



# AWS Machine Learning

# The reach of ML is growing

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## INCREASED SPENDING

By 2021, global spending on AI and cognitive technologies will exceed \$50 billion

—IDC



## FROM PILOTING TO OPERATIONALIZING

By the end of 2024, 75% of enterprises will shift from piloting to operationalizing AI

—Gartner



## AI TRANSFORMATION

57% said that AI would transform their organization in the next three years

—Deloitte



Transform customer  
experience

Improve business  
operations

Better and faster  
decision-making

Innovation



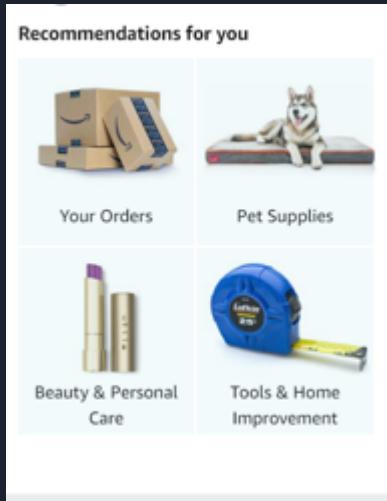
intuit

CONVOY

Cerner



# Amazon's machine learning innovation at scale



**4,000 products per minute** sold on Amazon.com

**1.6M packages** every day

**Billions** of Alexa interactions each week

First Prime Air Delivery on **Dec. 7, 2016**

# Common challenges



## DATA

Getting a data strategy in place



## SKILLS GAP

Not enough people can build ML models



## BUSINESS USE CASES

Finding the right business use cases that could benefit from ML



## ML MODEL BUILDING

Is a time-consuming and complex process

# Why AWS for ML?

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## BROADEST AND DEEPEST SET OF AI AND ML SERVICES

200+ new features and services launched this last year for everyone from ML scientists to application developers

Support all three of the major frameworks



## ACCELERATE YOUR ADOPTION OF ML

Amazon SageMaker creates efficiencies and lowers costs  
Acceleration programs and trainings



## BUILT ON THE MOST COMPREHENSIVE CLOUD PLATFORM

The strongest set of compute, storage, security, database, and analytics capabilities to build upon

Gartner Vendor Rating (TBD)

85% TensorFlow in the cloud runs on AWS

# Machine learning on AWS is happening in companies of every size and industry

Over one hundred thousand customers have chosen AWS for their ML workloads



# Technology

Bringing ML into your digital transformation requires a new “stack” that makes it easier to put ML to work

# The AWS ML Stack

Broadest and most complete set of machine learning capabilities

## AI SERVICES



## VISION



Amazon Rekognition

## SPEECH



Amazon Polly



+Medical

## TEXT



Amazon Comprehend  
+Medical



Amazon Translate



Amazon Textract

## SEARCH



Amazon Kendra

## CHATBOTS



Amazon Lex

## PERSONALIZATION



Amazon Personalize



## FORECASTING



Amazon Forecast

## FRAUD



Amazon Fraud Detector

## CONTACT CENTERS



Contact Lens

Voice ID

For Amazon Connect

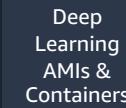
## ML SERVICES



Amazon SageMaker



## FRAMEWORKS & INFRASTRUCTURE



GPUs & CPUs

Elastic Inference

Trainium

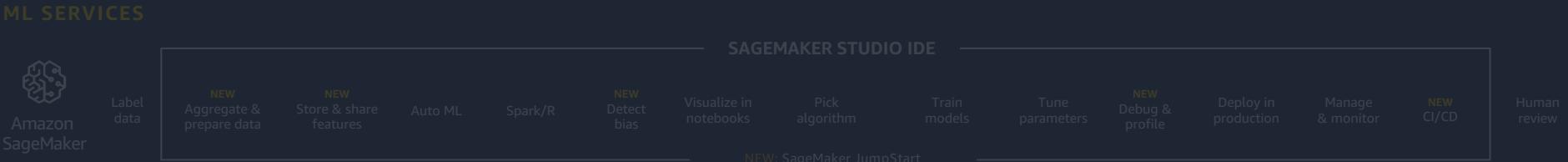
Inferentia

FPGA

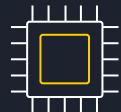
# The AWS ML Stack

Broadest and most complete set of machine learning capabilities

AI SERVICES		HEALTH AI		INDUSTRIAL AI		ANOMALY DETECTION		CODE AND DEVOPS	
									
NEW Amazon HealthLake	Amazon Transcribe Medical	Amazon Comprehend Medical	NEW AWS Panorama + Appliance	NEW Amazon Monitron	NEW Amazon Lookout for Equipment	NEW Amazon Lookout for Vision	NEW Amazon Lookout for Metrics	NEW Amazon DevOps Guru	Amazon CodeGuru
VISION	SPEECH	TEXT	SEARCH	CHATBOTS	PERSONALIZATION	FORECASTING	FRAUD	CONTACT CENTERS	
									
