



Amazon SageMaker

Machine Learning for every developer and data scientist

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What is Cloud?

What is Amazon Web Services (AWS)?



A broad and deep platform that helps customers build sophisticated, scalable, secure applications

What are the advantages of moving to the cloud?

Agility

Teams can experiment and innovate more quickly and frequently

Cost Savings

Only pay for what you use, lower upfront expenses

Elasticity

Easily Scale up or down with the needs of the business

Innovate Faster

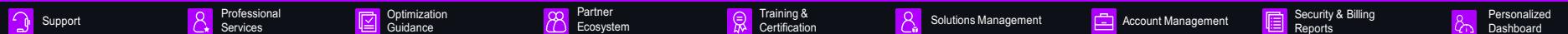
Ability to focus on business differentiators, not infrastructure

Go Global in Minutes

Most extensive, reliable, and secure global cloud infrastructure

Broad and Deep Functionality

TECHNICAL & BUSINESS SUPPORT



MARKETPLACE

Business Apps	Business Intelligence	DevOps Tools	Security	Networking	Databases	Storage									
ANALYTICS		DEV OPS		MOBILE SERVICES		IoT		MACHINE LEARNING		ENTERPRISE APPS		HYBRID ARCHITECTURE		MIGRATION	
Data Warehousing	Elasticsearch	One-click App Deployment	API Gateway	Rules Engine	Custom Model Training & Hosting	Virtual Desktops	Data Integration	Schema Conversion							
Business Intelligence	Data Pipelines	Resource Templates	Single Integrated Console	Device Shadows	Image & Scene Recognition	Sharing & Collaboration	Integrated Networking	Exabyte-Scale Data Migration							
Hadoop/Spark	Interactive SQL Queries	Build & Test	Identity	Device SDKs	Facial Recognition & Analysis	Corporate Email	Integrated Identity & Access	Application Migration							
Streaming Data Analysis	ETL	Application Lifecycle Management	Sync	Device Gateway	Facial Search	App Streaming	Integrated Resource & Deployment Management	Database Migration							
Streaming Data Collection		DevOps Resource Management	Mobile Analytics	Registry	Text to Speech	Communications	Integrated Devices & Edge Systems	Server Migration							
APP SERVICES			Triggers	Mobile App Testing	Local Compute	Conversational Chatbots	Contact Center								
Queuing & Notifications	Email	Containers	Targeted Push Notifications		Deep Learning (Apache MXNet, TensorFlow, & others)										
Workflow	Transcoding	Analyze & Debug													
Search		Patching													

INFRASTRUCTURE	CORE SERVICES	SECURITY & COMPLIANCE					MANAGEMENT TOOLS				
Regions	Compute VMs, Auto-scaling, Load Balancing, Containers, Virtual Private Servers, Batch Processing, Lambda Functions, Elastic GPUs, Edge Computing	Storage Object, Blocks, File, Archives, Import/Export, Exabyte-scale data transfer	Databases Relational, NoSQL, Caching, Migration, PostgreSQL compatible	Identity Management	Access Control	Monitoring & Logs	Assessment & Reporting	Web Application Firewall	Manage Resources	Service Catalogue	
Availability Zones	Networking VPC, DX, DNS	CDN	Configuration Compliance	Key Management	Storage & Storage	Account Grouping	Resource & Usage Auditing	DDOS Protection	Monitoring	Server Management	Resource Templates

The AWS ML stack

Broadest and most complete set of Machine Learning capabilities

AI SERVICES

VISION	SPEECH	TEXT	SEARCH	CHATBOTS	PERSONALIZATION	FORECASTING	FRAUD	DEVELOPMENT	CONTACT CENTERS			
 Amazon Rekognition	 Amazon Polly	 Amazon Transcribe +Medical	 Amazon Comprehend +Medical	 Amazon Translate	 Amazon Textract	 Amazon Kendra	 Amazon Lex	 Amazon Personalize	 Amazon Forecast	 Amazon Fraud Detector	 Amazon CodeGuru	 Contact Lens For Amazon Connect

