
AWS
re:Invent
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AIM329-R

Get started with ML faster using Amazon SageMaker JumpStart

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Agenda

- Overview of SageMaker JumpStart
- What’s new? Foundation Model and Content Sharing capability!
- Demo & questions

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Customer challenges we focus on

Getting started with ML takes too long:

- Importing publicly available algorithms and models into SageMaker
- Maintaining and updating SageMaker-compatible scripts
- Setting up infrastructure
- Building NLP and vision models from scratch
- Model sharing and collaboration is done manually

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SageMaker JumpStart

Easily access ML assets and quickly bring ML applications to market



Machine Learning Hub for SageMaker

Browse through ~400 contents including, built-in algorithms with pre-trained models, (New) Foundation Models, solution templets, and example notebooks



UI-based training and deployment

No code required for training and deployment



API for Python and notebook with examples

JumpStart lets you jump into notebook to use selected model with examples



(New) Share and collaborate within an organization

Share models and notebooks with others within your organization, and allow them to train with their own data or deploy as-is for inferencing

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Built-in algorithms and pre-trained models

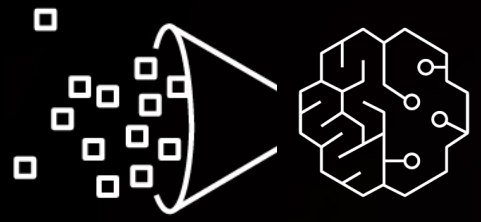
350+ algorithms and pre-trained, state-of-the-art, publicly available models from PyTorch Hub, TensorFlow Hub, and Hugging Face Hub that are securely stored in an AWS-owned environment

	Tasks	Algorithms/models
 Tabular	Classification, regression, time-series	LightGBM, CatBoost, AutoGluon, TabTransformer, XGBoost, DeepAR
 Vision	Image classification Image embedding Object detection Semantic segmentation	ResNet, Inception, MobileNet, SSD, Faster RCNN, YOLO, and more
 Text	Sentence classification Text classification Question answering Summarization Text generation, translation, Named-entity recognition	New New New AlexaTM, Bloom, Stable Diffusion 2.0, BERT, RoBERTa, DistilBERT, Distillbart xsum, GPT2, ELECTRA, & More
 Audio	Audio embedding	TRILL, TRILLsson, TRILL-Distilled, FRILL

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Foundation Models



Pre-trained on large sets of data with billions of parameters



Applicable to many use cases like text summarization, question answering, digital art creation, etc.



Expensive to train from scratch

stability.ai

alexa

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SageMaker solutions

Predictive maintenance

Detecting potential equipment failure for manufacturing

Predictive maintenance for vehicle fleets

Forecasting & optimization

Deep demand forecasting

Price optimization

Purchase modelling

Filling missing value

Lung cancer survival prediction

Classification

Detect malicious users and transactions

Fraud detection in financial transactions

Financial payment classification

Privacy sentiment classification

Credit risk prediction

Corporate credit rating prediction

Graph-based credit scoring

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

Bird species object detection

Autonomous driving

Visual perception with active learning

Reinforcement learning for battlesnake AI

Personalized recommendations

Entity resolution for smart advertising

Purchase modeling

Churn prediction

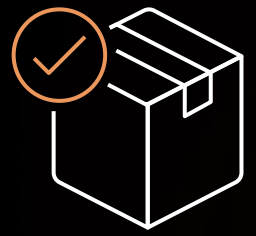
Churn prediction

Churn prediction for mobile phone customers

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Amazon SageMaker JumpStart pricing and availability



Generally available



Available to all SageMaker Studio customers free of additional charge; pay only for resources used



Available in all Regions where SageMaker Studio is available

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What’s new at re:Invent – Foundation Models and content sharing

