrivs här.”



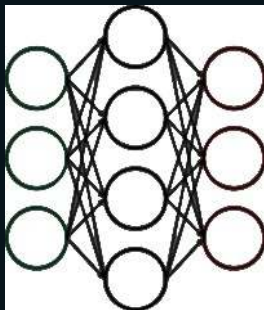
Amazon Polly



# Amazon Translate



Real-time translation



Powered by deep  
learning



12 Language pairs  
(more to come)

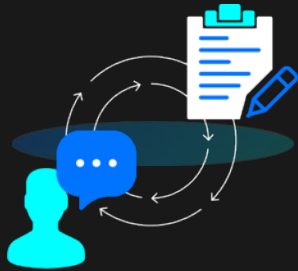


Language detection





# Amazon Transcribe: speech to text



**Available  
in preview  
today**



Multiple  
languages



Intelligent  
punctuation and  
formatting



Timestamp  
generation



Support for  
telephony audio



Recognize  
multiple  
speakers



Custom  
vocabulary



# Amazon Comprehend: NLP

Discover valuable insights from text



**Entities**



**Key Phrases**

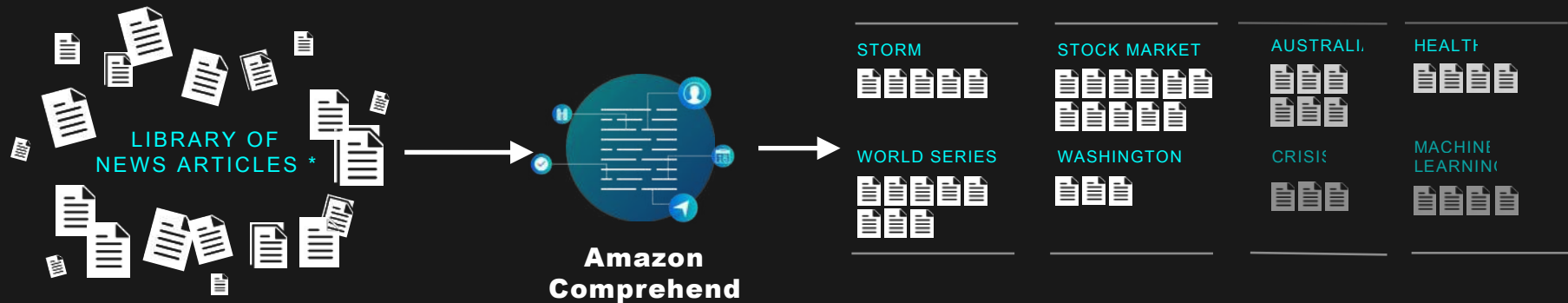


**Language**

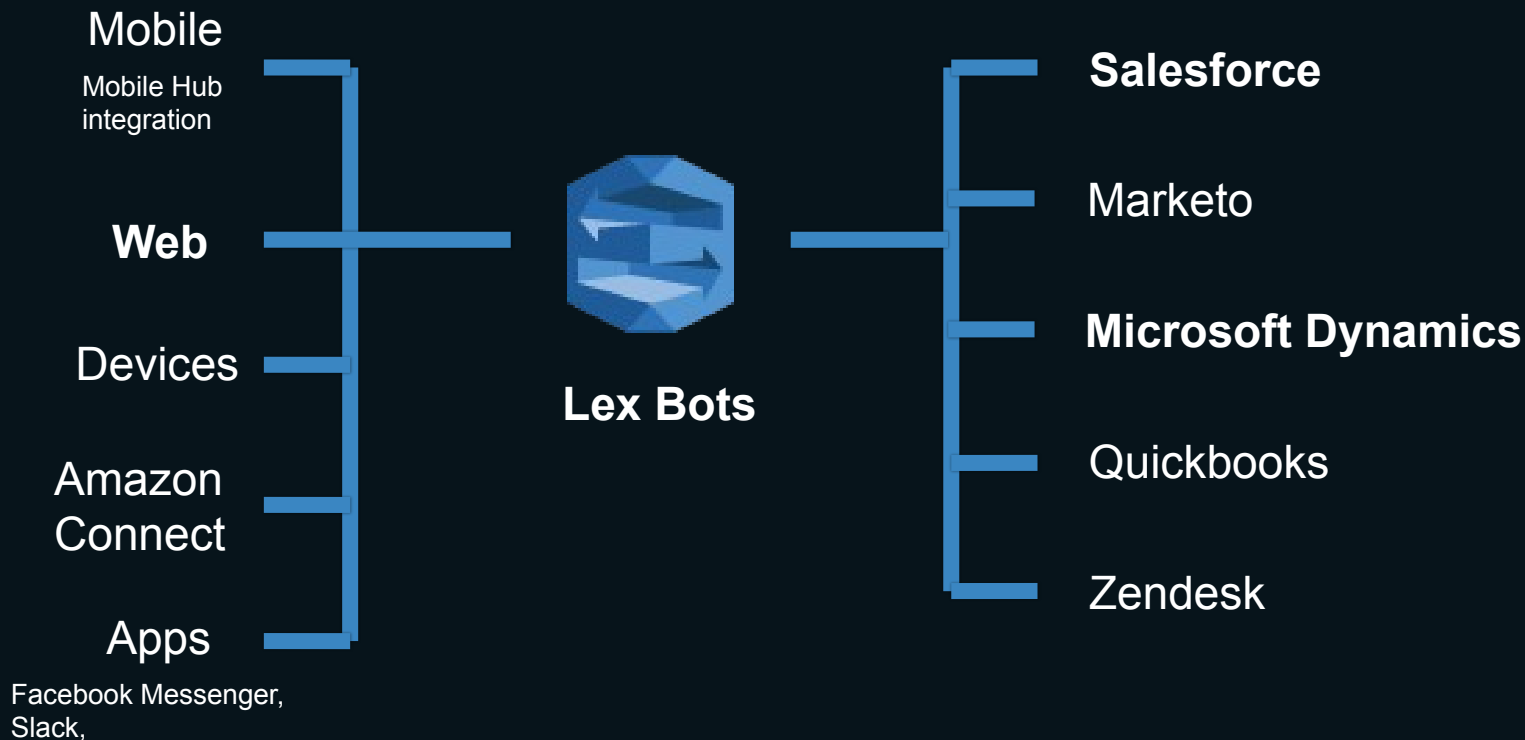


**Sentiment**

# Amazon Comprehend: topic modeling



# Amazon Lex: chatbots



# DEMO



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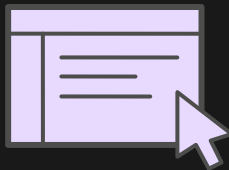


# Amazon SageMaker

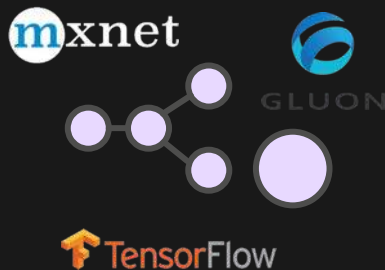
Build, train, and deploy machine learning models at scale



