SageMaker JumpStart

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SageMaker JumpStart

Easily and quickly bring machine learning applications to market



Accelerate time to deploy over 300 open source models

Use one-click deployable ML models and algorithms from popular model zoos



18 pre-built solutions for common ML use cases

Leverage solutions out-of-the-box or customize for a specific business problem



Get started with just a few clicks

Easily bring ML applications to market using pre-built solutions, ML models and algorithms from popular model zoos, and getting started content



SageMaker JumpStart open source models

300+ pre-trained, state-of-the-art, open source models from PyTorch Hub, TensorFlow Hub, Hugging Face ...

	TASKS	MODELS
VISION	Image Classification Image Embedding Object Detection Semantic Segmentation	ResNet, Inception, MobileNet, SSD, Faster RCNN, YOLO, & More
TEXT	Sentence Classification Text Classification Question Answering Summarization Text Generation, Translation, Named Entity Recognition	BERT, RoBERTa, DistilBERT, Distillbart xsum, GPT2, ELECTRA, & More
TABULAR	Classification, Regression	LightGBM, CatBoost, XGBoost, AutoGluon TabTransformer



SageMaker JumpStart Solutions

Predictive Maintenance

Detecting potential equipment failure for manufacturing

Predictive maintenance for vehicle fleets

Demand Forecasting

Deep Demand Forecasting

Fraud Detection

Detect Malicious Users and Transactions

Fraud Detection in Financial Transactions

Credit Risk Prediction

Corporate Credit Rating Prediction

Explain Credit Decisions

Extract & Analyze Data from Documents

Document Understanding

Handwriting Recognition

Intelligently fill in missing form data

Privacy-based NLP

Computer Vision

Product Defect Detection

Autonomous Driving

Visual Perception with Active Learning

> Reinforcement Learning for Battlesnake AI

Personalized Recommendations

Entity resolution for smart advertising

Purchase Modeling

Churn Prediction

Churn Prediction

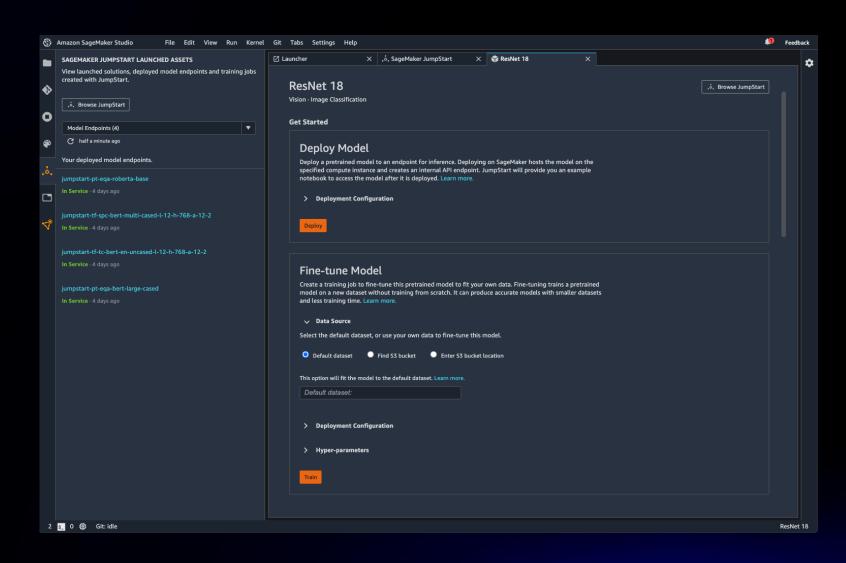


Easily deploy or fine-tune models

Deploy or fine-tune pretrained models with a single click

Easily manage assets from Amazon SageMaker JumpStart

Open pre-populated notebooks to perform inference on deployed models



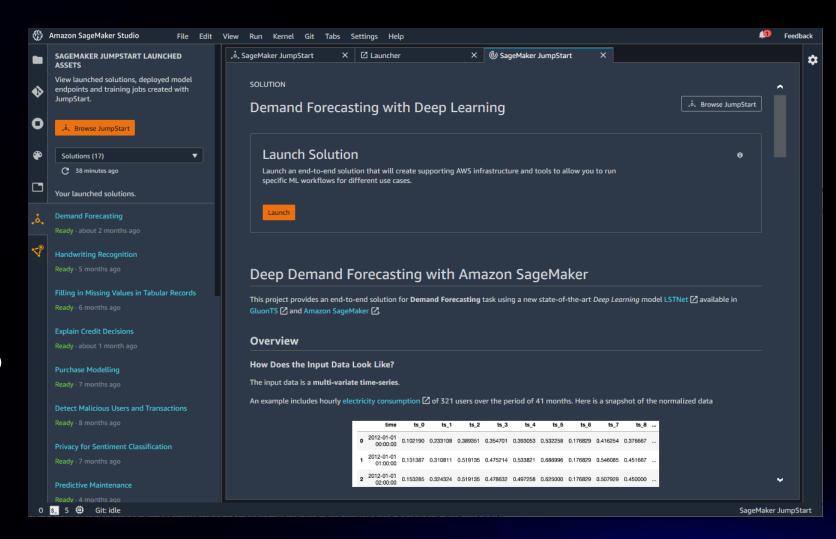


Easily launch pre-built solutions

Launch solutions through cloud formation with a single click

Easily manage assets from Amazon SageMaker JumpStart

Open pre-populated notebooks for solutions to solve the business problems end to end





