



aws SUMMIT

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HCRT007

Using AWS AI & ML services to solve e-commerce problems for the next billion users of India





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Meesho



Meesho : Making e-commerce affordable and accessible

#1 Shopping App
by MAU in 2022

	Worldwide	India
1	 Meesho (Shopping E-Commerce (C2C))	 Meesho (Shopping E-Commerce (C2C))
2	 Shopee (Shopping E-Commerce (C2C))	 Shopsy (Shopping E-Commerce (B2C))
3	 Amazon (Shopping E-Commerce (B2C))	 Flipkart (Shopping E-Commerce (B2C))
4	 SHEIN (Shopping E-Commerce)	 Amazon (Shopping E-Commerce)

> 140 Million
Transacting
Users in 2022

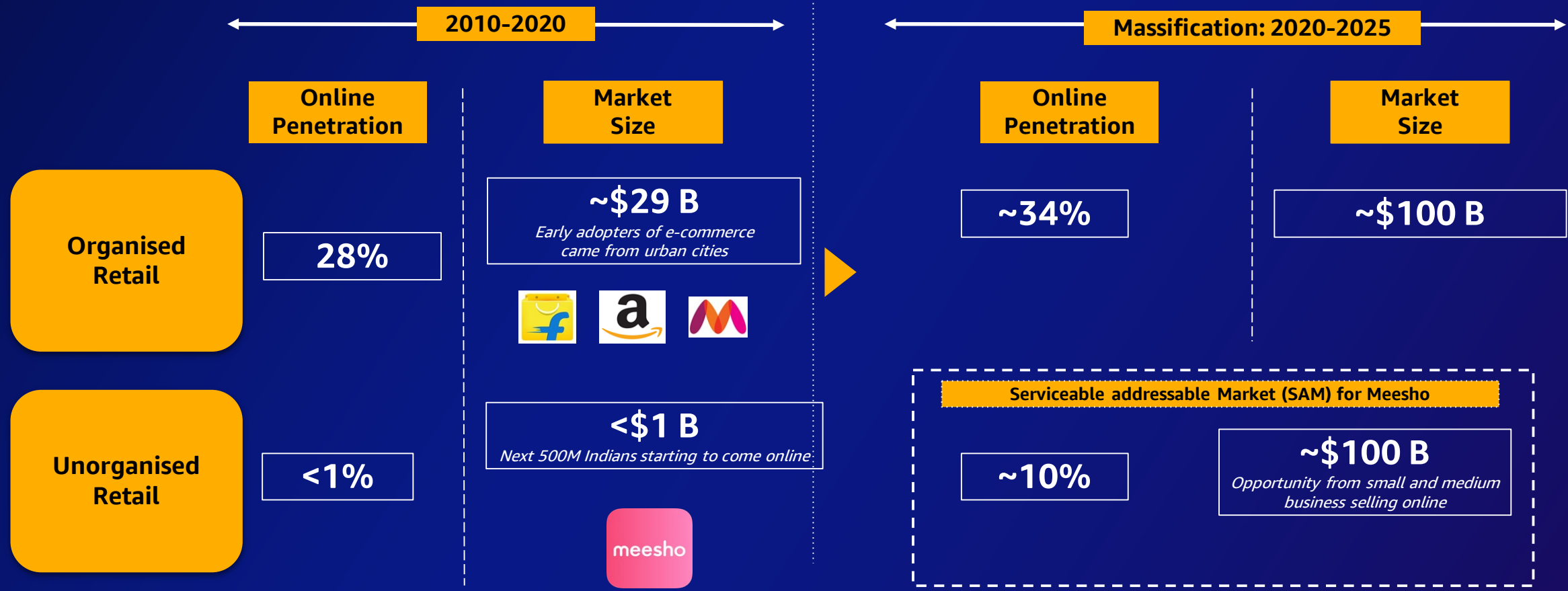


> 1 Million
Registered Sellers

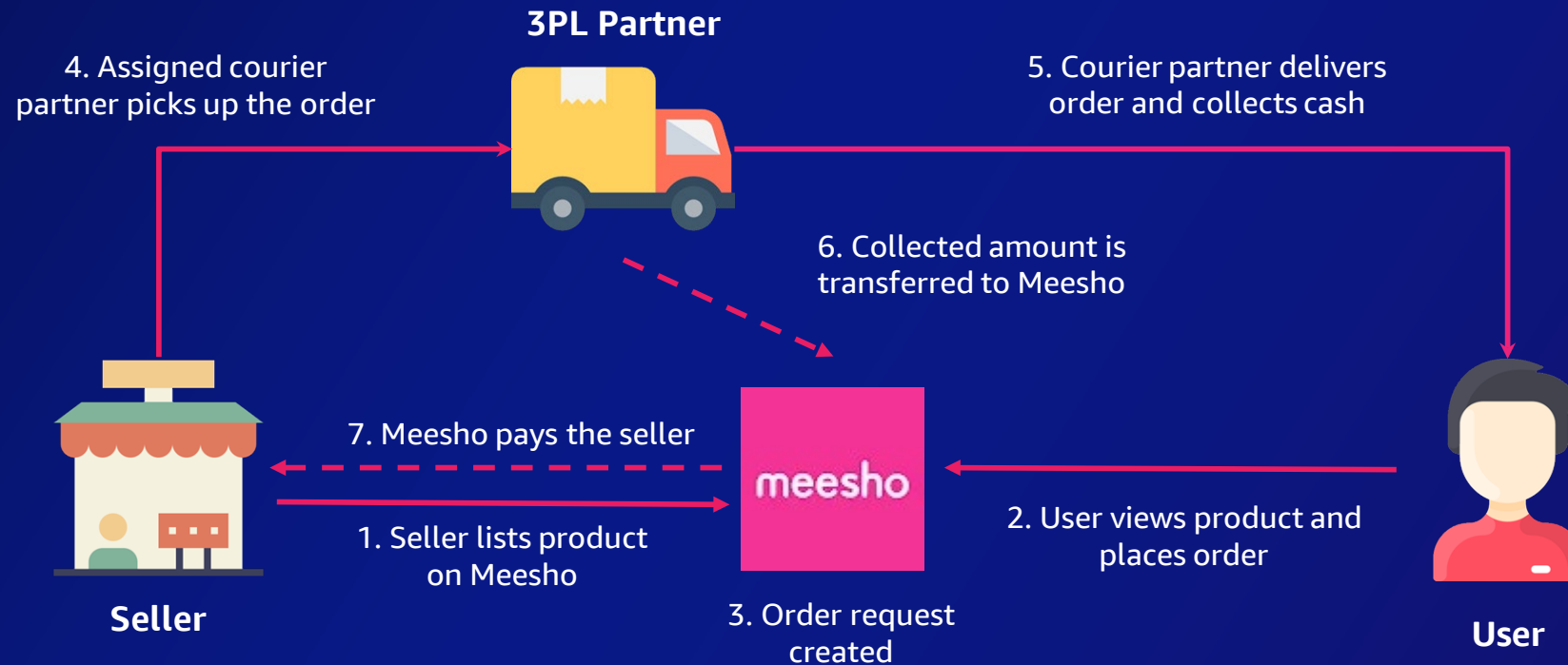
>80% of orders come from tier 2+ markets

*Source: Data.ai (App Annie) Report
<https://www.data.ai/en/go/state-of-mobile-2023/>

Unorganised retail market in India is ~7x of organised retail - majorly offline!



Zero inventory, zero commission e-commerce model



Challenges



Seller Persona : Small business owners - selling unbranded selection at low margins, often selling online for the first time

63%

work with **< 5**
employees

< ₹2.6L

Monthly turnover of
50% of our sellers

60%

products under
INR 300

97%

products are
unbranded



*Source: Meesho Internal Data; Meesho Seller Survey || turnover: total sales value (in INR)

Meesho is a gateway for unbranded sellers to achieve scale

Challenges faced by unbranded sellers

Offline Shops: *Footfall limited to location*



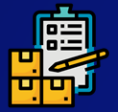
Store Rent



Warehousing space



Investment in footfall



Inventory purchase



Branding expenses

Large E-com players in India:
Majority users shop for brands



Expensive catalogue photoshoot



Competition from established brands



Commission



Competition from in-house brands



High Shipping costs

How is Meesho solving these?