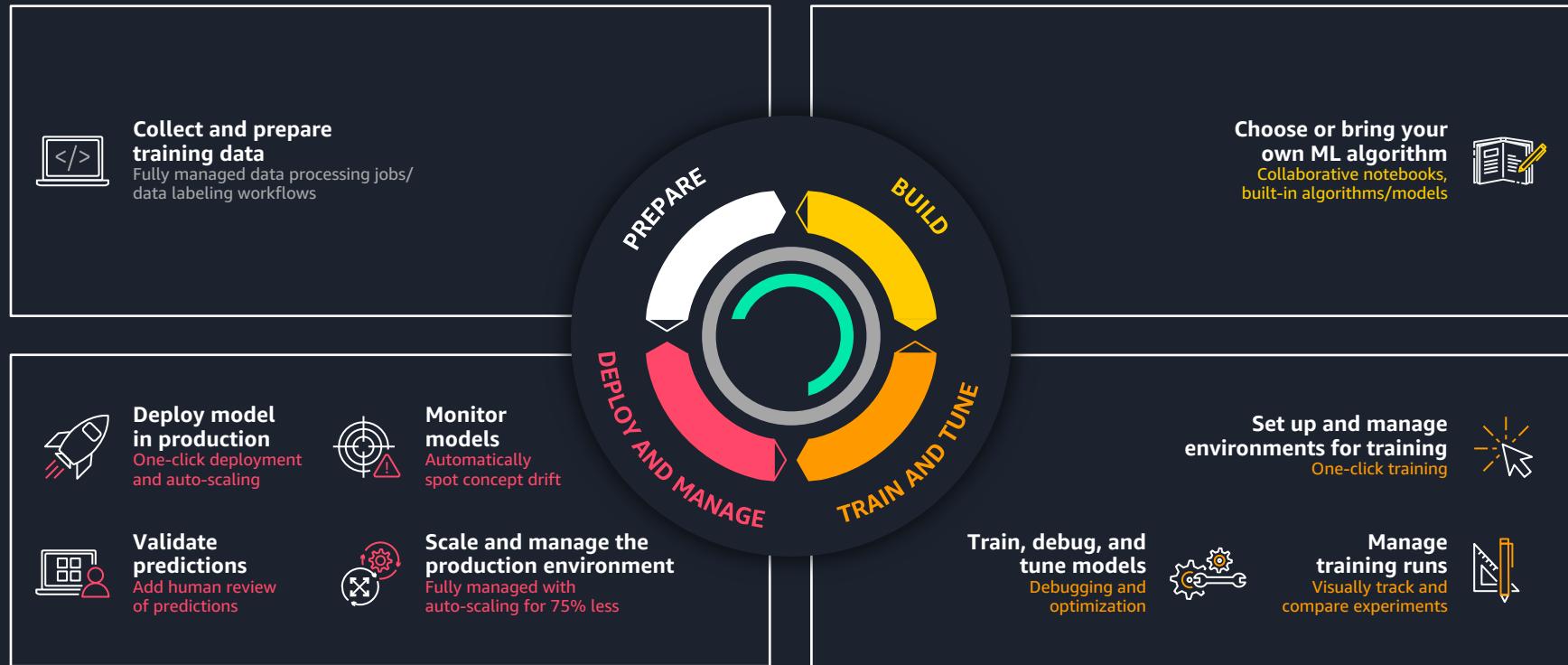
ML SERVICES

 Amazon SageMaker	Ground Truth	AWS Marketplace for ML	SageMaker Studio IDE								Neo	Augmented AI	
			Built-in algorithms	Notebooks	Experiments	Processing	Model training & tuning	Debugger	Autopilot	Model hosting	Model Monitor		

ML FRAMEWORKS & INFRASTRUCTURE

 TensorFlow	 PyTorch	 mxnet	 GLUON	 Keras	 DeepGraphLibrary	 Deep Java Library	Deep Learning AMIs & Containers	GPUs & CPUs	Elastic Inference	Inferentia	FPGA
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Amazon SageMaker helps you build, train, and deploy models

