

# AWS re:Invent

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AIM203

# Boost user engagement with Amazon Personalize

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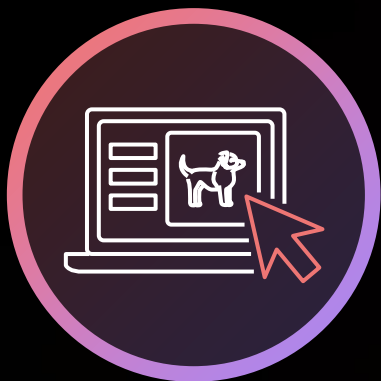
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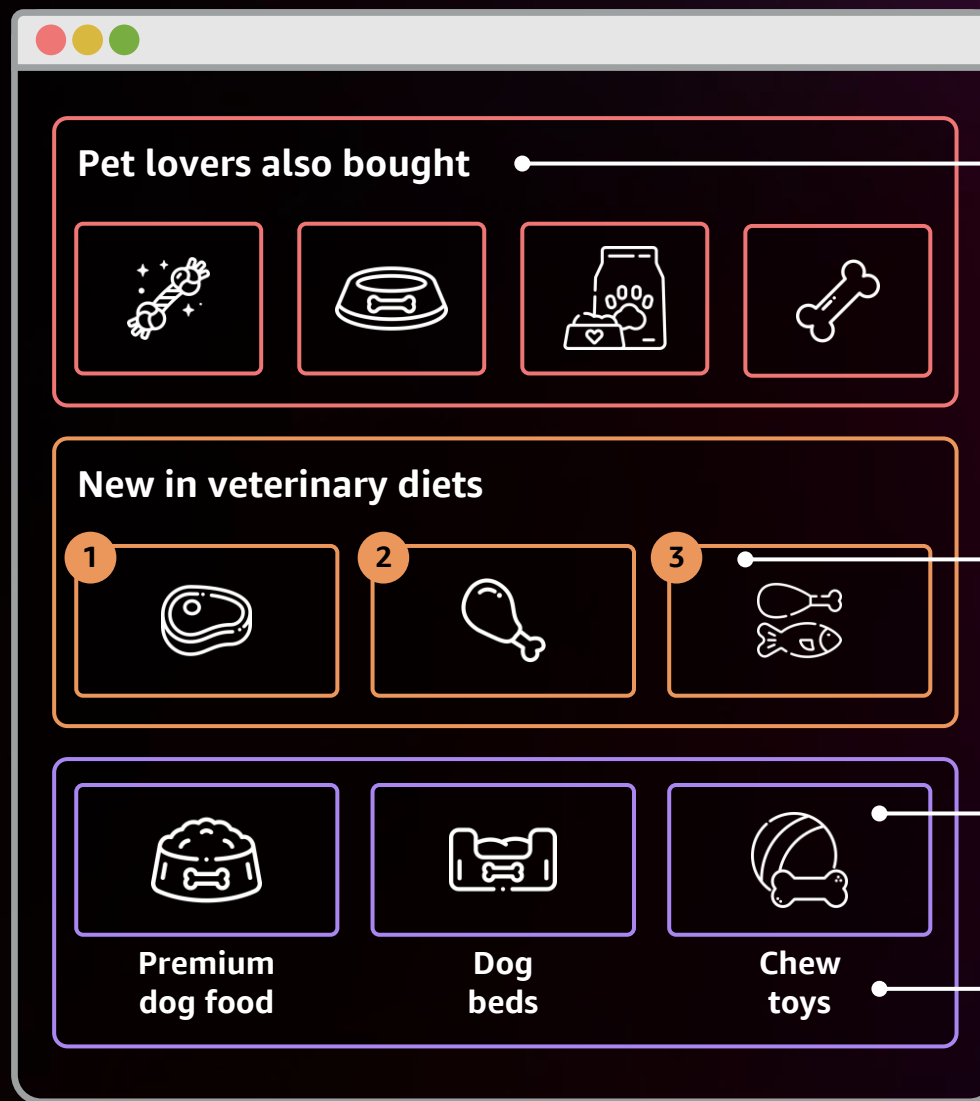
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# Agenda

-  The case for personalization
-  Challenges and vital learnings
-  Dive into Amazon Personalize
-  Key features
-  Chewy's personalization story
-  Chewy and Amazon Personalize



# Every touchpoint is personal



Promotions

Item ranking

Photos & order of sections

Categories & order of content

Breaking through to  
consumers requires  
personalized user  
experiences

60%

of consumers say they will be  
**repeat customers** after a  
personalized experience