Easy product listing



Low guardrails for product photos



Guided pricing



Self serve

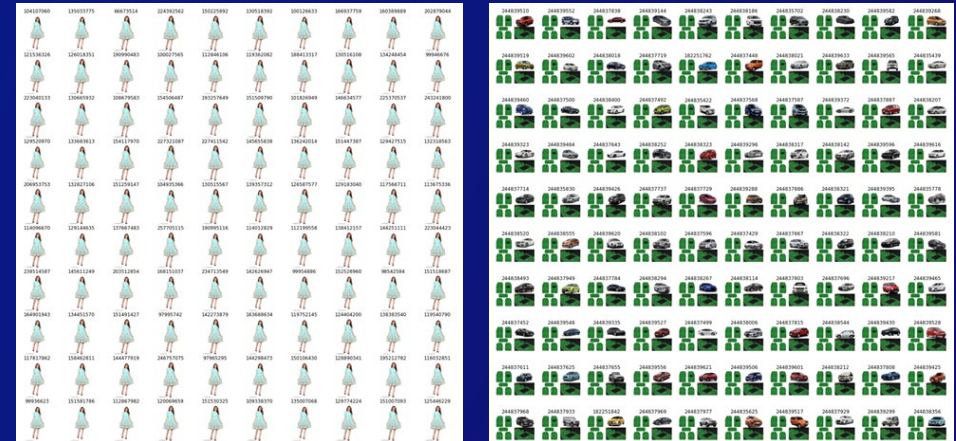


0 commission

Product re-identification (Exact or near exact matching)

- Absence of standard product identifiers viz. EAN, GTIN and brands makes product re-identification non trivial.
 - 80% of products are sold by at least 2 sellers
 - Many products are sold by 100s of sellers
- Use cases:
 - Creating the buy box
 - Suggest prices to sellers
 - Eliminate duplicates from product feeds

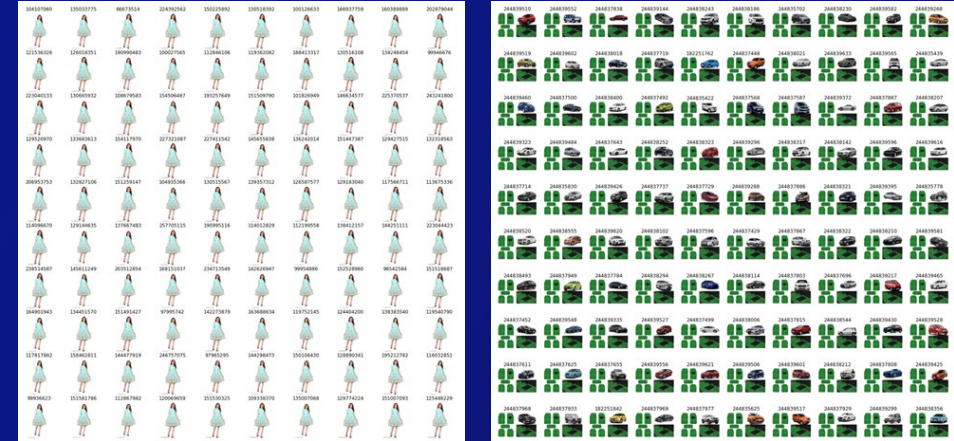
Examples of groups of duplicate products



Product re-identification (Exact or near exact matching)

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 - 80% of products are sold by at least 2 sellers
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- Use cases:
 - Creating the buy box
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 - Eliminate duplicates from product feeds
- Representations are trained with triplet loss
 - Positives: Image and text augmentation on the same product
 - Negatives: Images from a different product from the same category