Amazon Rekognition	Amazon Polly	Amazon Transcribe +Medical	Amazon Comprehend	Amazon Translate +Medical	Amazon Textract	Amazon Kendra	Amazon Lex	Amazon Personalize	Amazon Forecast
									Amazon Fraud Detector
								Contact Lens	Voice ID For Amazon Connect



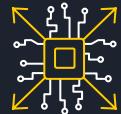
CUSTOM BUILT FOR  
ML INFERENCE



AWS Nitro



AWS Inferentia



AWS Custom 2nd Gen Intel  
Xeon Scalable Processors



100Gbps  
Networking



Inf1 instances are built from  
the ground up by AWS to  
provide high performance,  
cost-effective inference

<https://aws.amazon.com/ec2/instance-types/inf1>

# The AWS ML Stack

Broadest and most complete set of machine learning capabilities

## AI SERVICES

HEALTHCARE AI		INDUSTRIAL AI			ANOMALY DETECTION		CODE AND DEVOPS	
								
NEW Amazon HealthLake	Amazon Transcribe for Medical	Amazon Comprehend for Medical	NEW AWS Panorama + Appliance	NEW Amazon Monitron	NEW Amazon Lookout for Equipment	NEW Amazon Lookout for Vision	NEW Amazon Lookout for Metrics	NEW Amazon DevOps Guru
VISION	SPEECH	TEXT	SEARCH	CHATBOTS	PERSONALIZATION	FORECASTING	FRAUD	CONTACT CENTERS
								
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Amazon Personalize	Amazon Forecast	Amazon Fraud Detector	Voice ID	For Amazon Connect				

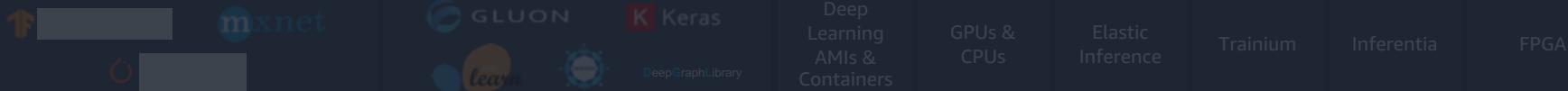
## ML SERVICES

SAGEMAKER STUDIO IDE														
Label data	Aggregate & prepare data	Store & share features	Auto ML	Spark/R	Detect bias	Visualize in notebooks	Pick algorithm	Train models	Tune parameters	Debug & profile	Deploy in production	Manage & monitor	CI/CD	Human review
Ground Truth	NEW Data Wrangler	NEW Feature store	Autopilot	Processing	NEW Clarify	Studio Notebooks	Built-in or Bring-your-own	NEW Experiments Spot Training Distributed Training	Automatic Model Tuning	Debugger	NEW Model Hosting Multi-model Endpoints	Model Monitor	NEW Pipelines	Augmented AI

NEW: AMAZON SAGEMAKER EDGE MANAGER

AMAZON SAGEMAKER JUMPSTART

## FRAMEWORKS & INFRASTRUCTURE



# Amazon SageMaker: Built to make ML **more accessible**



## SageMaker Studio IDE

## Integrated Workbench

IDE designed specifically for ML, data preparation, experiment management, and pipelines

## Managed Infrastructure

Designed for ultra low latency and high throughput; automatic scaling, and distributed training

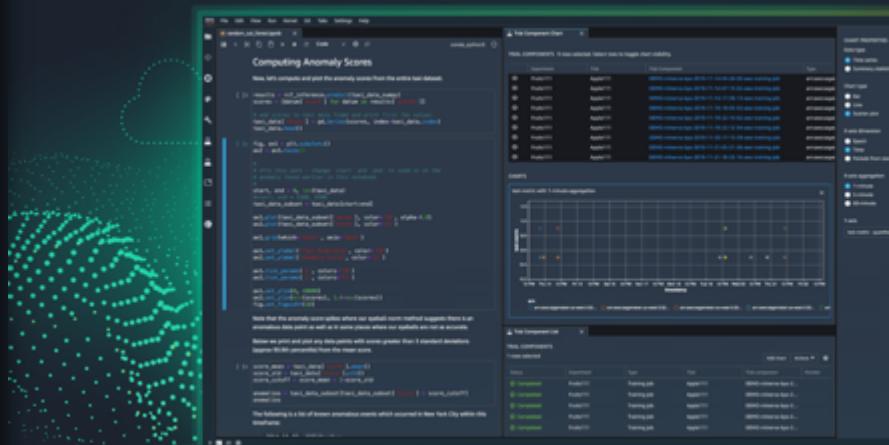
## Managed Tooling

Purpose-built from the ground up to work together incl. Autopilot, collaboration, notebooks, experiments, debugger, and model monitor

