Machine Learning on AWS

Bringing the power of ML to today's businesses

At Amazon, we've been investing deeply in AI for more than 20 years. Machine learning (ML) algorithms drive many of our internal systems, and have formed the core of our customers' experience—from the path optimization in our fulfillment centers, and Amazon.com's recommendations engine, to Echo powered by Alexa, and our new retail experience, Amazon Go.

Our mission is to share our learnings and ML capabilities as fully managed services, and put them into the hands of every executive, developer, and data scientist.

Within AWS, we're focused on bringing our capabilities and knowledge to your business through **Machine Learning Application Services** to quickly add intelligence to applications, **Deep Learning on AWS** with tools like Apache MXNet and TensorFlow, and **Machine Learning Platform Services** for data scientists.

MORE MACHINE LEARNING APPLICATIONS ARE BUILT ON AWS THAN ANYWHERE ELSE.

AWS AI Customers

Our breadth and depth of capabilities and experience have led to a wide range of businesses' using Amazon machine learning services, including:

NETFLIX   NASA   Expedia   (intel)   The Washington Post   Pinterest

Deep Learning on AWS

With the AWS Deep Learning Amazon Machine Images (AMIs), you can quickly get started with deep learning, and create managed, auto-scaling clusters of graphics processing units (GPUs) for training and inference at any scale. The AMIs are preinstalled with popular DL frameworks including MXNet, TensorFlow, The Microsoft Cognitive Toolkit (CNTK), Caffe, Caffe2, Theano, Torch, PyTorch, and Keras.
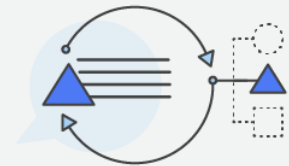
Machine Learning Application Services

AWS provides a range of pre-trained APIs that add greater intelligence to your applications and services—without the need to develop and train your own models.

CONVERSATIONAL CHATBOTS

Amazon Lex

Using the same DL and speech-recognition technologies that power Amazon Alexa, Amazon Lex can help you quickly and easily create (and offer your customers) a next-generation user experience that engages them in lifelike conversations.

> Amazon Lex integrates easily into our existing applications, as well as our new cloud-native serverless architectures, enabling us to rapidly take advantage of these powerful technologies to improve and extend the capabilities we can offer our employees and customers.
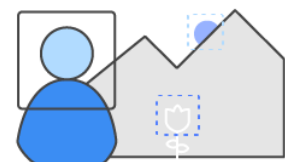
Gillian Armstrong,
Technologist, Liberty Mutual

VISION SERVICES

Amazon Rekognition

With its advanced APIs, Amazon Rekognition provides the capability to add sophisticated DL-based visual search and image classification to your applications, including video. By doing so, your solutions will be able to detect and analyze objects, scenes, activities, and faces—from celebrities to inappropriate content.

LANGUAGE SERVICES

Amazon Polly

Amazon Polly uses advanced DL text-to-speech and speech-to-text technologies to synthesize speech that sounds like a human voice. This provides users with innovative ways to use applications and access information. The technology also has the potential to improve the quality of life for people who are unable to read text on a screen.

Amazon Comprehend

Amazon Comprehend is a natural language processing (NLP) service that uses machine learning to find insights and relationships in text. You can use the Amazon Comprehend APIs in a wide range of applications including voice-of-customer analysis, intelligent document search, and content personalization for web applications.

Amazon Translate

Amazon Translate uses neural machine translation to deliver fast, affordable, high-quality language translation. Using machine le arning and deep learning models, Amazon Translate can deliver more accurate, natural-sounding translations than statistical and rule-based translation algorithms.

Amazon Transcribe

Amazon Transcribe is an automatic speech recognition (ASR) service that makes it easy for developers to add speech-to-text capability to their applications. Amazon Transcribe can be used for lots of common applications, including the transcription of customer service calls and generating subtitles on audio and video content.

We've long been interested in providing audio versions of our more-than-1,200 daily stories, but we found that previously existing text-to-speech solutions were not cost-effective for the speech quality they offered. With the arrival of Amazon Polly and its high-quality voices, we look forward to offering readers more rich and versatile ways to experience our content.

Joseph Price,
Senior Product Manager, The Washington Post

Machine Learning Platform Services

To help your developers and data scientists build machine learning models from scratch, AWS provides managed ML platforms that remove the overheads associated with deploying and managing infrastructure for training and hosting.

Amazon Machine Learning

Whether you're using ML technology for fraud detection, content personalization, document classification, or customer-churn predictions, Amazon Machine Learning can help you do it, without having to master complex ML algorithms and technology.

Amazon Machine Learning helps us reduce complexity and make sense of emerging fraud patterns. We can see correlations we wouldn't have been able to see otherwise, and answer questions it would have taken us way too long to solve ourselves.

Oliver Clark,
CTO, Fraud.net

Want to Learn More About Machine Learning?

Our machine learning website provides an overview of the current ML space and explains how and why you should use ML and DL in your organization.

You can also visit **aws.training** for free digital training to gain an overview of ML and explore example use cases.

Bring the power of ML to your organization.

Learn More »

Get started on AWS.

Contact Us »