Examples of groups of duplicate products

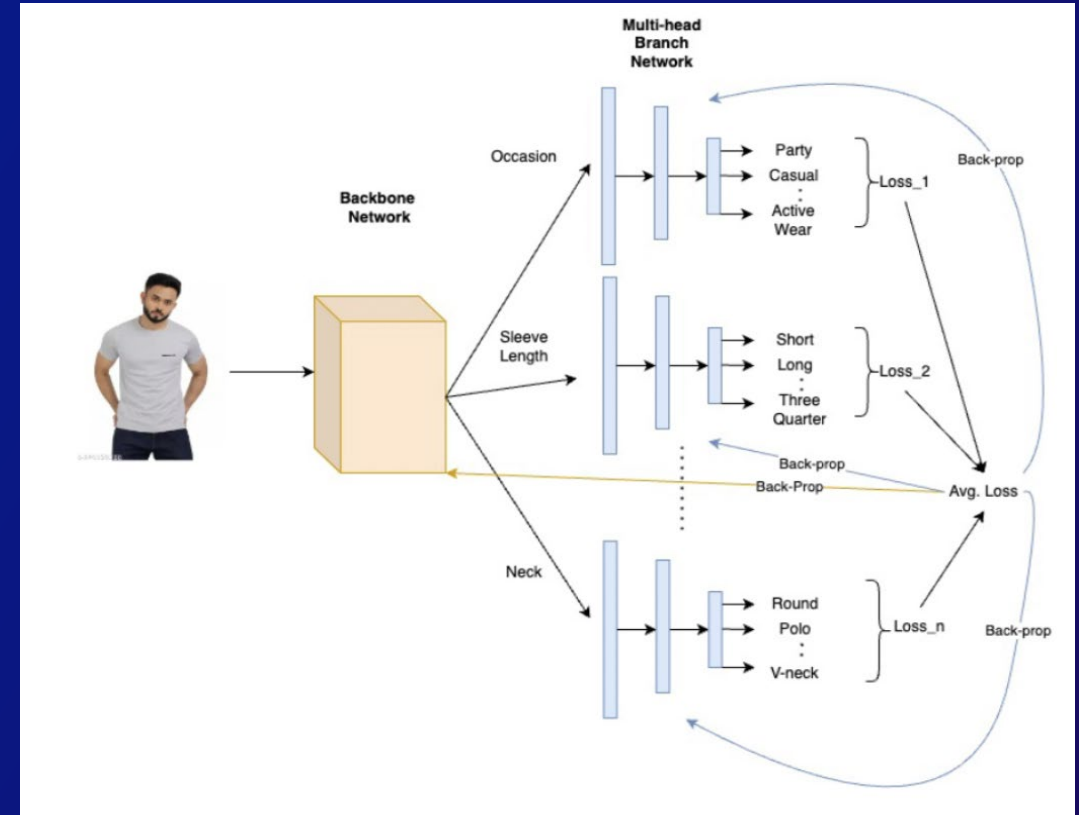


Examples of [Anchor, Positive, Negative]

Automated cataloging: Visual attribute extraction

- Multi-label classification on a catalog image to understand visual attributes (e.g., neck, pattern, sleeve)
- Thousands of product categories, hundreds of attributes and values - single model vs many models?
- Build category-specific models that help in learning patterns common across attributes in that category
- Address challenges w.r.t a sparse attribute space

Architecture for Visual Attribute Extraction



Automated cataloging: Compliance on policies & guidelines

- Automated Compliance Checks with object detection and image classification models
- Generated **synthetic labelled data** with **Dall-E, Stable Diffusion** since many such classes are quite rare



Quality Stamps



Fake Brand Logos



Obscenity



Blurry image



Price on image



Watermarks



Unauthorised Products: Guns, Alcohol

User persona

80%

live in Tier
2+ towns

30-40%

First Time
Internet Users

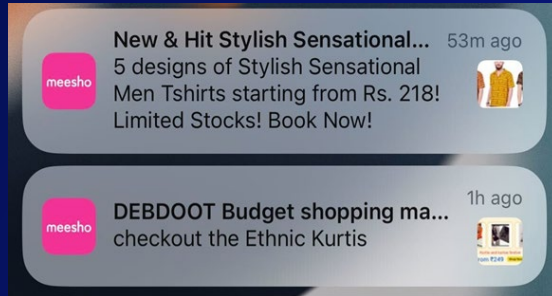
Shop on
Meesho for
Low Prices &
Large
Selection