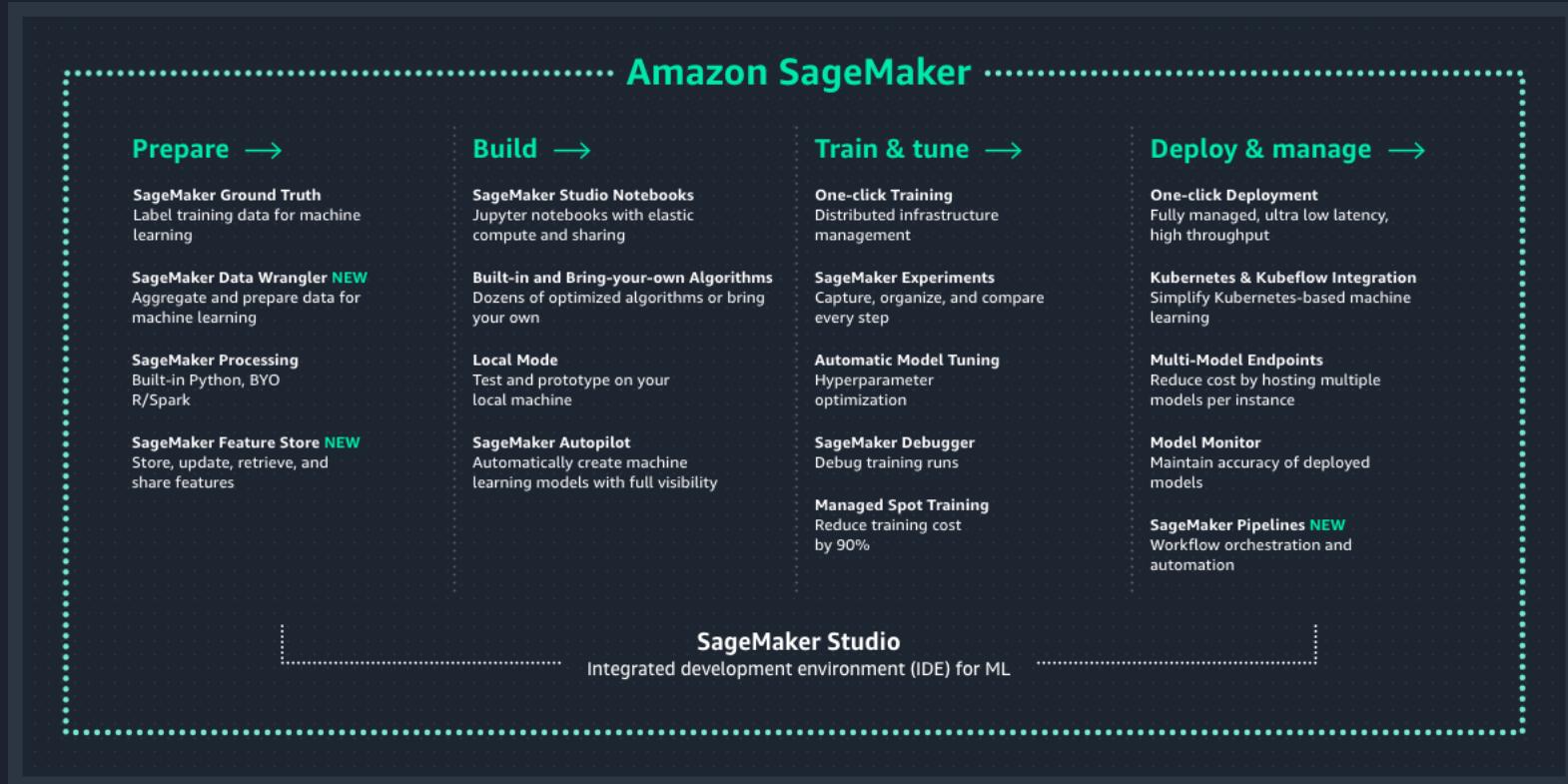
<https://aws.amazon.com/sagemaker>

# Amazon SageMaker

Most complete, end-to-end ML service



# Amazon SageMaker overview



# Amazon SageMaker key benefits

The most complete,  
end-to-end ML service



## Accelerate ML development

20+ tools covering the entire ML development lifecycle

## Boost data scientist productivity

The world's first integrated development environment (IDE)

## Reduce cost

Eliminate costs of writing custom integration code with integrated functionality optimized for ML

# Balancing ML agility with IT governance

## ML Builders



Focus on unique business value  
Self-service access  
Experiment fast  
Respond quickly to change

## Cloud IT and DevOps



Security  
Compliance  
Operations  
Spend management

# Amazon SageMaker

is devops ready



## Security

Security features to help you meet strict security requirements of ML workloads



## Compliance

PCI, HIPAA, SOC 1/2/3, FedRAMP, and ISO 9001/27001/27017/27018



## ML workflows

Create automated workflows in minutes to support thousands of models



## Scalability

Train complex models with massive datasets



## Orchestration

Automatic scheduling and execution of jobs with managed infrastructure



## PROBLEM

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3+ terabytes data, 1,500+ hours play time per week

Needed a solution for real-time stats

Lean team, no data science expertise

## SOLUTION: NEXT GEN STATS

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Engaged with ML Solutions Lab