Use JumpStart models through public APIs

Value to customers

- Use all 300+ models for 15 ML tasks in SageMaker notebooks through SageMaker Python SDK
- Automate training and inference in production pipelines

SDK documentation:

https://sagemaker.readthedocs.io/en/stable/ove rview.html#use-prebuilt-models-withsagemaker-jumpstart

Launch blog:

https://aws.amazon.com/blogs/machinelearning/amazon-sagemaker-jumpstart-modelsand-algorithms-now-available-via-api/

Example code:

```
# Create SageMaker Python SDK Estimator instance
od estimator = Estimator(
  role = aws role,
  image_uri = train_image_uri,
  source dir = train source uri,
  model uri = train model uri,
  entry_point = "transfer_learning.py",
  instance count = 1,
  instance_type = training_instance_type,
  max run = 360000,
  hyperparameters = hyperparameters,
  output_path = s3_output_location,
od_estimator.fit( {"training": training_dataset_s3_path} )
finetuned_predictor = od_estimator.deploy(
  initial instance count=1,
  instance_type=inference_instance_type,
  predictor cls=Predictor, endpoint name=endpoint name
```

Problem types available in JumpStart

Task	Inference with pre- trained models	Training on custom dataset	Frameworks supported	Example Notebooks
Image Classification	yes	yes	PyTorch, TensorFlow	Image Classification
Object Detection	yes	yes	PyTorch, TensorFlow, MXNet	Object Detection
Semantic Segmentation	yes	yes	MXNet	Semantic Segmentation
Instance Segmentation	yes	no	MXNet	<u>Instance Segmentation</u>
Image Embedding	yes	no	TensorFlow, MXNet	Image Embedding
Text Classification	yes	yes	TensorFlow	Text Classification
Sentence Pair Classification	yes	yes	TensorFlow, Hugging Face	Sentence Pair Classification
Question Answering	yes	yes	PyTorch	Question Answering
Named Entity Recognition	yes	no	Hugging Face	Named Entity Recognition
Text Summarization	yes	no	Hugging Face	<u>Text Summarization</u>
Text Generation	yes	no	Hugging Face	Text Generation
Machine Translation	yes	no	Hugging Face	Machine Translation
Text Embedding	yes	no	TensorFlow, MXNet	Text Embedding
Tabular Classification	yes	yes	LightGBM, CatBoost, XGBoost, Linea Learner,AutoGluon, TabTransformer	r Tabular Classification – <u>LightGBM, CatBoost, XGBoost, Linear Learner, AutoGluon,</u> <u>TabTransformer</u>
Tabular Regression	yes	yes	LightGBM, CatBoost, XGBoost, Linea Learner,AutoGluon, TabTransformer	Tabular Regression – <u>LightGBM, CatBoost, XGBoost, Linear Learner</u> , <u>AutoGluon,</u> TabTransformer



Thank you!