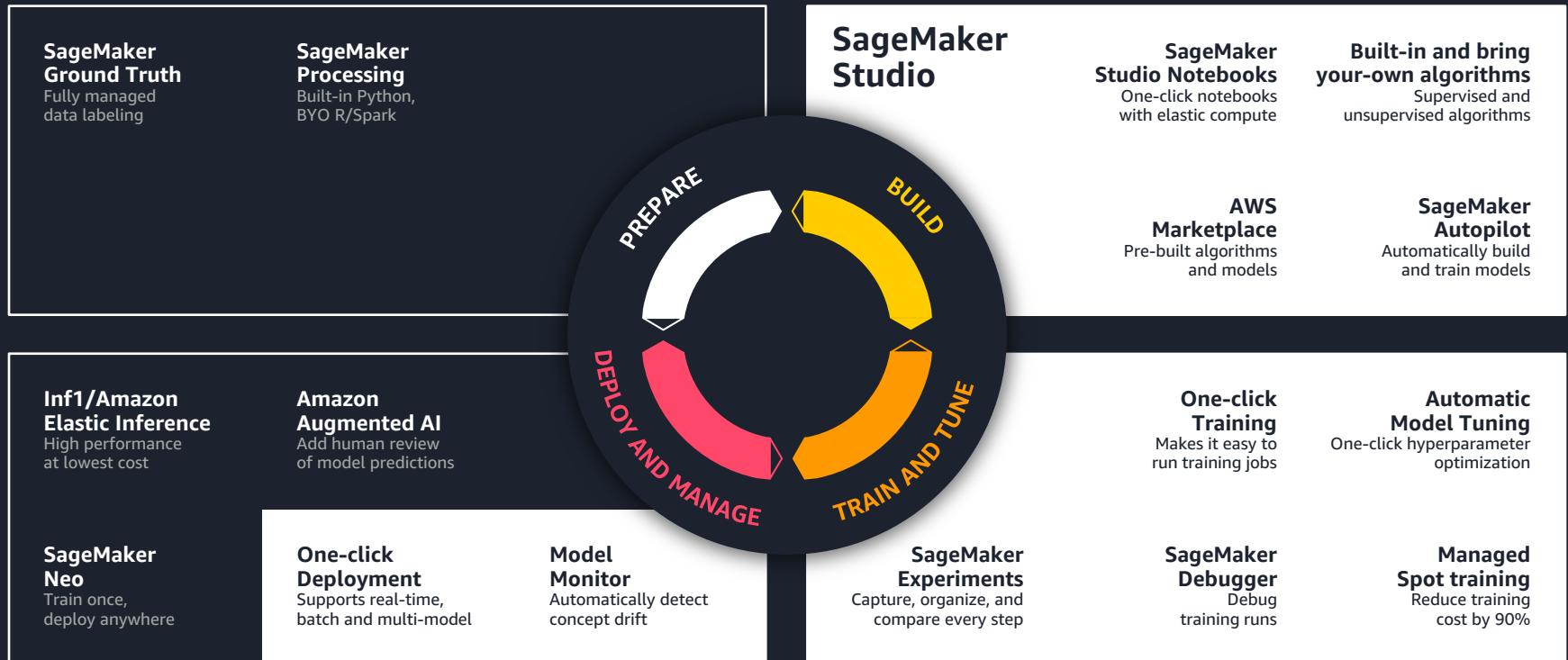


WEB-BASED IDE FOR ML

AUTOMATICALLY BUILD AND TRAIN MODELS

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Amazon SageMaker features overview



Components outside of SageMaker Studio

Components included in SageMaker Studio

Amazon SageMaker Ground Truth

Build highly accurate
training datasets using
Machine Learning



Reduce data labeling costs

by up to 70%



Access labelers

through Amazon Mechanical Turk, Amazon approved vendors, or use private human labelers



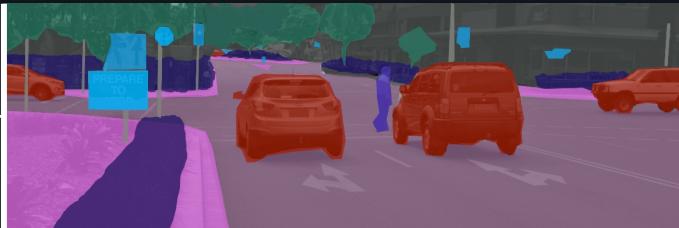
Achieve accurate results quickly



Built-in data labeling workflows

support 3D point clouds, videos, images, and text

Successful models require high-quality data



TOP SageMaker use cases

[http://bit.ly/
sagemaker-use-cases](http://bit.ly/sagemaker-use-cases)



Predictive Maintenance

Manufacturing,
Automotive, IoT



Demand Forecasting

Retail, Consumer
Goods, Manufacturing



Fraud Detection

Financial Services,
Online Retail



Credit Risk Prediction

Financial Services,
Retail



Extract and Analyze Data from Documents

Healthcare, Legal,
Media/Ent, Education



Computer Vision

Healthcare, Pharma,
Manufacturing



Autonomous Driving

Automotive,
Transportation



Personalized Recommendations

Media & Entertainment,
Retail, Education



Churn Prediction

Retail, Education,
Software & Internet

Why customers choose **Amazon SageMaker**

EASE-OF-USE

SINGLE IDE

Perform all ML steps in a web-based interface

ONE-CLICK

model training and deployment

TRAIN ONCE

run anywhere

RUN ON KUBERNETES

with SageMaker components for Kubeflow pipelines and Kubernetes operators

SCALE AND PERFORMANCE

Scale to of GPUs efficiently

100's

Up to **2X** performance increases from model optimization with Neo

SECURITY AND COMPLIANCE

SOC, PCI/DSS, ISO, HIPAA, C5, OSPAR, HITRUST CSF, GDPR, FIPS

REDUCE COSTS

At least lower TCO **54%**

Up to cost reduction for data labeling using Ground Truth **70%**

Up to cost reduction for inference with Elastic Inference and Inf1 **75%**

Up to cost reduction with managed spot training **90%**

Thank You

[SageMaker Webpage](#)

[SageMaker Getting Started Videos](#)

[SageMaker Console](#)

[SageMaker Blogs](#)

Thank You

<https://github.com/glendont/aws-sagemaker-workshop>