Live data streamed to AWS from RFID tags on players and in game ball

Data processed in 100+ steps in under 1 second

ML models built on Amazon SageMaker make predictions in real time

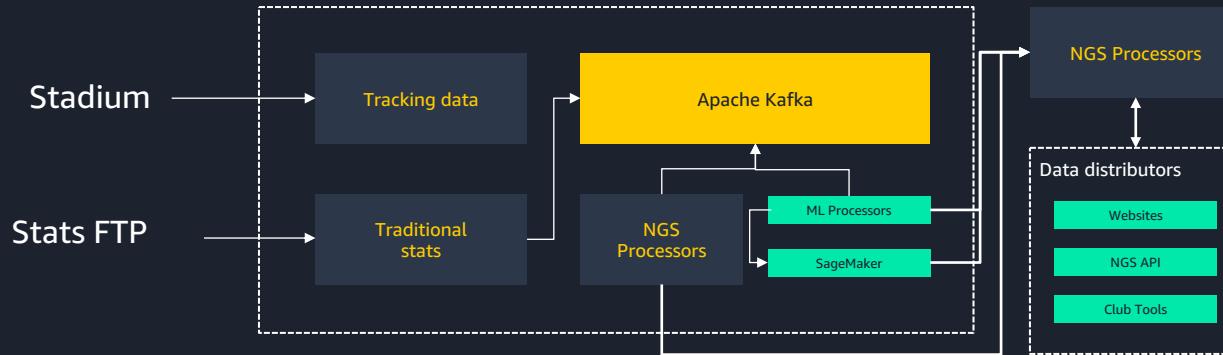
## IMPACT

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Launched 20+ stats quickly with limited data science team

Sports announcers get interesting data points to engage fans

# Next Gen Stats solution architecture



Entire solution runs on AWS

Amazon SageMaker lets ML models deployed into existing analytics pipelines

Streaming data architecture with Apache Kafka



## PROBLEM

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Thomson Reuters wanted to enable ML at scale

Data scientists needed secure access to data, while ensuring compliance with Thomson Reuters enterprise security policies

## SOLUTION: SECURE CONTENT WORKSPACES

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SCW provides access to data in compliance with internal security standards

Amazon SageMaker, enabled through SCW, provides a fully managed machine learning environment

## IMPACT

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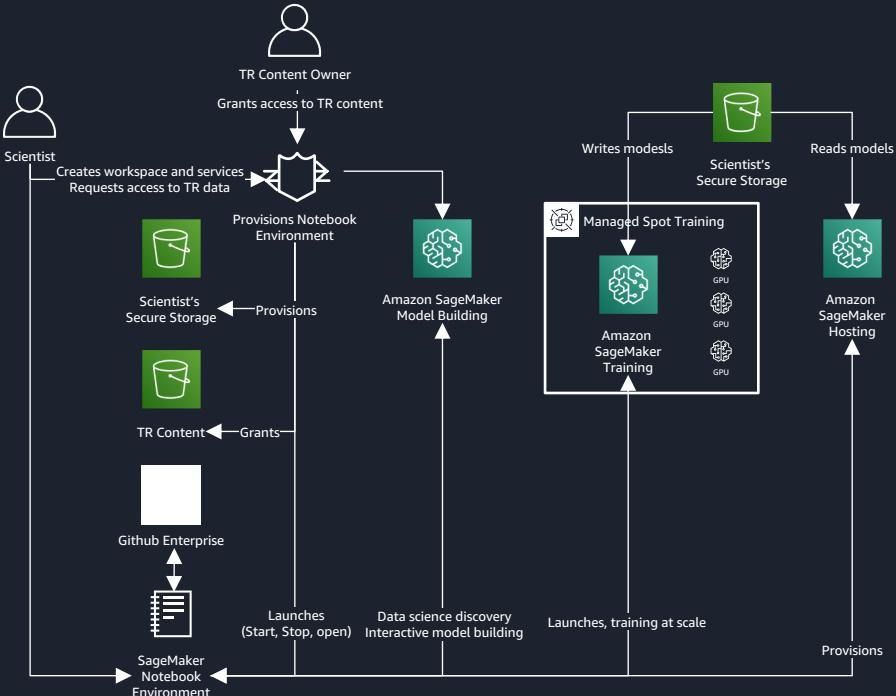
Secure experimentation at scale in compliance with TR policies

Intelligent + timely solutions for their customers

# Thomson Reuters solution architecture

SCW with Amazon SageMaker allows ready data access to data with right permissions, security, user roles, etc.

Fully managed access to compute options: CPU, GPU, Spot instances



In the Gartner “Solution Scorecard for Amazon SageMaker, July 2020”,  
**SageMaker has an overall score of 84/100, the highest rating among its peer group.** According to Gartner, SageMaker met 87% of Gartner’s required criteria, 73% of preferred, and 85% of optional. Gartner subscribers can click [here](#) to learn more



