



Fresh groceries, personalized for you.

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Recommender Systems Workshop, Tel Aviv University



Made with GAMMA



**Forgetting
to buy your
favorite
food
SUCKS**

**Even if you
have bad
taste...**

Groceries Are **Habit**, Not Ratings

The Real Question

Shoppers re-buy the same **staples on a rhythm** – "what will this shopper need again soon?"

The Problem

Generic stores show everyone the same bestsellers, **ignoring individual** replenishment patterns.

Our Goal

Per-shopper explainable picks. **not one-size-fits-all** rankings.



Beyond the Basics



AI Chef

Turns a meal request into a one-click cart



Explainable Rows

Every row tells you *why* it was recommended



Relevance-Ranked Search

"Milk" → dairy milk first, not generic matches



Cart-Aware Suggestions

Updates live as you shop



Cold-Start Onboarding

Personalized picks from the very first session

Who is shopping?

Add new shopper

Profile

Sarah (user 202531) ▼

> Shopper story (for demo)

Your cart

Empty — browse aisles or add from your picks.

Quick restock

Staples you may be running low on.

Plain Pre-Sliced Bagels

Every ~15 days · last 30d ago

+

Breakfast Sausage Egg & Cheese

Every ~22 days · last 30d ago

+

Italian Style Meatballs &

AI Chef

Meal ideas and ingredient suggestions from your virtual store assistant.

Quick weeknight dinner

Healthy breakfast

Vegetarian ideas

pasta carbonara

Get suggestions

Clear

pasta carbonara

Shop these ingredients

Add all to cart

Spaghetti

matches "spaghetti" · \$9.17

Add

Bacon

matches "bacon" · \$24.47

Add

Eggs

matches "eggs" · \$5.77

Add

Parmesan

matches "parmesan" · \$21.30

Add

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FoodFellas

Fresh groceries, personalized for you.

Welcome back, Sarah

Free delivery on orders over \$35 (demo)

Search

For you

Browse aisles

Cart

Personalized picks based on your shopping habits.

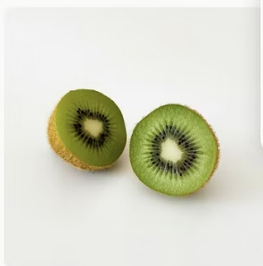
Picked for you

Hybrid retrieval: ALS + candidate pool → XGBoost reorder ranking

Why? ^



Showing 1–4 of 48



Why these picks?

Your all-round picks. We combine what you've bought before with what shoppers who have similar tastes love, and put the items you're most likely to want first. As you shop, things that match what's already in your cart move up.

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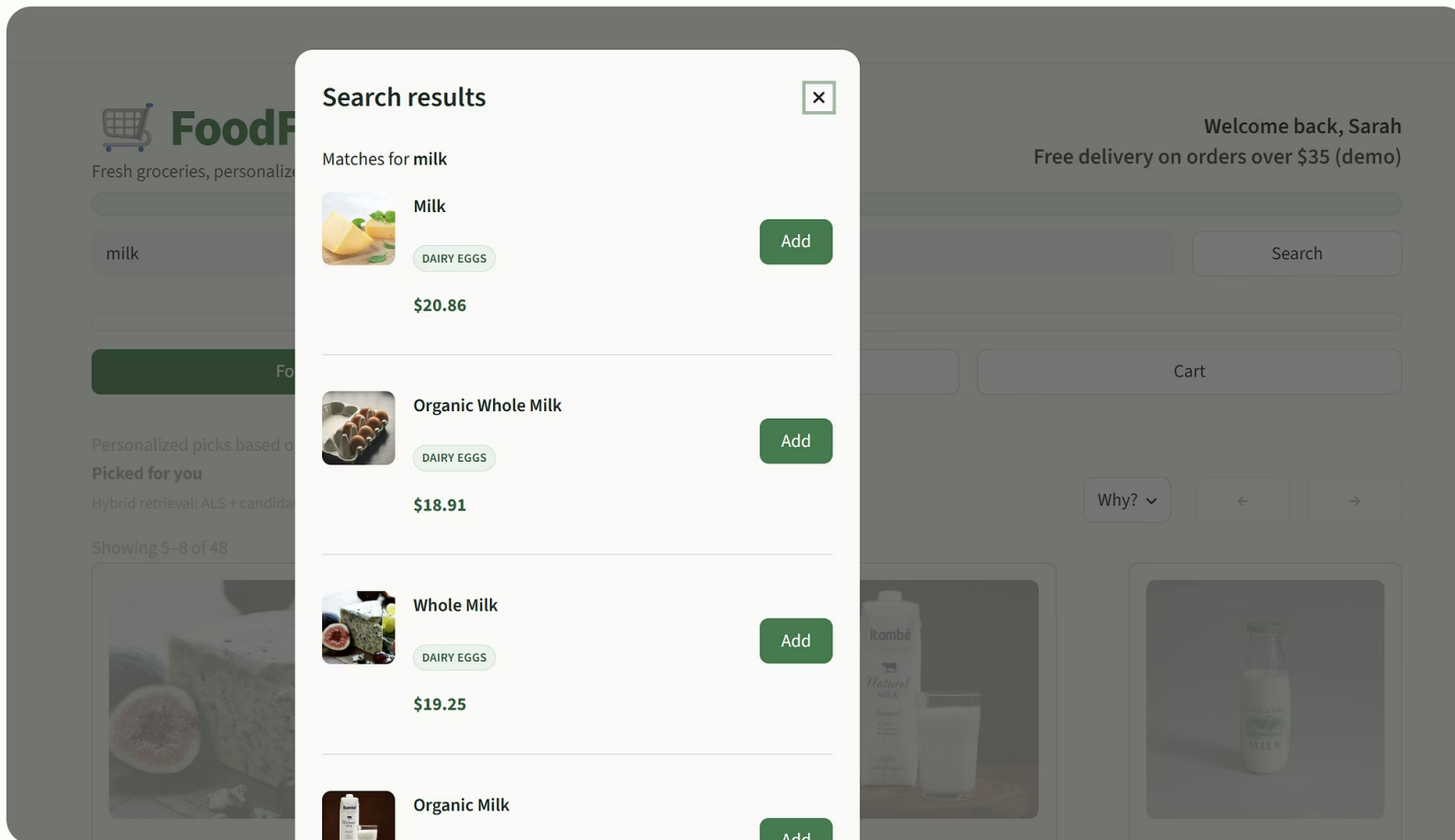
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Cart-Aware Suggestions