End-to-End  
Machine Learning  
Platform



Zero setup



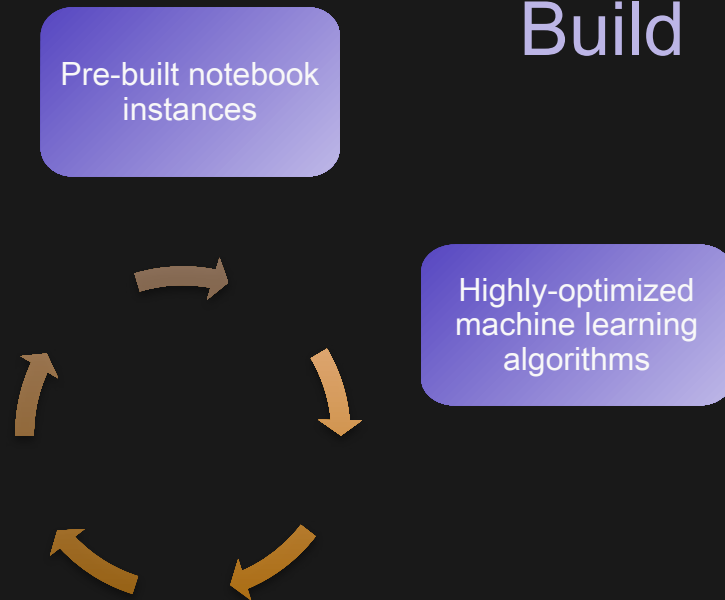
Flexible Model  
Training



Pay by the second

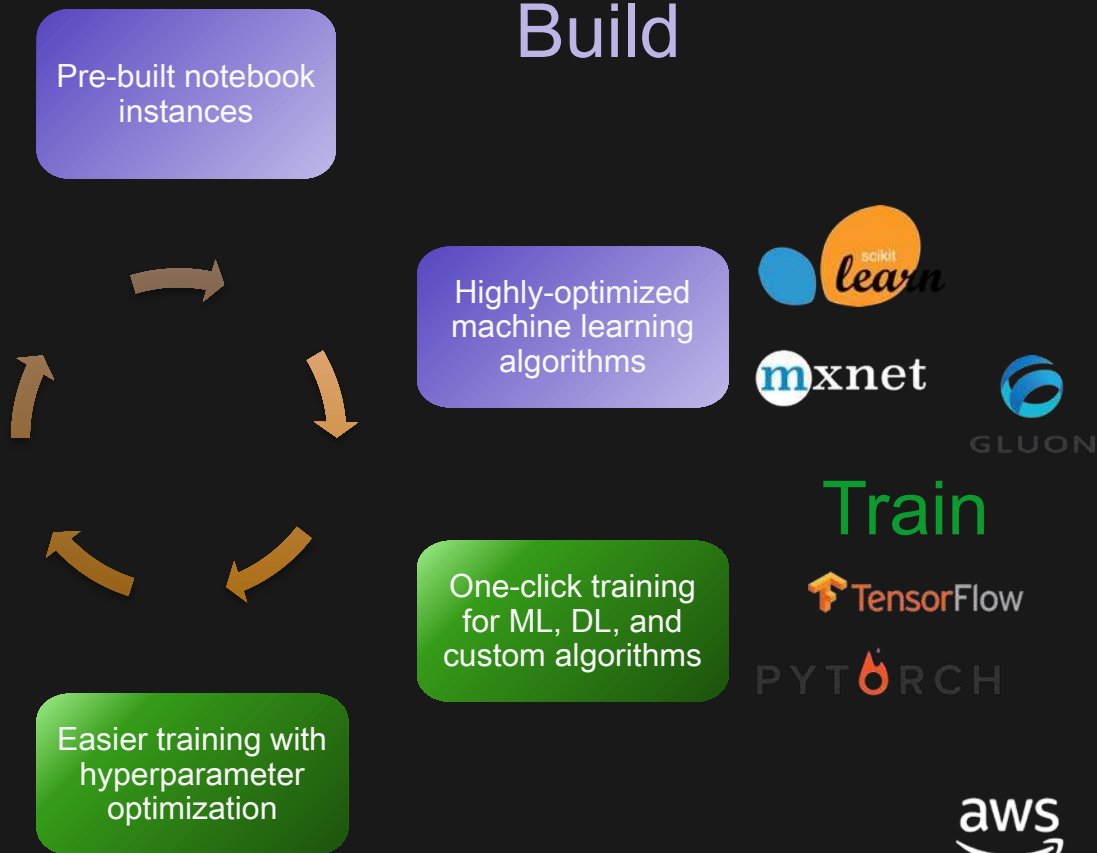
# Amazon SageMaker

Build

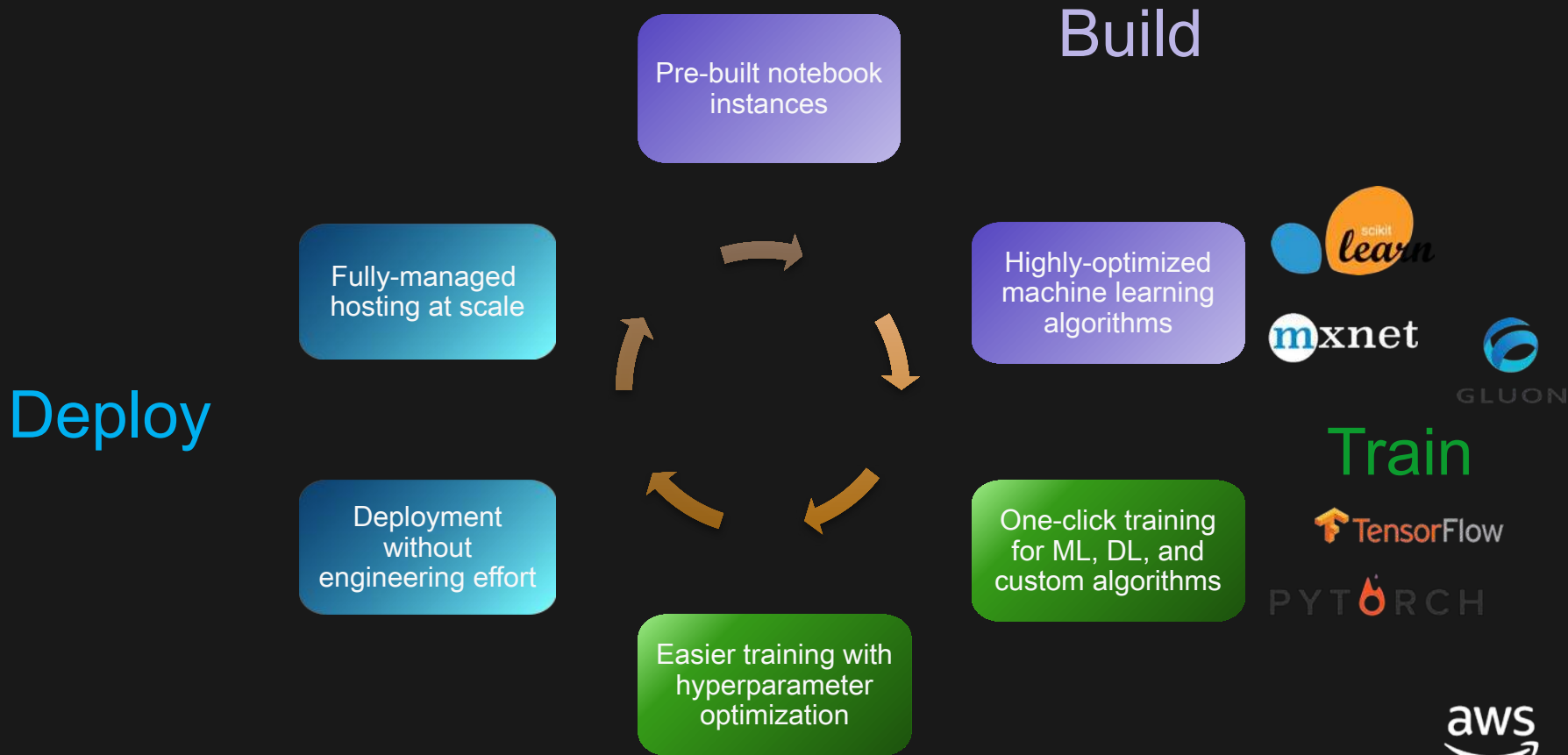




# Amazon SageMaker



# Amazon SageMaker



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# Amazon EC2 P3 Instances

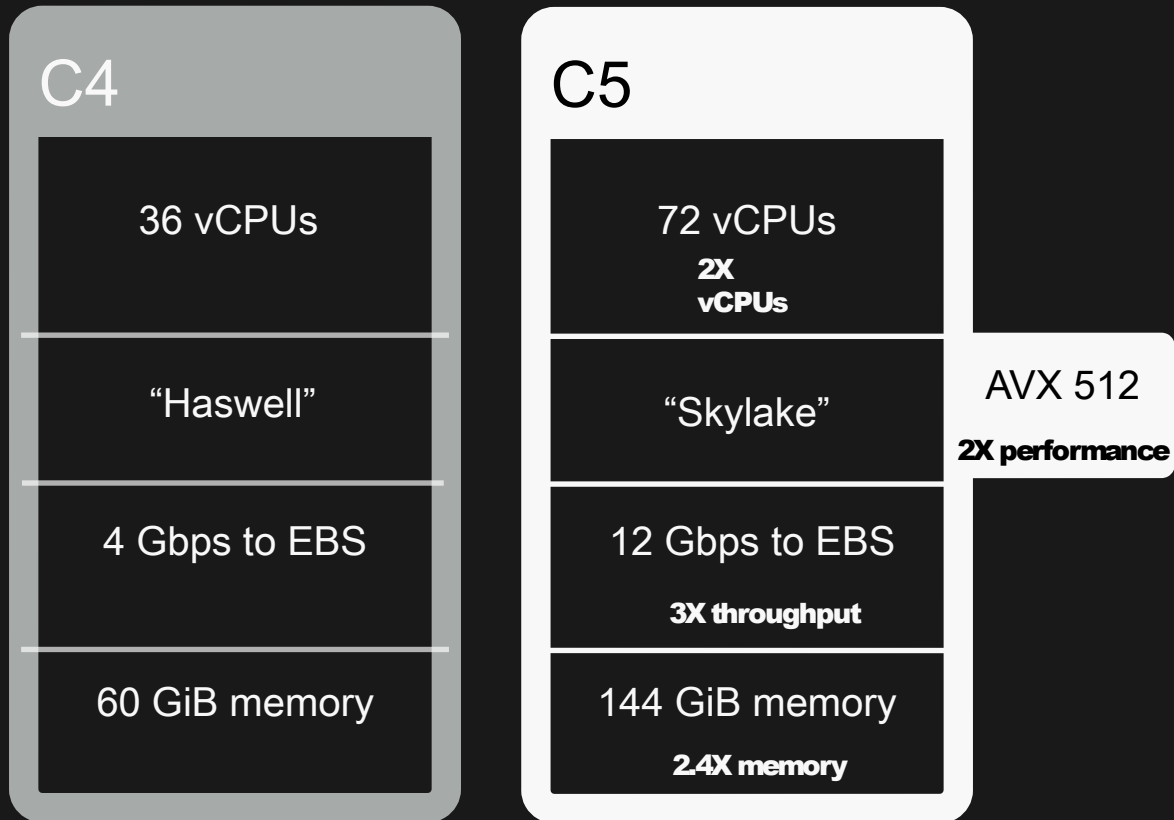
The fastest, most powerful GPU instances in the cloud

- Up to eight NVIDIA Tesla V100 GPUs
- 1 PetaFLOPs of computational performance
  - *14x better than P2*
- 300 GB/s GPU-to-GPU communication (NVLink)
  - *9X better than P2*
- 16GB GPU memory with 900 GB/sec peak GPU memory bandwidth

# Amazon EC2 C5 instances

C5: Next Generation  
Compute-Optimized  
Instances with  
Intel® Xeon® Scalable  
Processor

AWS Compute optimized  
instances support the new Intel®  