# The AWS ML Stack

Broadest and most complete set of machine learning capabilities

## AI SERVICES



**NEW**  
Amazon  
HealthLake

### HEALTH AI



Amazon  
Transcribe  
Medical



Amazon  
Comprehend  
Medical



**NEW**  
AWS Panorama  
+ Appliance



**NEW**  
Amazon  
Monitron



**NEW**  
Amazon Lookout  
for Equipment



**NEW**  
Amazon Lookout  
for Vision



**NEW**  
Amazon Lookout  
for Metrics



**NEW**  
Amazon  
DevOps Guru



Amazon  
CodeGuru

### VISION



Amazon  
Rekognition

### SPEECH



Amazon  
Polly

+Medical



+Medical



Amazon  
Comprehend

+Medical



Amazon  
Translate



Amazon  
Textract

### TEXT



Amazon  
Kendra

### SEARCH



Amazon  
Lex

### CHATBOTS



Amazon  
Personalize

### PERSONALIZATION



Amazon  
Forecast

### FORECASTING



Amazon  
Fraud Detector

### FRAUD



Contact Lens

Voice ID

For Amazon Connect

## ML SERVICES



Amazon  
SageMaker

Label  
data

**NEW**  
Aggregate &  
prepare data

**NEW**  
Store & share  
features

Auto ML

Spark/R

**NEW**  
Detect  
bias

## SAGEMAKER STUDIO IDE

**NEW:** SageMaker JumpStart

**NEW:** Model management for edge devices

Visualize in  
notebooks

Pick  
algorithm

Train  
models

Tune  
parameters

**NEW**  
Debug &  
profile

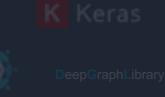
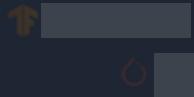
Deploy in  
production

Manage  
& monitor

**NEW**  
CI/CD

Human  
review

## FRAMEWORKS & INFRASTRUCTURE



Deep  
Learning  
AMIs &  
Containers

GPUs &  
CPUs

Elastic  
Inference

Trainium

Inferentia

FPGA

# Industrial AI

AI and ML services for asset-intensive industry use cases



## AWS Panorama Appliance

hardware appliance to add computer vision to existing onsite cameras

## AWS Panorama Device SDK

build new cameras and devices that run computer vision applications at the edge

## Amazon Monitron

end-to-end system for equipment monitoring to detect abnormal machine behavior and enable predictive maintenance

## Amazon Lookout for Equipment

detect abnormal machine behavior using existing industrial sensor data

## Amazon Lookout for Vision

spot defects and anomalies in manufacturing using computer vision

# Amazon HealthLake

A HIPAA-eligible service that enables healthcare providers, health insurance companies, and pharmaceutical companies to store, transform, query, and analyze health data in the AWS Cloud at petabyte scale



## IMPORT

Quickly and easily import medical records including clinical notes, lab reports, and more

## STORE

Stored in the AWS Cloud in a secure, compliant, and auditable way

## TRANSFORM

Tag and index unstructured data using specialized ML models

## QUERY & SEARCH

Powerful query and search capabilities to ask questions of the data

## ANALYZE

Understand relationships in the data with integrated analytics and ML capabilities

# More relevant enterprise search with Amazon Kendra



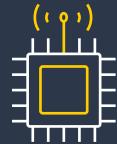
## DOMAIN EXPERTISE

Eliminate information silos



## 20+ NATIVE CONNECTORS

Simplify and accelerate integration



## ML-OPTIMIZED INDEX

Find more precise answers



## SIMPLE API TO INTEGRATE SEARCH

Easily develop search applications



## NATURAL LANGUAGE SEARCH

Contextual search results

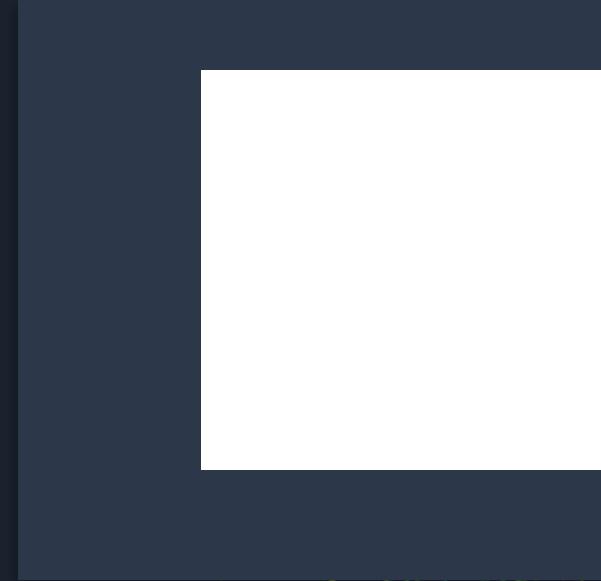


## INCREMENTAL LEARNING THROUGH FEEDBACK

Up-to-date relevant answers

# Making better and faster decisions on the job

Woodside uses Amazon Kendra to retrieve specific answers their people need from valuable project engineering documents like '**What is the length of the pipeline at Pluto?**' to help improve operations and their people's lives.



# Better insights lead to better customer service with Contact Lens for Amazon Connect

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Transcribes live  
and archived calls



Enhanced search  
on call and chat  
transcripts,  
sentiment scores,  
silence duration etc.



Custom  
categorization  
to Identify common  
call types



Prioritized  
list of recurring  
issues based on  
customer feedback



Real time  
dashboard and  
alerting for  
supervisors



Provide agents  
with answers to  
questions as they are  
being asked

# Intuit uses Contact Lens for Amazon Connect to address customer issues in real time



"With Contact Lens for Amazon Connect, we're able to quickly understand our customers' needs, and use those insights to create new machine learning models and solutions that best serve our customers."