Brows
e >>
Search

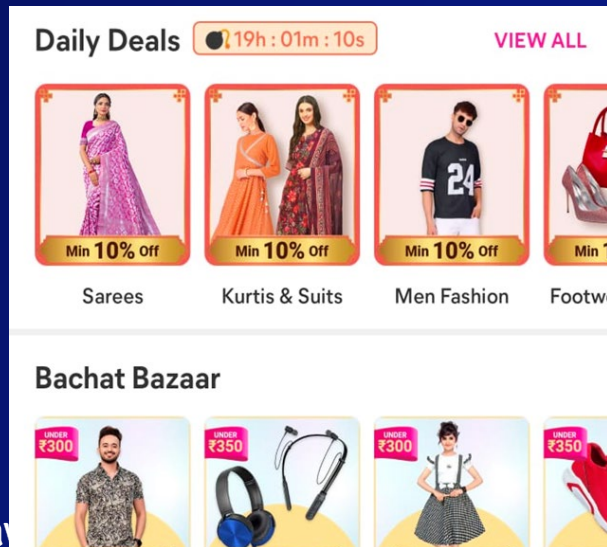


Recommendations at every touch point

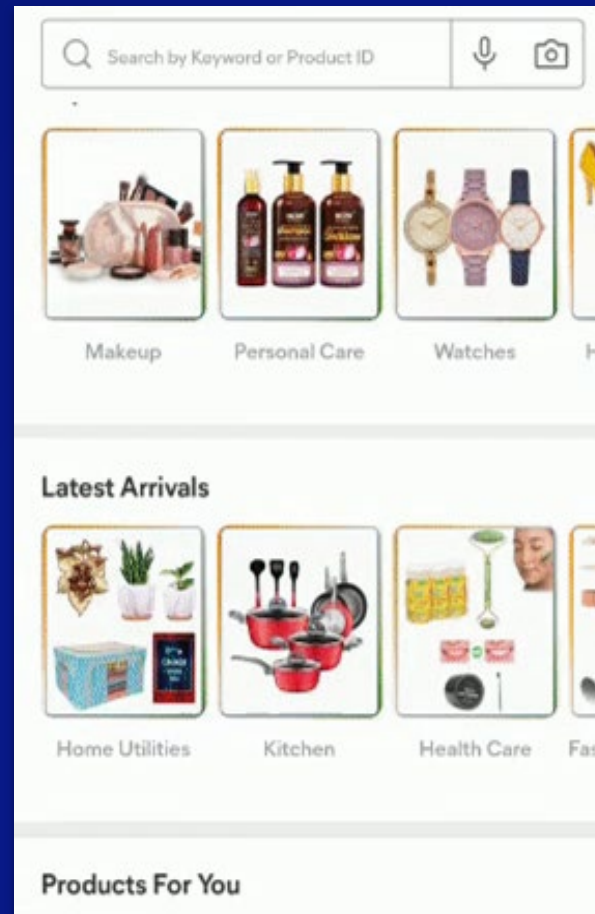
Personalised Notifications



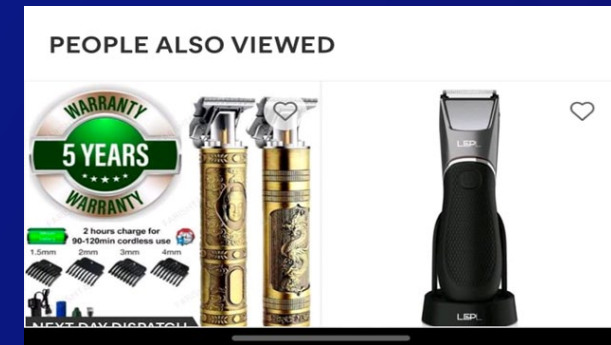