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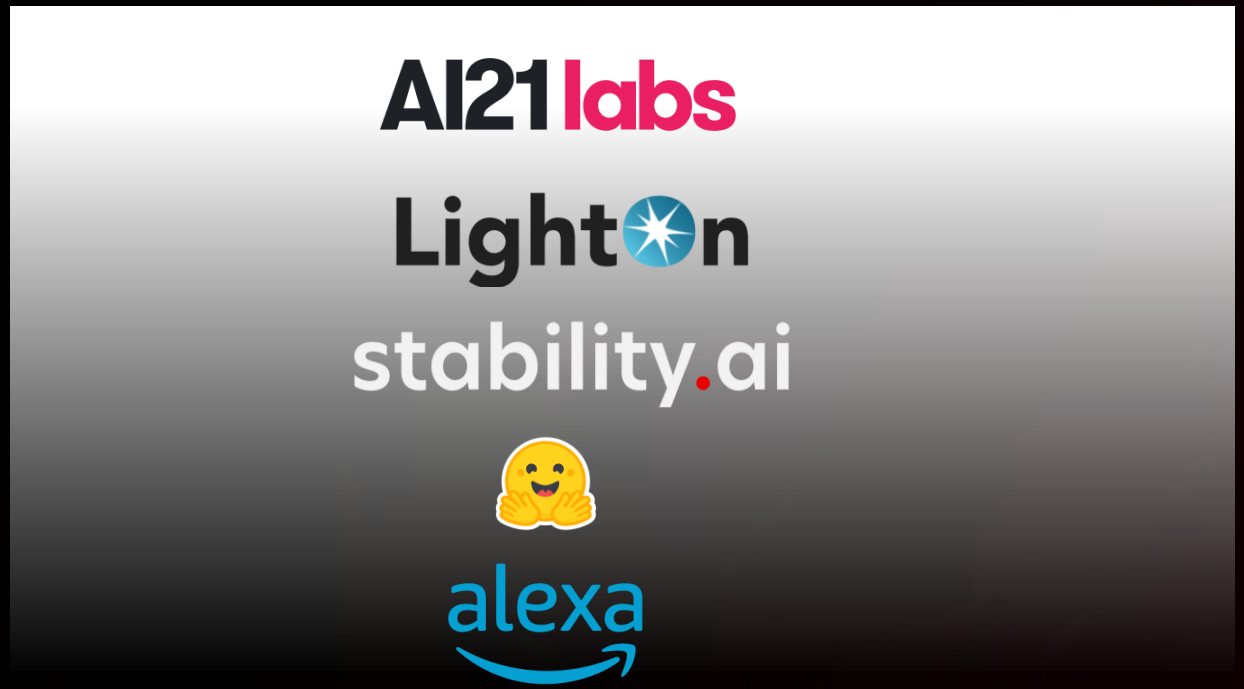
Foundation Models

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Use Foundation Models in SageMaker

Two quick and easy steps to get started

1. Choose Foundation Models from model providers listed in AWS Management Console for SageMaker JumpStart



2. Test and deploy any model



Try out models before deploying



Deploy to ML instances on SageMaker

- ✓ Data stays in your account – model inputs, model outputs
- ✓ Fully integrated with the suite of SageMaker features

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Foundation Model availability

Preview starts today

Sign-up available through SageMaker Console

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Content sharing in JumpStart

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What is the next business problem?