Source: <https://www.twilio.com/blog/announcing-the-state-of-personalization-2021>



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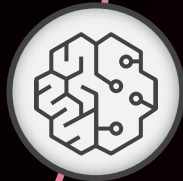
# Building personalization from the ground up is challenging



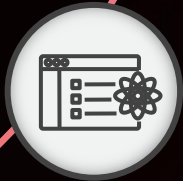
Managing a personalization system at scale can come with a high total cost of ownership



In-house solutions can increase time to market and delay return on investment



A limited workforce with the required skill set and machine learning experience poses long-term risks



Complex systems are required to deliver versatile editorial controls and robust scaling capabilities

# Top use cases our customers ask for



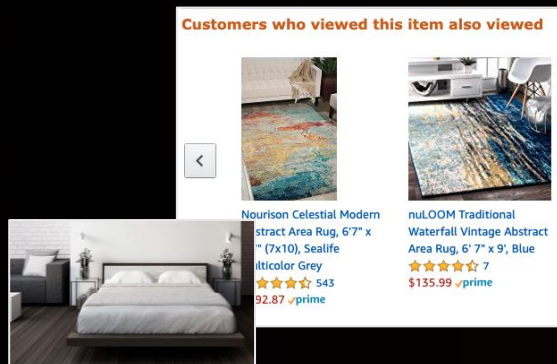
## User personalization

Recommendations tailored to a user's profile and interests



## Personalized ranking

Items re-ranked in a category or search response based on user preference or history



## Related items

Recommend similar items to encourage exploration and upsell



## User segmentation

Target messaging to the users most interested in an item or category

# Amazon Personalize makes it easy

Create personalized user experiences, no machine learning expertise required



**Impactful features**  
that go beyond  
basic ML practices



Responds quickly to  
changing user intent using  
**real-time recommendations**



Automated steps and  
managed ML service  
**reduces time to market**



**Integrates seamlessly**  
with existing systems



Encrypted to be  
**private and secure**



# How it works

1

**Add your  
data**

2

**Create solutions/  
recommenders**

3

**Tune  
recommendations**

4

**Access  
recommendations**

# How it works

- 1 **Add your data**
- 2 **Create solutions/recommenders**
- 3 **Tune recommendations**
- 4 **Access recommendations**



**User interactions**  
(views, sign-ups, conversions, etc.)



**Item metadata**  
(details of articles, products, videos, etc.)



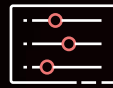
**User metadata**  
(age, location, etc.)

# How it works

- 1 Add your data
- 2 **Create solutions/recommenders**
- 3 Tune recommendations
- 4 Access recommendations



Item recommendations tailored to each user



Ranked items based on personal preferences







User segmentation



Related items

# How it works

- 1** Add your data
  - 2** Create solutions/recommenders
  - 3** **Tune recommendations**
  - 4** Access recommendations
- |   |  |
|---|--|
|    | Highlight new items  |
|    | Business rules/filters   |
|    | Promotions/trending now  |
|  | Optimize for business metric (e.g., profit, revenue, watch time) |

# How it works

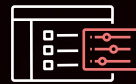
- 1 Add your data
- 2 Create solutions/recommenders
- 3 Tune recommendations
- 4 **Access recommendations**