Home Page widgets



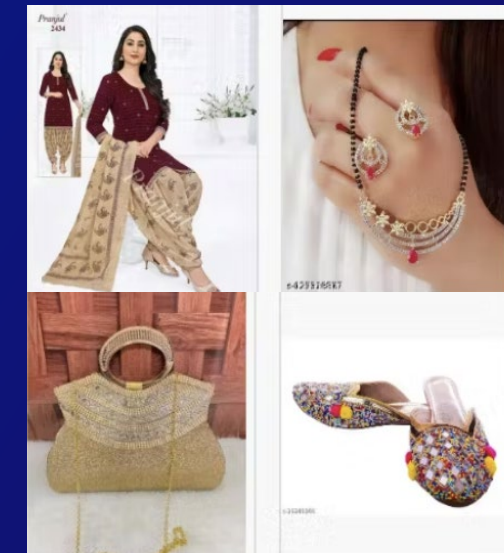
For You (FY) Feed



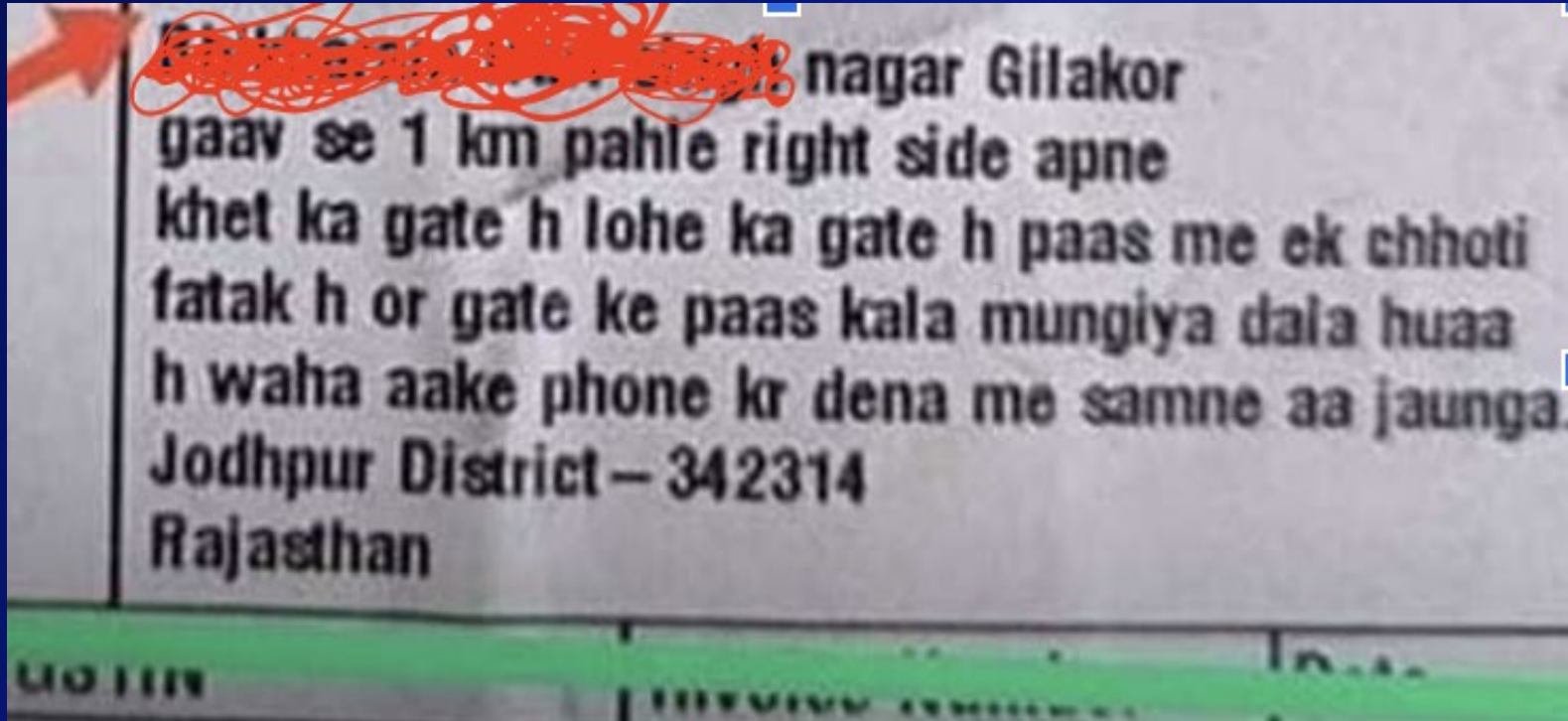
Substitute Recommendations on PDP



Complementary Product Recos