Ashok Srivastava  
Chief Data Officer, Intuit



Amazon  
Connect

Intuit wanted to optimize its end-to-end live agent experience to ensure the best possible service for its customers

Using Contact Lens for Amazon Connect (powered by ML), Intuit is automating call categorization to monitor customer experience and regulatory compliance during calls

# Find More Fraud Faster with Amazon Fraud Detector

Enhance fraud detection with ML



Any level of ML expertise can build ML fraud models



ML boost from Amazon experience, enrichments



Fewer false positives, manual reviews



Fraud staff self-service to address threats faster



Lower TCO, faster TTV



# Customer Success Story



*"GoDaddy is committed to preventing fraudulent accounts and we're continually bolstering our capabilities to automatically detect such accounts during sign-up. We recently began using Amazon Fraud Detector and we're pleased that it offers low cost of implementation and a self-service approach to building a machine learning model that is customized to our business. The model can be easily deployed and used in our new account process without impacting the signup experience for legitimate customers. The model we built with Amazon Fraud Detector is able to detect likely fraudulent sign-ups immediately, so we're very pleased with the results and look forward to accomplishing more."*

*John Kercheval, Senior Director, Identity Services Group at GoDaddy*

# Amazon CodeGuru to build and run high-performing software



## WRITE + REVIEW

Built-in **code reviews** with intelligent recommendations

## BUILD + TEST

Detect and **optimize** the expensive lines of code pre-prod

## DEPLOY

## MEASURE

Easily identify **application inefficiencies** in production environment

## IMPROVE

# Amazon DevOps Guru

Next-gen DevOps service to improve application availability with ML-powered insights

Automatically detect operational issues with contextual insights



Reduce noise and alarm fatigue by automatically grouping related issues

Easily scale and maintain availability without manually updating alarms

Automatic configuration as you grow— no ML expertise required



# Less time investigating problems, more time innovating

Atlassian has reduced the investigation time for anomalies from days to hours and sometimes minutes using CodeGuru's continuous profiling feature and by adopting CodeGuru Reviewer



# Delight your customers and improve customer experience with Amazon Personalize

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Deliver high quality  
recommendations



Adapt to changes  
in customer intent  
in real time



Train a  
recommendation  
model with a few  
clicks



Generate  
recommendations for  
almost any  
product or content

# Improving the quality of recommendations

Compared to the prior approach, Amazon Personalize eliminated the need for tedious and complex manual data analysis, and reduced development time by 50%.



LOTTE  
Mart

# Amazon Lookout for Metrics

Automatically detects anomalies in business and operational time series data and identifies their root cause.



Detects anomalies faster and more accurately with ML and over 20 years of experience at Amazon.

Diagnoses likely issues at scale with greater confidence by providing actionable results.

Continuous improvement over time by incorporating human in the loop feedback.



# AWS recognized as leader in Gartner Magic Quadrant for cloud AI developer services

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Figure 1. Magic Quadrant for Cloud AI Developer Services



# Where to start

# Getting started on the journey



Training



Proof of Concept



Production

# Building your team's skills

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**Hands-on learning**



AWS DeepRacer  
Reinforcement Learning

AWS DeepComposer  
Generative AI

AWS DeepLens  
Deep Learning

AWS ML Training  
and Certification

Partnerships  
with MOOCs



**Training + certification**

**edX**

**coursera**

**UDACITY**



# DeepRacer

Getting started with machine learning



# The Amazon Machine Learning Solutions Lab

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A range of ML  
engagements and use  
cases



Ideation through  
to production



Global  
footprint



# Introducing AWS Machine Learning Embark Program

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**DISCOVERY**  
Cross-functional  
workshops



**TRAINING**  
In-person training



**DEVELOPMENT**  
ML Solutions Lab



**ENGAGEMENT**  
Get hands-on  
with DeepRacer

# ML.aws

Thank you!

# Increase employee productivity by quickly and easily finding accurate information

"We introduce over 1200 new products every year. When our material scientists lead new research, they need access to information from prior relevant research—information that's buried in the many patents we hold in our huge knowledge base. Finding the right information is often exhausting (but not exhaustive) and time-consuming."

**DAVID FRAZEE**

Technical Director

Corporate Research Systems Lab



Amazon  
Kendra



The screenshot shows a search interface titled "Intranet Search". In the search bar, the query "it support desk" is entered. Below the search bar, there is a "Your recent searches" dropdown and a link to "Not finding relevant results?". The main area displays search results for "Everything (21)" under the "SEARCH IN:" section. The results include:

- IT\_Support\_Training\_Program.Web**: A link to a page about IT support training.
- Com\_Support\_Wiki.Web**: A link to a page about communication support.
- OperationalBestPractices.Event**: A link to a page about operational best practices.
- Corp\_Wiki\_Pending.Web**: A link to a page about pending corporate wiki updates.