Real-time  
recommendations



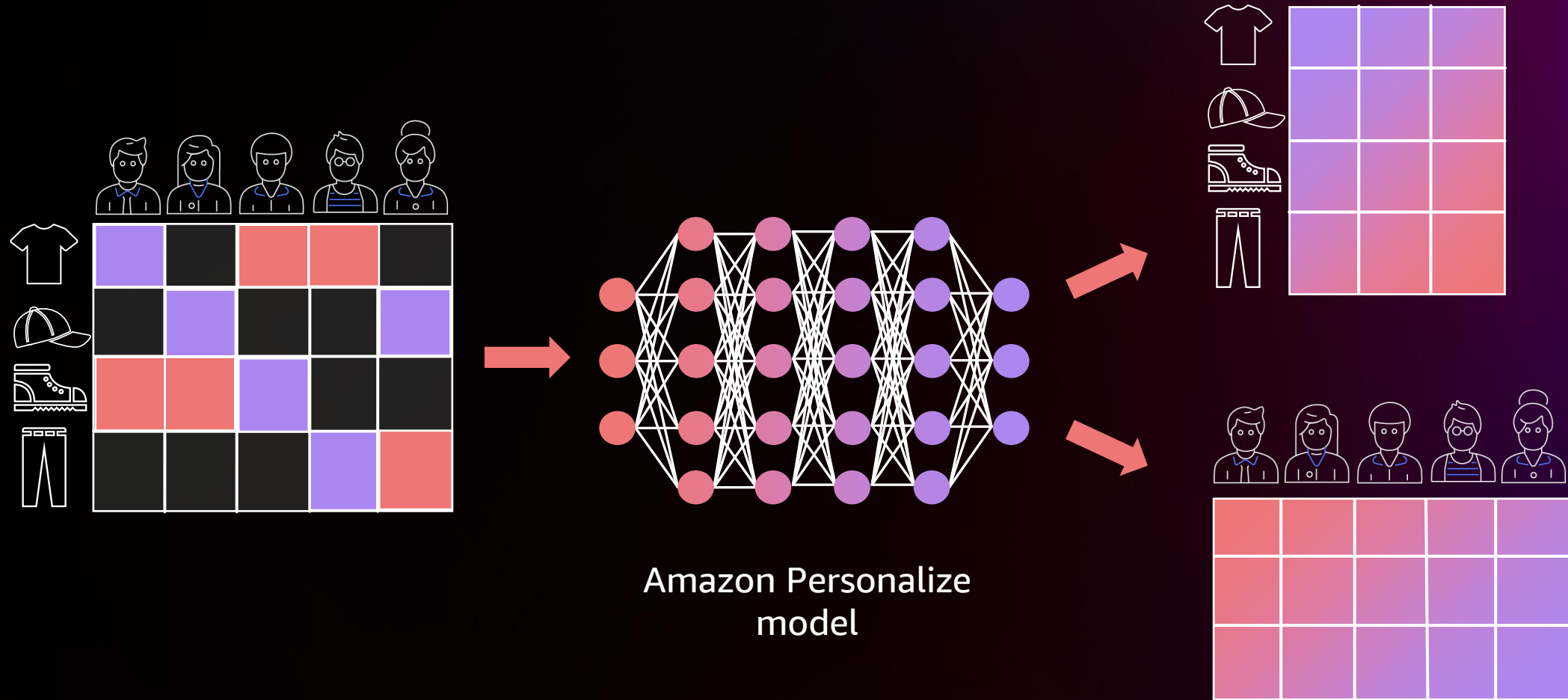
Download batch  
recommendations



Contextualize recommendations  
(e.g., device type, location)



# Training recommendation models



# Accelerate time to market with optimized recommenders

## Retail

Recommended for you

Customers who viewed this also viewed

Frequently bought together

Most viewed

Best sellers

### Frequently bought together



## Media & entertainment

Top picks for you

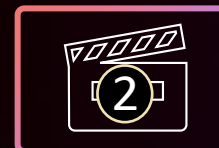
Promotions

Because you watched X

More like Y

Most popular and trending now

### Top picks for you



# Even faster for Amplitude customers

NEW IN 2022

Enabled by **Amazon Personalize's** support for multi-tenant deployments



Amazon Personalize-powered recommendations embedded in Amplitude's platform



Leverage the data already collected in Amplitude



Experimentation and analytics out of the box

Overview

Performance

Syncs

Key Stats

1.05M

# OF USERS CONSIDERED

5

# OF ITEMS INCLUDED

5.23M

# OF EXPERIENCES CREATED

Most Likely Item per Rank

RANKING	ITEM	% OF USERS WITH THIS ITEM	# OF USERS
1	1812 Dirt Road Anthem :: Jason Aldean	35.1%	366,992
2	5916 Sweet, Sweet Smile :: Carpenters	35.1%	366,992
3	9743 Out Of My Head :: Lupe Fiasco	31.5%	330,146
4	578 Paralyzer :: Finger Eleven	19.7%	206,629
5	356 Mr. Blue :: Fleetwoods, The	15.9%	166,643



# Generate personalized experiences for anonymous shoppers

Anonymous users without shopping history make it challenging to identify which recommendations will resonate



**Amazon Personalize** utilizes user interactions in real time to update recommendations, responding to in-session activity for new users



## Recommendations



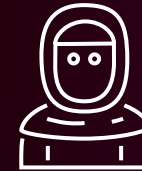
# Target customers more accurately with intelligent segmentation

Traditionally, user segmentation relied on manually curated business rules to make assumptions about user intent, sorting them into pre-defined, one-size-fits-all audiences



