

Simplifying Data Processing with Amazon SageMaker

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The machine learning workflow is iterative and complex

Prepare

Build

Train & Tune

Deploy & Manage

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Collect and
prepare
training data

Choose or build an
ML algorithm



Set up and manage
environments
for training



Train, debug, and
tune models



Manage training runs



Deploy
model in
production



Monitor
models



Validate
predictions



Scale and manage
the production
environment

Amazon SageMaker helps you build, train, and deploy models

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Train & Tune

Deploy & Manage

Web-based IDE for machine learning

Automatically build and train models

Fully managed data processing jobs and data labeling workflows

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One-click collaborative notebooks and built-in, high performance algorithms and models



Choose or build an ML algorithm

Collect and prepare training data

One-click training



Set up and manage environments for training

Debugging and optimization



Train, debug, and tune models

Visually track and compare experiments



Manage training runs

One-click deployment and autoscaling



Deploy model in production

Automatically spot data drift



Monitor models

Add human review of predictions



Validate predictions

Fully managed with auto-scaling for 75% less



Scale and manage the production environment

Same service and APIs, from experimentation to production

Amazon SageMaker helps you build, train, and deploy models

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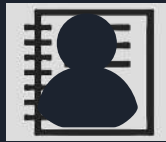


Scale and manage the production environment

Same service and APIs, from experimentation to production

Amazon SageMaker Processing

Analytics jobs for data processing and model evaluation



Fully managed

Achieve distributed processing for clusters



Custom processing

Bring your own script for feature engineering



Container support

Use SageMaker's built-in containers or bring your own



Security and compliance

Leverage SageMaker's security & compliance features



Automatic creation & termination

Your resources are created, configured, & terminated automatically

Demos

https://github.com/aws/amazon-sagemaker-examples/blob/master/sagemaker_processing/spark_distributed_data_processing/sagemaker-spark-processing.ipynb

<https://github.com/PacktPublishing/Learn-Amazon-SageMaker/blob/master/sdkv2/ch2/smprocessing/DM%20processing.ipynb>


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 <i>+Medical</i>	 Amazon Comprehend <i>+Medical</i>	 Amazon Translate	 Amazon Textract	 Amazon Kendra	 Amazon Lex	 Amazon Personalize	 Amazon Forecast	 Amazon Fraud Detector	 Amazon CodeGuru	 Contact Lens <i>For Amazon Connect</i>

ML SERVICES

 Amazon SageMaker	Ground Truth	ML Marketplace	SageMaker Studio IDE									Neo	A2I
			Built-in algorithms	Notebooks	Experiments	Processing & Model Evaluation	Model training & tuning	Debugger	Autopilot	Model hosting	Model Monitor		

ML FRAMEWORKS & INFRASTRUCTURE

 TensorFlow  mxnet  PYTORCH	 GLUON  Keras  fast.ai  DeepGraphLibrary	Deep Learning AMLs & Containers	GPUs & CPUs	ElasticInference	Inferentia	FPGA
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<https://ml.aws>

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

<https://aws.amazon.com/blogs/aws/category/artificial-intelligence/sagemaker/>

<https://github.com/aws/sagemaker-python-sdk>

<https://github.com/aws-labs/amazon-sagemaker-examples>

<https://youtube.com/juliensimonfr>

<https://medium.com/@julsimon>

<https://amazonsagemakerfridays.splashthat.com/>

<https://reinvent.aws/events.com/>

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