On the right side of the interface, there is a "RESULTS PAGE" section with a heading "Where is the it support desk?". It includes a "Kendral's suggested answer" which says "1st floor" and provides a link to a page about IT help desks. Below this, there is a "Frequently asked questions" section with links to "Where do I get IT help?", "What are the IT support hours?", and "Where can I get IT help corporate campus?".

Ask natural language questions, get immediate answers

Bring all of your data together in a few clicks

Constantly improving search results

# Make it easy to identify fraudulent online activities

"We're excited about the introduction of Fraud Detector because it means we can more easily use advanced machine learning techniques to accurately detect fraudulent reservations. Protecting our 'front door' from potential harm enables us to focus on making the vacation rental experience seamless and worry-free."

**ERIC BREON**  
Founder and CEO



The screenshot shows the AWS Fraud Detector interface. At the top, there are tabs for 'Fraud Detector' and 'Create detector'. Below that, a vertical sidebar lists steps: Step 1 (Define detector details), Step 2 (Add model - optional), Step 3 (Add rules), Step 4 (Define rule order), and Step 5 (Review and create). The main area is titled 'Add rules' with two options: 'Use existing rule' and 'Create rule'. A 'Create rule' button is highlighted in red. On the right, a 'Define a rule' section is shown with a 'Name' field containing 'suspicious\_customer' and a 'Version' field showing '1.0'. A 'Description' field contains the text: 'Customers whose phone number and IP address country do not match require manual review.' Below this, an 'Expression' section provides a simplified expression language example:

```
Using Amazon Fraud Detector's simplified expression language, you can write rules to evaluate event variables or model output scores. To reference these variables, type "$" to start searching the variables library. Use the expression quick reference guide below for help.  
1. $my_model_score > 500 and  
2. $phone_number_country != $ip_address_country/
```

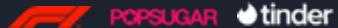


Build high quality fraud detection ML models faster  
Stop bad actors at the door  
Built-in online fraud expertise  
Give fraud teams more control

# Analyze your rich media assets to increase value and create new insights from the content

"C-SPAN uses Amazon Rekognition to automatically index video news footage for search. With Rekognition, C-SPAN reduced indexing time per video from 1 hour to 20 minutes and uploaded 97,000 images in under 2 hours."

**IAN CLOUTIER**  
Technical Manager



Amazon  
Translate



Amazon  
Rekognition



Amazon  
Transcribe



Amazon  
Comprehend

Drive monetization through contextual ad placement and more

Reduce costs and improve productivity by automating key functions  
of the media supply chain

Avoid risk of displaying inappropriate content as well as creating branding issues

# Add intelligence to your contact center to improve service and reduce cost

"We are now trialing the use of AI to gather information about the caller's needs upfront. The operator sees that information on-screen and can offer a resolution right away. Operators enjoy being more helpful to callers and appreciate less repetition on the job"

**CHRIS SUTER**  
Lead Cloud Architect



The screenshot shows a software interface for managing customer interactions. At the top, there are tabs for Home, Demo Sites, Data Mgmt, References, Agent Metrics, and Native CCP. On the far right, there are 'Log Out' and 'Suggested Actions' sections. The main area displays a call log entry for a call with Yasser El-Haggan. The entry shows the call was connected, the number 01443 558 2548, and the time elapsed as 00:00:21. Below the call log are several action buttons: Hold, Unmute, Dial number, Transfer, and End call. To the right of the call log, there is a section titled 'All Powered Speech Analytics for Amazon Connect' which includes 'Real-time Customer Transcript' and 'Show Entities'. The transcript shows a message from a customer named Nikki, followed by a link to another message. Below this is a 'Real-time Customer Translation' section with the same message translated into Spanish. At the bottom of the interface are buttons for 'Show Contact Attributes' and language selection ('Spanish').



Reduce costs

Decrease time to resolution (TTR)

Reduce call wait times

Increase customer satisfaction

Improve employee satisfaction

# Make personalized recommendations to increase customer engagement

"With the implementation of Amazon Personalize we are seeing, email CTR is up 67% over our control messaging. Rev/M Sends is up 49%, and because the content is even more relevant, our Opt out Rate has dropped 36%. But where the rubber hits the road for me is on revenue. Test emails have shown a 12.5% increase in revenue versus the control. It is clear that the AWS has given us another 'arrow in our quiver'. My only regret is this capability didn't exist two years ago when we started this journey."

KRISTINA SMITH

Director Global Digital Marketing



A screenshot of the Amazon Personalize interface. At the top, it says "Amazon Personalize" and "Real-time personalization and recommendation, based on the same technology used at Amazon.com". Below this, there's a section titled "Video Recommendations - Personalization Results". On the left, there's a sidebar with sections for "CONTENT MODEL" (set to "Recommendations"), "ITEMS", "User", and "Model". Under "CONTENT MODEL", there are dropdowns for "Model ID" (set to "Model 1") and "Model 2" (set to "No Model Selected"). There are also buttons for "Train Model" and "Evaluate Model". Below this is a table with columns "Content Type", "Title", "Rating", and "Year". The table lists several movie titles with their ratings and years: "Patriots Day" (4.5/5, 2016), "The Martian" (4.5/5, 2014), "Madame Tussauds The Art of American Entertainment" (4.5/5, 2016), "Coco" (4.5/5, 2017), "The Shawshank Redemption" (4.5/5, 1994), "The Godfather" (4.5/5, 1972), "The Dark Knight" (4.5/5, 2008), "The Godfather Part II" (4.5/5, 1974), "The Empire Strikes Back" (4.5/5, 1980), "Star Wars: Episode V - The Empire Strikes Back" (4.5/5, 1980), "The Empire Strikes Back" (4.5/5, 1980), and "The Empire Strikes Back" (4.5/5, 1980). At the bottom of the sidebar, there's a "REVIEW SUMMARY" section with two rows of text: "1.0M+ 100K+ reviews" and "0.1M+ 100K+ reviews".