**Amazon Personalize** segments users based on their affinity for a given item or item attribute

This leads to higher engagement, easier acquisition of users for new content, and greater ROI for marketing efforts



**Small dog parents**



# Gain explicit control over your recommendations

NEW IN 2022

## Include

- ✓ Fill 10% of carousel with new products
- ✓ Promote at least 3 private label products
- ✓ Highlight specific items to accelerate inventory turnover

## Promotion example

**Amazon Personalize** generates relevant items to recommend based on a rule that 50% of carousel must be items that are on sale

### Items recommended for you



# Easily measure the impact of recommendations

NEW IN 2022



**Amazon Personalize** allows you to:

Understand how recommendations impact business objectives

Measure the impact of events (page view, video start, click, add to cart, purchase, etc.)

Monitor and analyze recommendation performance results in your Amazon CloudWatch account

# Amazon Personalize customers

OVER 1,600 CUSTOMERS GLOBALLY, ACROSS ALL INDUSTRIES, USE AMAZON PERSONALIZE

INTUIT



Pomelo.

Calm

EQUINOX



traveloka



Marc O'Polo

ABLY

chewy



ZOLA

paytm

# Chewy

**Curtis Anderson**

Senior Director, Engineering  
Search & Discovery







Our mission is to be the most trusted and convenient destination for pet parents (and partners), everywhere




# Personalizing add-ons in customers' carts


## Before Amazon Personalize re-ranking




Arm & Hammer Litter Arm & Hammer Multi-Cat Strength Clean Burst Clumping Litter, 40-lb box  
★★★★☆ 1,286  
\$16.99 \$21.99  
\$16.14  Autoship


Add to Cart




Rachael Ray Nutrish Soft Spots Salmon Soft & Savory Cat Treats, 2.5-oz pouch  
★★★★☆ 169  
\$1.74 \$1.79  
\$1.65  Autoship

Add to Cart



Rachael Ray Nutrish Natural Chicken & Brown Rice Recipe Dry Cat Food, 3-lb bag  
★★★★☆ 973  
\$7.28 \$7.49  
\$6.92  Autoship

Add to Cart





Tidy Cats Instant Action Scented Clumping Clay Cat Litter, 35-lb pail  
★★★★☆ 2,755  
\$18.38 \$19.69

Add to Cart


In-house complementary models

## After Amazon Personalize re-ranking




Arm & Hammer Litter Clump & Seal Multi-Cat Scented Clumping Clay Cat Litter, 28-lb pail  
★★★★☆ 3,044  
\$18.99 \$23.69  
\$18.04  Autoship


Add to Cart




Tidy Cats Instant Action Scented Clumping Clay Cat Litter, 35-lb pail  
★★★★☆ 2,755  
\$18.38 \$19.69


Add to Cart



Arm & Hammer Litter Arm & Hammer Multi-Cat Strength Clean Burst Clumping Litter, 40-lb box  
★★★★☆ 1,286  
\$16.99 \$21.99  
\$16.14  Autoship

Add to Cart



Rachael Ray Nutrish Natural Chicken & Brown Rice Recipe Dry Cat Food, 3-lb bag  
★★★★☆ 973  
\$7.28 \$7.49  
\$6.92  Autoship

Add to Cart

With Amazon Personalize re-ranking recipe

- +12 basis-point improvement in item relevance
- +25 basis-point increase in advancement to checkout when customers engaged with Amazon Personalize carousel

# Quickly responding to customer preferences

Finding: Customers prefer to build their basket with discretionary items like treats

- Amazon Personalize promotions feature gave us the agility to react quickly
- Boosted treats in cart recommendations
- Average basket size increased by 2%, helping customers get to free shipping
- 25.2% increase in the number of orders with treats



# What's next



# Inspire customers in discovery

*“Sometimes I do not know what I am looking for when I come to Chewy.*

*I need shopping inspiration that pairs well with other things I’ve purchased.”*

**Gaby**

Dog Owner

- Provide shopping inspiration for new categories
- Use implicit signals to leverage customer preference
- Multichannel engagement, including email





# Help pet parents find what's trending



- See what others are shopping for
- Capture sudden changes in collective interest due to a change in season or holiday shopping
- Infuse with personalized content like brand affinity and category propensity



# Personalization for anonymous users





With help from Amazon Personalize, Chewy continues our mission to be the most trusted and convenient destination for pet parents (and partners), everywhere.

# Thank you!

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LinkedIn:



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