Recommendation System based on user real-time behaviors

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Agenda

1. Get to know each other
2. What is RecSys?
3. User interaction signals
4. Session-based Recommendation Model
5. Demo
6. Lab

About me

- Sr. Data Scientist @ Grab
- 8 years of experience in ML
- #RecSys, #Search, #LLM
- https://sg.linkedin.com/in/dvquy

About you?

QR Code

Scan with mobile device

https://rt-survey.dvquys.com/s...

Recommender System

recommend something to somebody based on what we understand about them

set of technologies, algorithms and processes

Goals of RecSys

From user perspective:

- Help user discover contents they didn't know exist

- Save user's time by providing shortcuts

From business perspective:

- Provide a feel of "we understand you" for users

- Increase revenue by providing cross-sale opportunities

Example applications: Amazon

Source: Drip.com

Example applications: Facebook
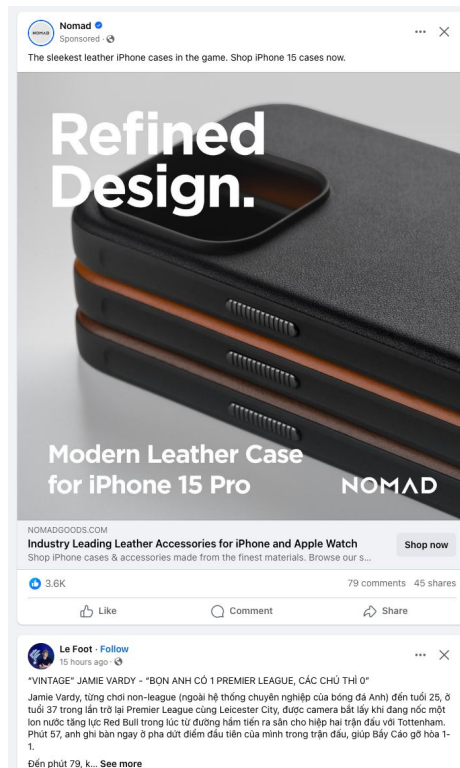
Source: Private

Example applications: Netflix
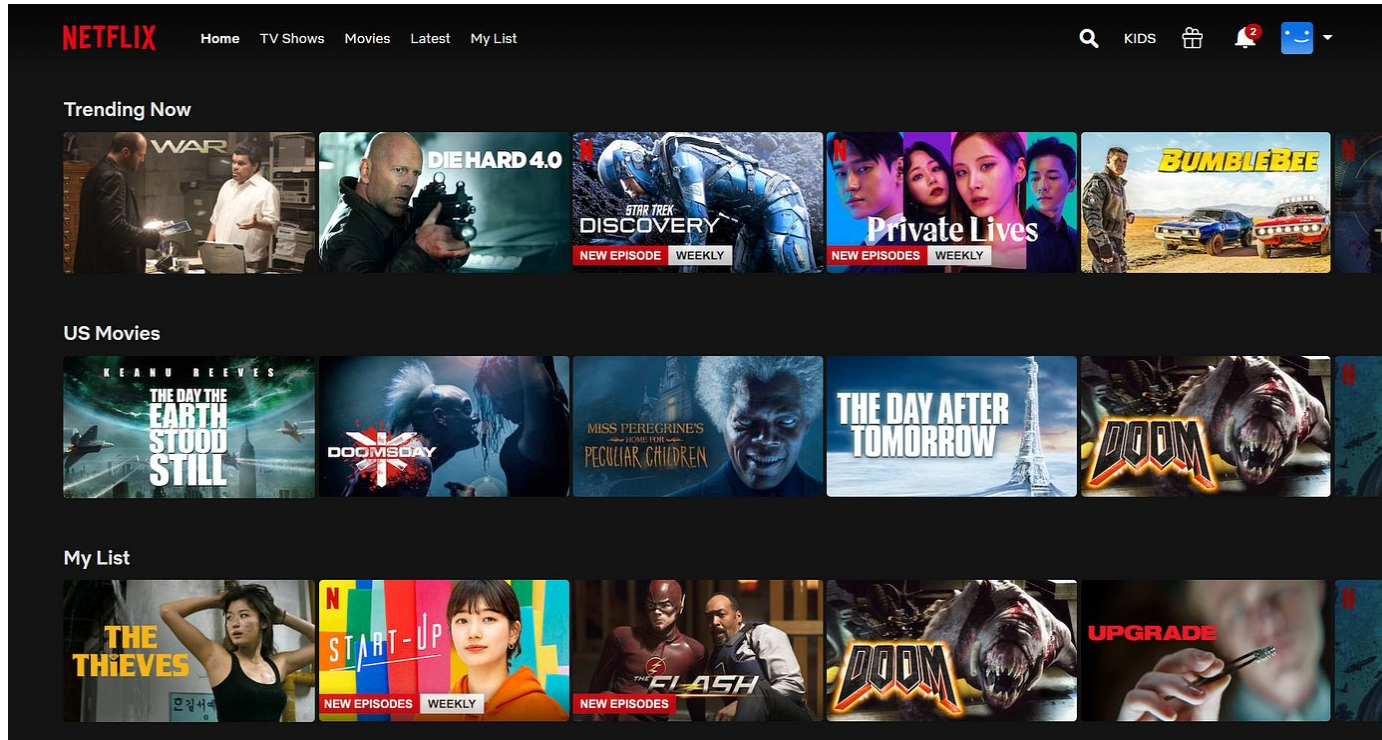
Source:

Why is RecSys important?

35% of Amazon sales[1]

75% of Netflix watches[1]

$1B / year saved for Netflix[2]

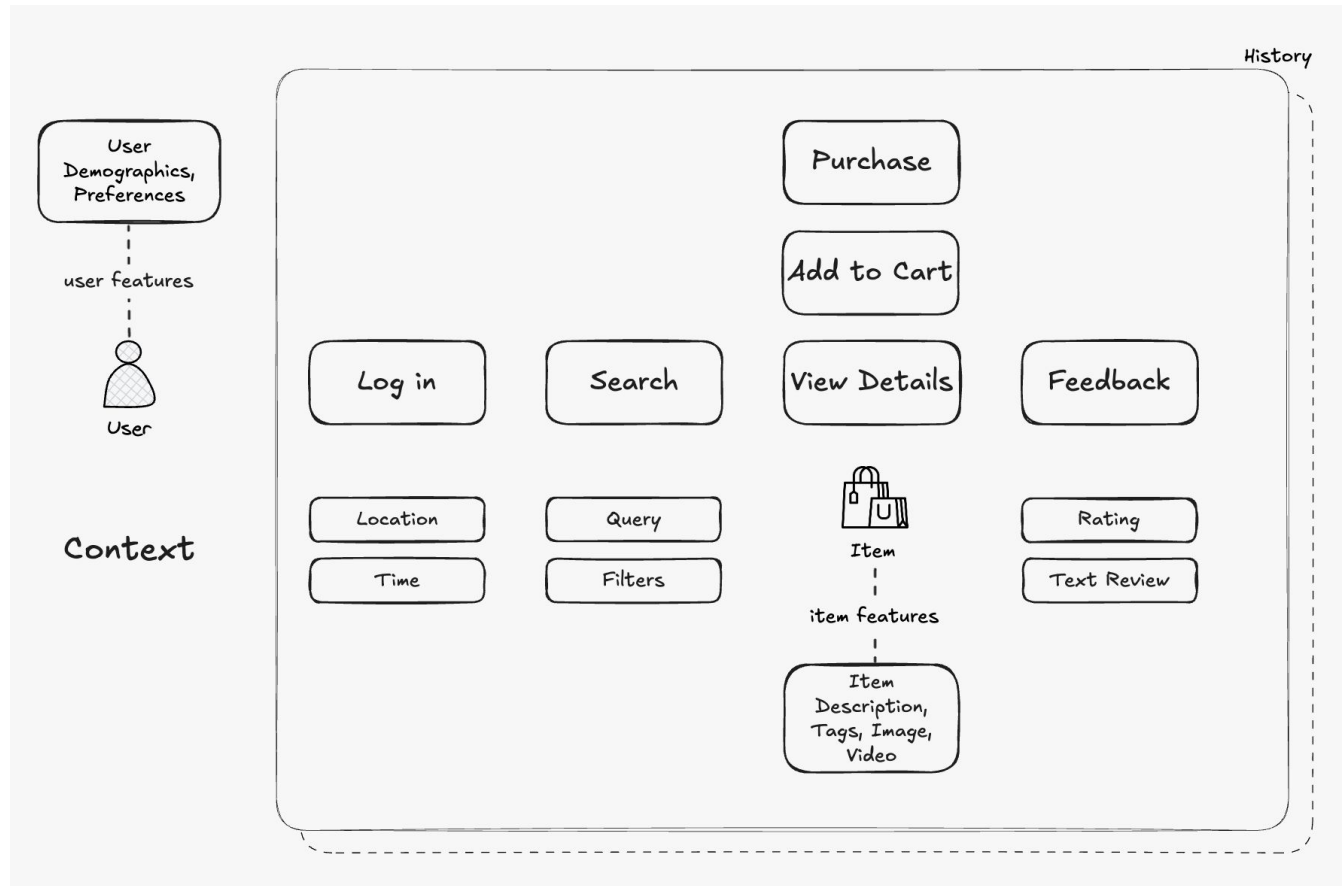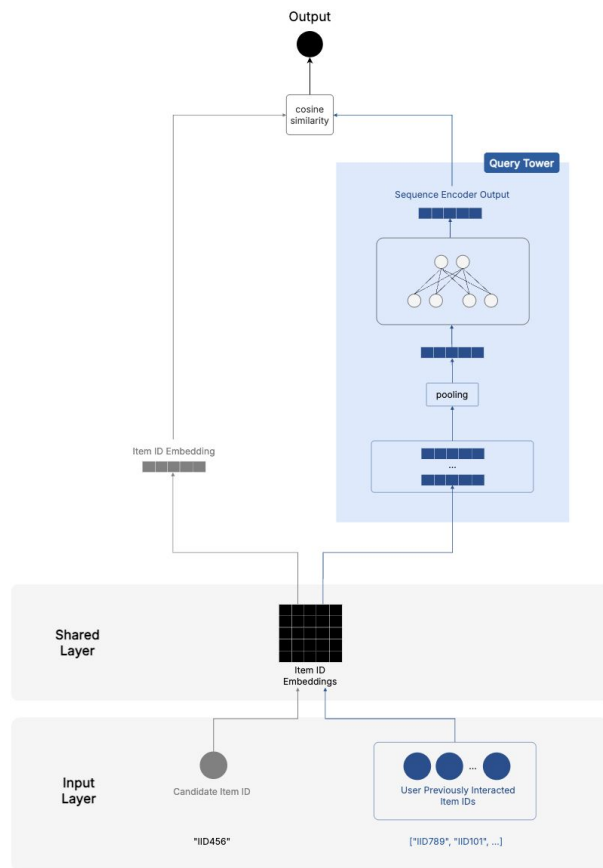1. McKinsey
2. The Netflix Recommender System: Algorithms, Business Value, and Innovation

Session-based RecSys

User Interaction Signals

Session-based (Sequential) Retriever

Output

cosine
similarity

Query Tower

Sequence Encoder Output

pooling

Item ID Embedding

Shared
Layer

Item ID
Embeddings

Input
Layer

Candidate Item ID

User Previously Interacted
Item IDs

"IID456"

["IID789", "IID101", ...]