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Cold-Start Onboarding

Personalized picks from the very first session

Product info ▾

Product info ▾

Product info ▾

Product info ▾

Pairs with your cart

Products similar to what you just added

Why? ▾



Showing 1–4 of 48



DAIRY EGGS

Total 2% Lowfat Plain Greek
Yogurt
\$10.42

1

Add

Product info ▾



DAIRY EGGS

Large Eggs
\$13.59

1

Add

Product info ▾



DAIRY EGGS

Greek 0% Fat Smooth &
Creamy Plain Yogurt
\$3.15

1

Add

Product info ▾



DAIRY EGGS

Black Cherry Non-Fat Greek
Yogurt
\$23.09

1

Add

Product info ▾

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Personalized picks from the very first session

Add new shopper



Cold-start profile — recommendations use your preferences + store trends.

Display name

Robert De Niro

Household

☒ Just me ☐ Family

Diet

Vegetarian



Favorite departments

alcohol ×

babies ×

bakery ×



Shopping frequency

☒ Weekly ☐ Monthly

Create profile

Product info ▾

Product info ▾

Product info ▾

Pairs with your cart

Products similar to what you just added

Showing 1–4 of 48



DAIRY EGGS

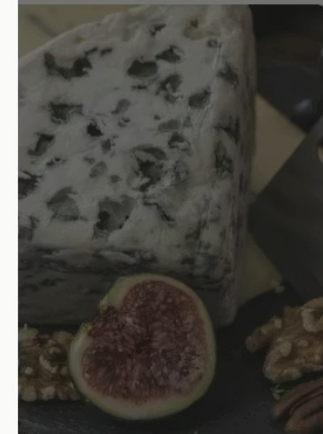
Total 2% Lowfat Plain Greek
Yogurt
\$10.42