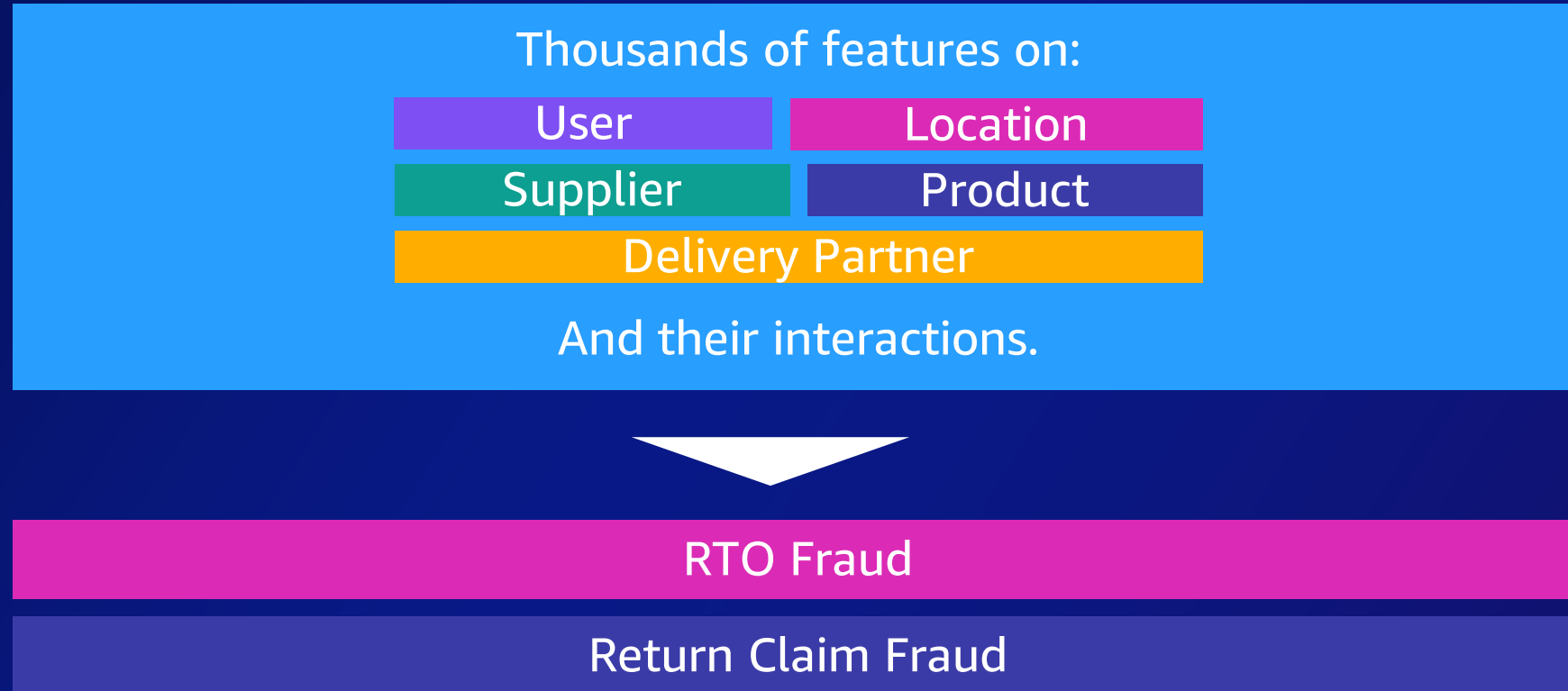
Bringing efficiency in fulfilment : Address resolution



Resolve to a known location

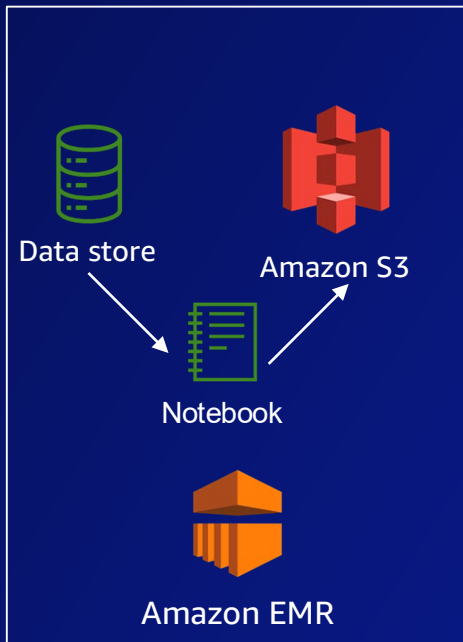
Real time feedback to improve
Address Quality