Enterprises love the JumpStart user experience with public models

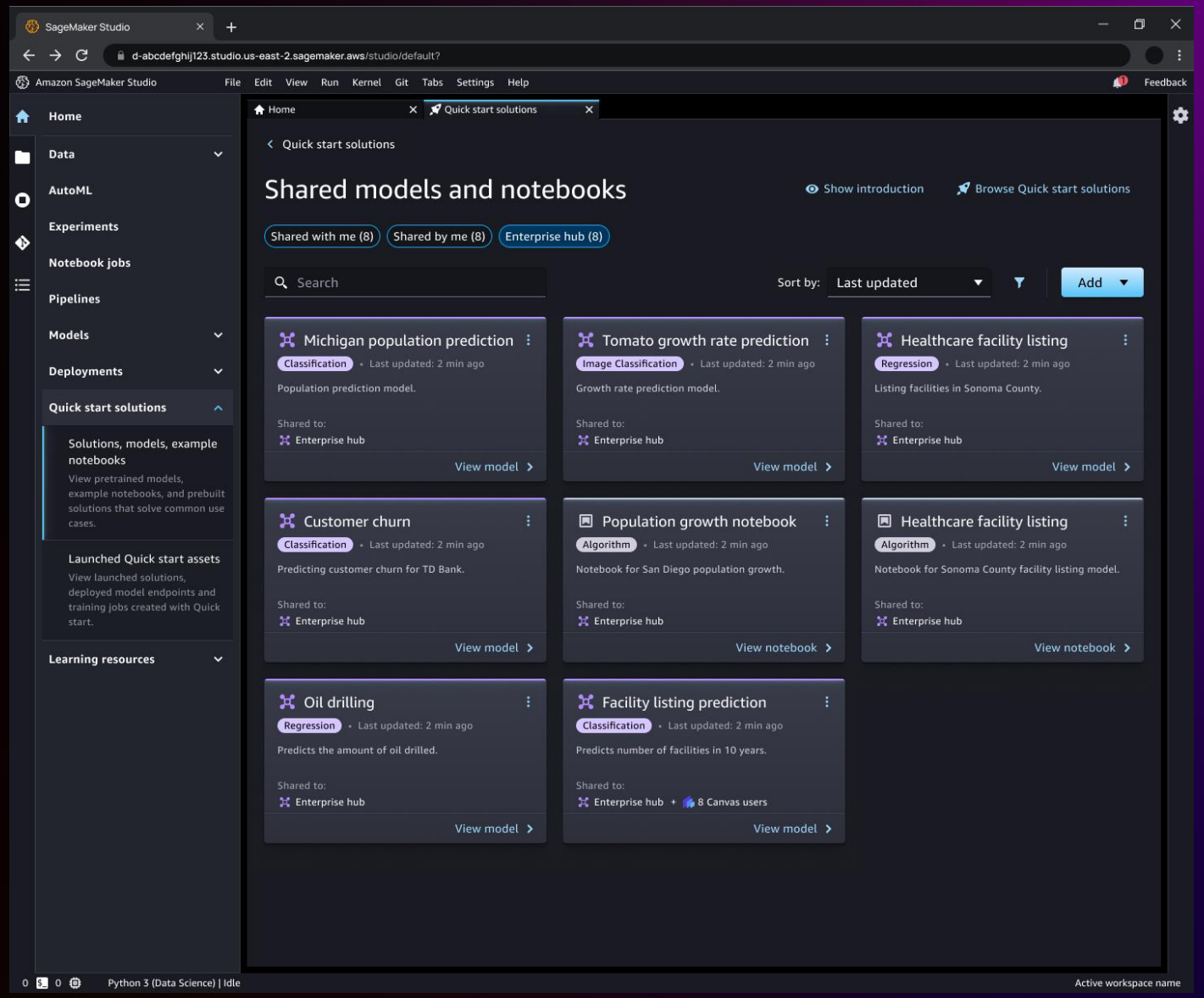
Now our customers want to easily share their **private** ML models through the same experience with other users in their organization

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Introducing Sharing Capability in JumpStart

Enables data scientists to share ML artifacts securely within the enterprise and reuse alongside Sagemaker's built-in content

- Share with other users in your organization
- Discover shared contents easily and start fine-tuning with your own data
- Monitor and control what contents are shared to the hub



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“At Tyson Foods, we continue to look for new ways to use machine learning (ML) in our production process to improve productivity. We use image classification models to identify products from the production line that require package labels. However, the image classification models need to be retrained with new images from the field on a recurring basis.

Amazon SageMaker JumpStart enables our data scientists to share ML models with support engineers so they can train ML models with new data without writing any code. This accelerates the time-to-market of ML solutions, promotes continuous improvements, and increases productivity.”

Rahul Damineni, Specialist Data Scientist, Tyson Foods

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Thank you!

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JumpStart Product Detail Page
https://aws.amazon.com/sagemaker/jumpstart/



Please complete the session survey in the **mobile app**

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