1

Add

Product info ▾

W



% Fat Smooth &
Plain Yogurt

Add

Product info ▾

Are you ready for the **Live Demo ?**

Built on **Instacart** Market Basket Data

~200k Users

Anonymized, historic purchases

Over 3M orders

Sorted by user and including product sequence

Synthetic Prices + Info

To add more data to the UI

No Leakage

prior vs train split ensures clean evaluation

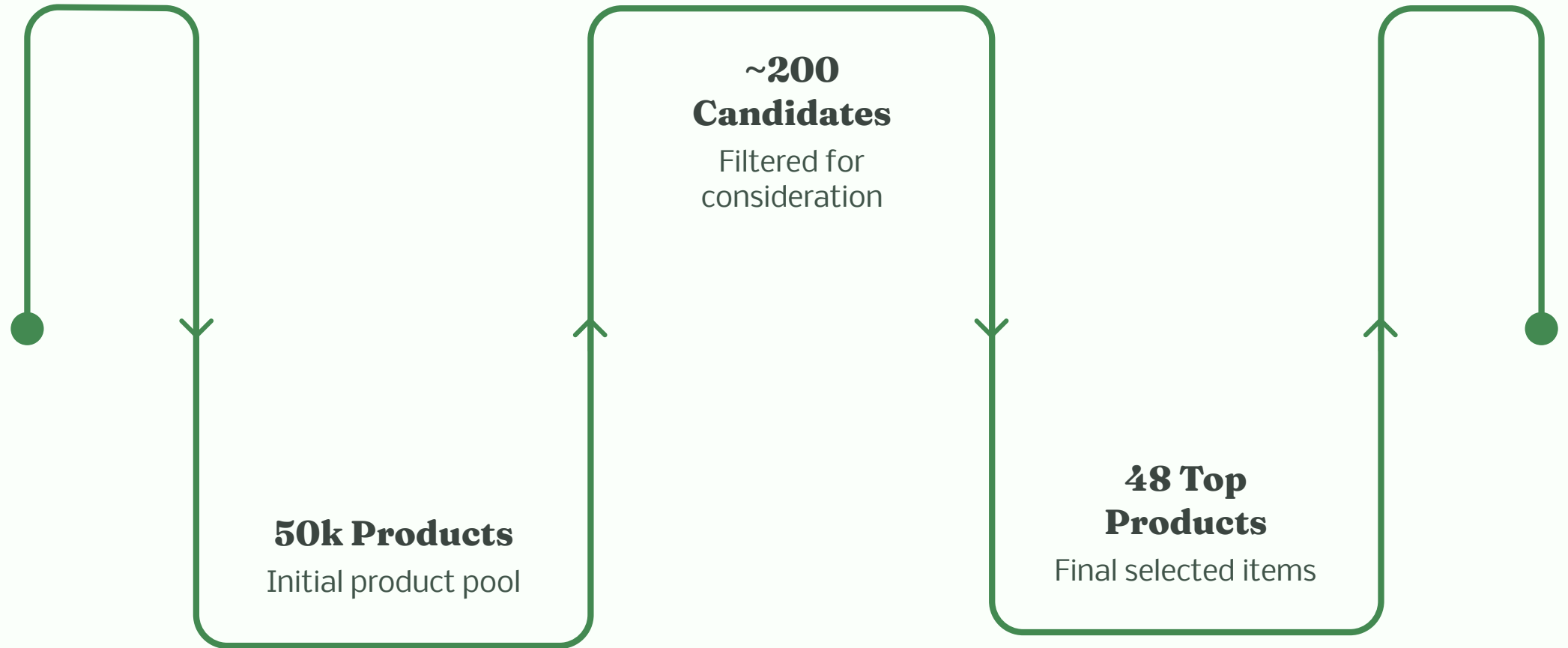
Catalog

Aisle & department data for browsing, cold-start, and explanations

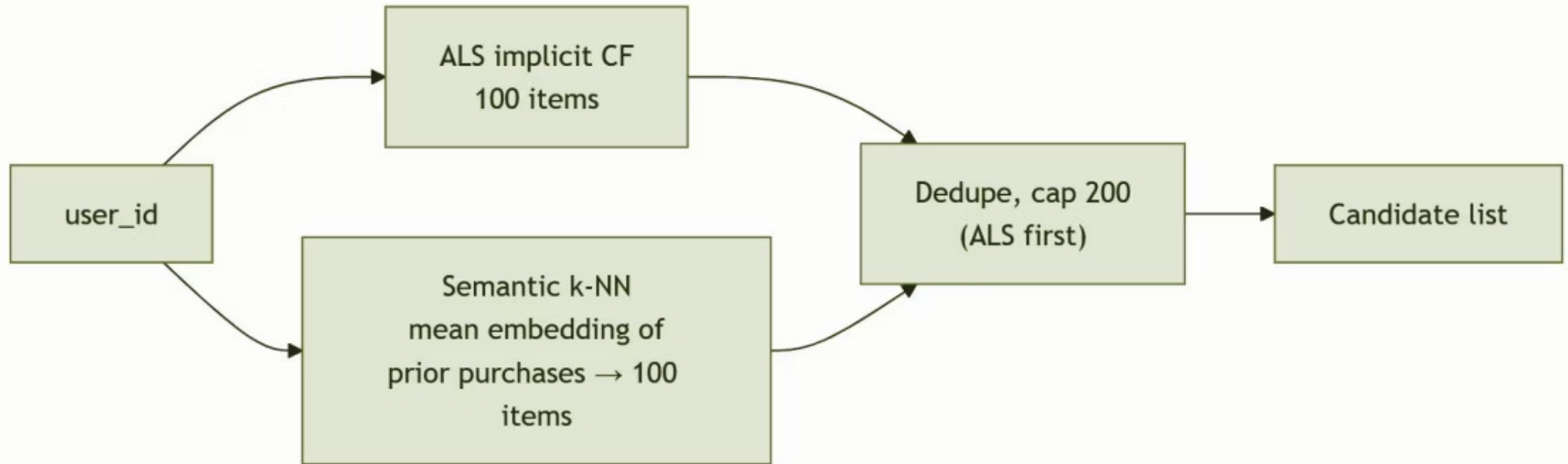
Reorder Signal

Grocery-native reordered label + timing signals

Retrieve → Extract → **Rank** → Present



How The **Magic** Works



Next Steps

- **Integrate the system with large supermarket chains**
- **Gather 4 directional images per product**
- **Add full RuBeer[®] support**

**We'll Make You An
Order You Can't
Refuse!**

(Yeah We Know It's Not The Same Film...)