Bringing efficiency in fulfilment : Fraud detection system

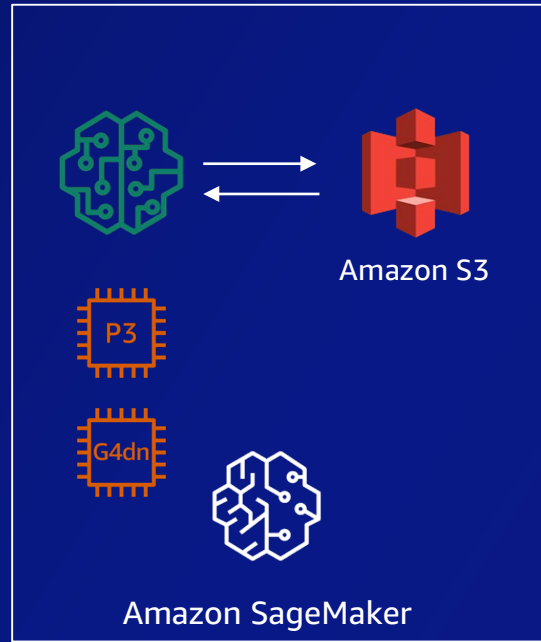


ML Stack

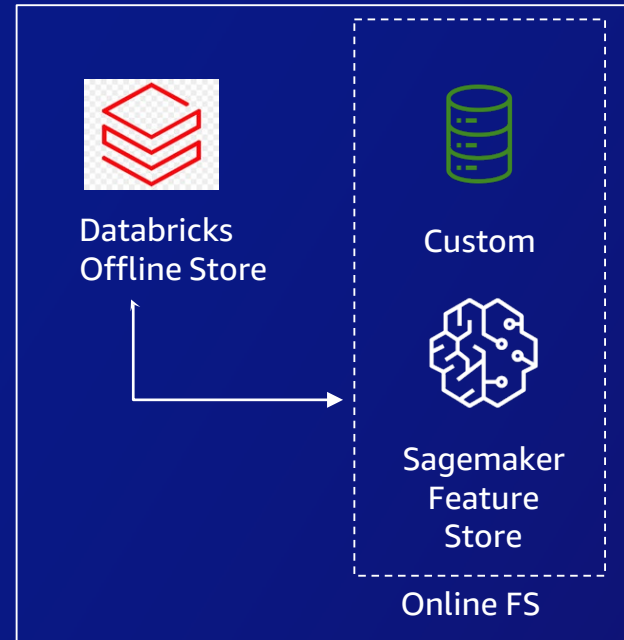
Data Preparation



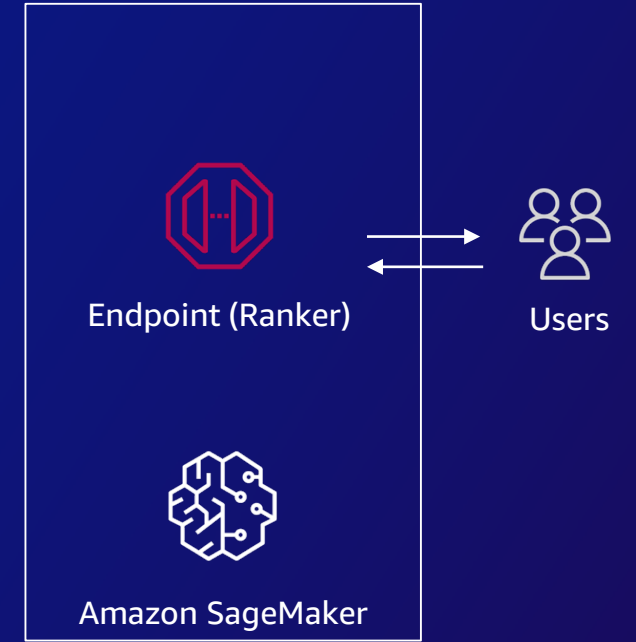
Training



Feature Platform



Serving



skillbuilder.aws 

Your time is now

Build in-demand cloud skills *your way*

Thank you!

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Please complete the
session survey