AVX-512 advanced instruction  
set, enabling you to more  
efficiently run vector processing  
workloads with single and  
double floating point precision,  
such as AI/machine learning or  
video processing.



# AWS Deep Learning AMI

- Easy-to-launch tutorials
- Hassle-free setup and configuration
- Pay only for what you use
- Accelerate your model training and deployment
- Support for popular deep learning frameworks



# AWS DeepLens

World's first deep learning enabled video camera for developers



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A new way to learn

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Custom built for deep learning

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Broad Framework Support

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Deploy models from Amazon SageMaker

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Integrated with AWS

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Full programmable with AWS Lambda

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**DEMO**

# Democratization of AI

## APPLICATION SERVICES



**Amazon  
Rekognition**



**Amazon  
Polly**



Amazon  
Lex

Amazon  
Comprehend



**Amazon  
Rekognition  
Video**

**Amazon  
Transcribe**

**Amazon  
Translate**

## PLATFORM SERVICES

Amazon SageMaker

**AWS DeepLens**

**Amazon EMR**

## FRAMEWORKS AND INTERFACES

**Deep  
Learning AMI**

Apache MXNet

Caffe2

CNTK

PyTorch

TensorFlow

Theano

Torch

Keras

Gluon

# Resources

<https://aws.amazon.com/machine-learning>

<https://aws.amazon.com/blogs/ai>

<https://aws.amazon.com/sagemaker>

An overview of Amazon SageMaker <https://www.youtube.com/watch?v=ym7NEYEx9x4>

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# Thank you!

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