SUBWAY® Pomelo. Domino's THUIS rb digital

Voodoo

NAVITIME

YAMAHA

ZOLA



Amazon  
Personalize

aws machine learning

Create high-quality recommendations

Own the moment with real-time recommendations

Personalize every touchpoint along the user journey

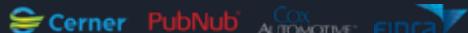
Deliver personalization within days, not months

# Make faster decisions by automatically extracting and analyzing data from documents

"Amazon Comprehend and Amazon Transcribe services allow VidMob to build high-quality machine learning text analysis into our Agile Creative Suite, enabling us to help brand clients understand content performance in ways never before possible. We are able to transcribe text from video content, and quickly analyze it using Comprehend, allowing us to surface actionable insights to both our creator community and our clients, giving them a strategic edge in the market."

**ALEX COLLMER**

Founder and Chief Executive Officer



A screenshot of the AWS Collection interface. At the top, there's a navigation bar with the AWS logo, a back arrow labeled 'Collection', the file name 'employmentapp.png', and a 'Log Out' button. Below the navigation, there are tabs for 'Overview' (which is selected), 'Raw Text', '5 Key-Value Pairs', and '1 Tables'. To the right of these tabs are buttons for 'Download Original' and 'Download Searchable PDF'. The main content area shows a form titled 'Employment Application' with sections for 'Applicant Information' (Full Name: Jane Doe, Phone Number: 555-0100, Home Address: 123 Any Street, Any Town, USA, Mailing Address: same as home address), and 'Previous Employment History' (a table with columns: Start Date, End Date, Employee Name, Position Held, Reason for leaving). The entire interface has a dark theme.

Get better answers from your text

Organize documents by topics

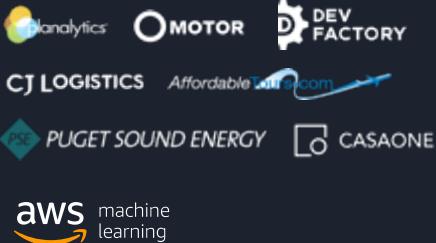
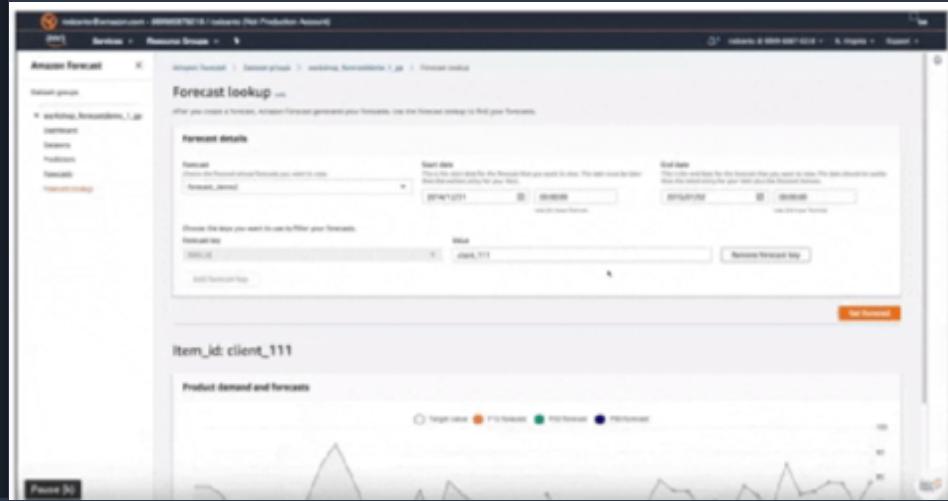
No code or templates to maintain

Lower document processing costs

# Forecast key demand metrics faster and more accurately to meet customer demand and reduce waste

"At CasaOne, we make sure our customers get access to their furniture in a few business days. In order to better predict how many couches CasaOne customers might rent in the Bay Area or how many coffee tables customers might rent in NY, we leverage the capabilities of Amazon Forecast. With Amazon Forecast, our sales prediction accuracy has improved by 20% compared to our existing forecasting algorithm. This means we can stock the right products and save on purchase costs worth a few thousand dollars. Improved product selection will also lead to enhanced customer experience in the long run."

**MADHUSUDAN KAGWAD**  
Co-founder and Head of Products



50% more accurate forecasts with machine learning  
Reduce forecasting time from months to hours  
Create virtually any time series forecast  
Secure your business data and peace of mind