Retriever Serving
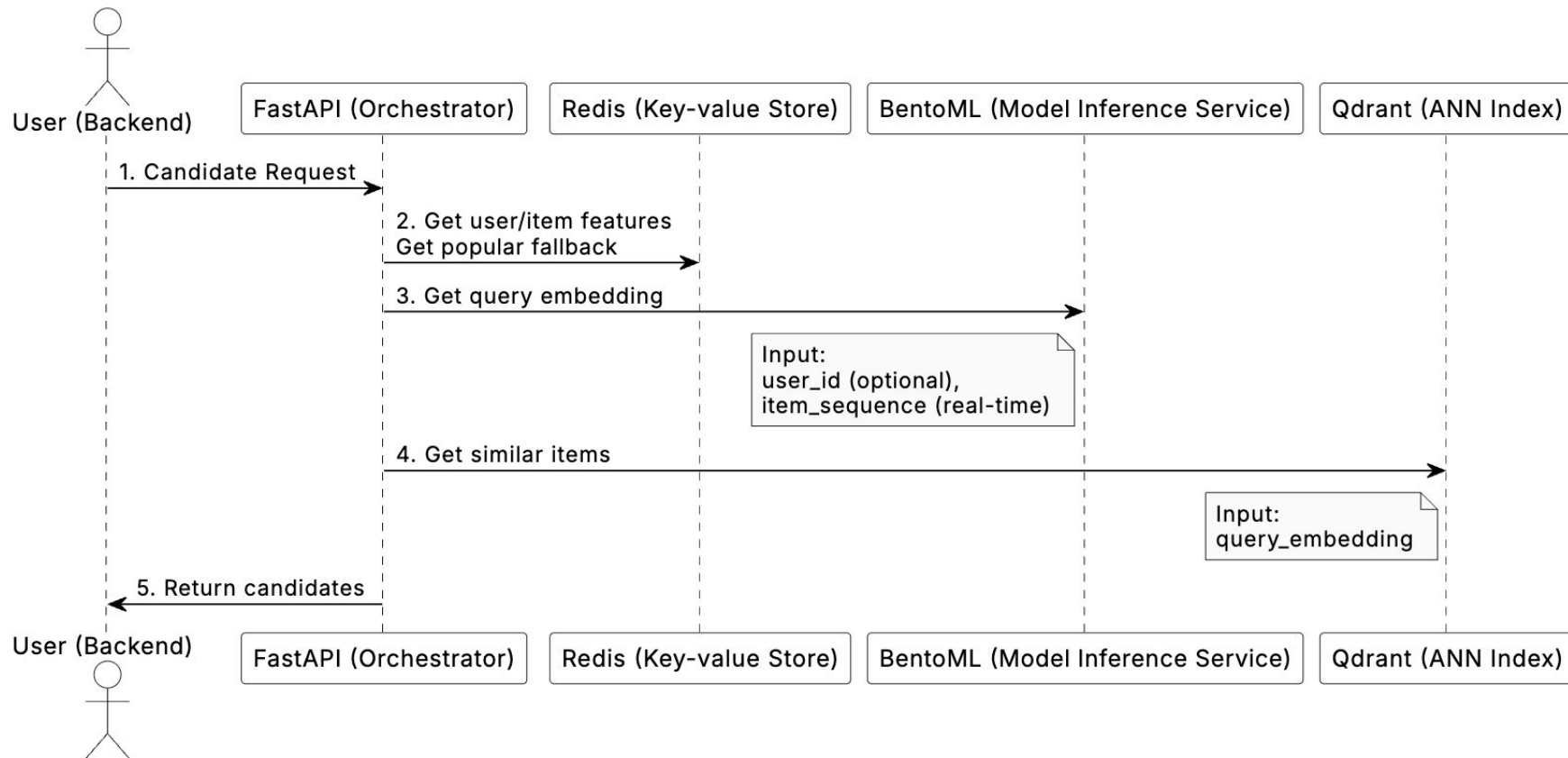
Demo

Home

Search books...
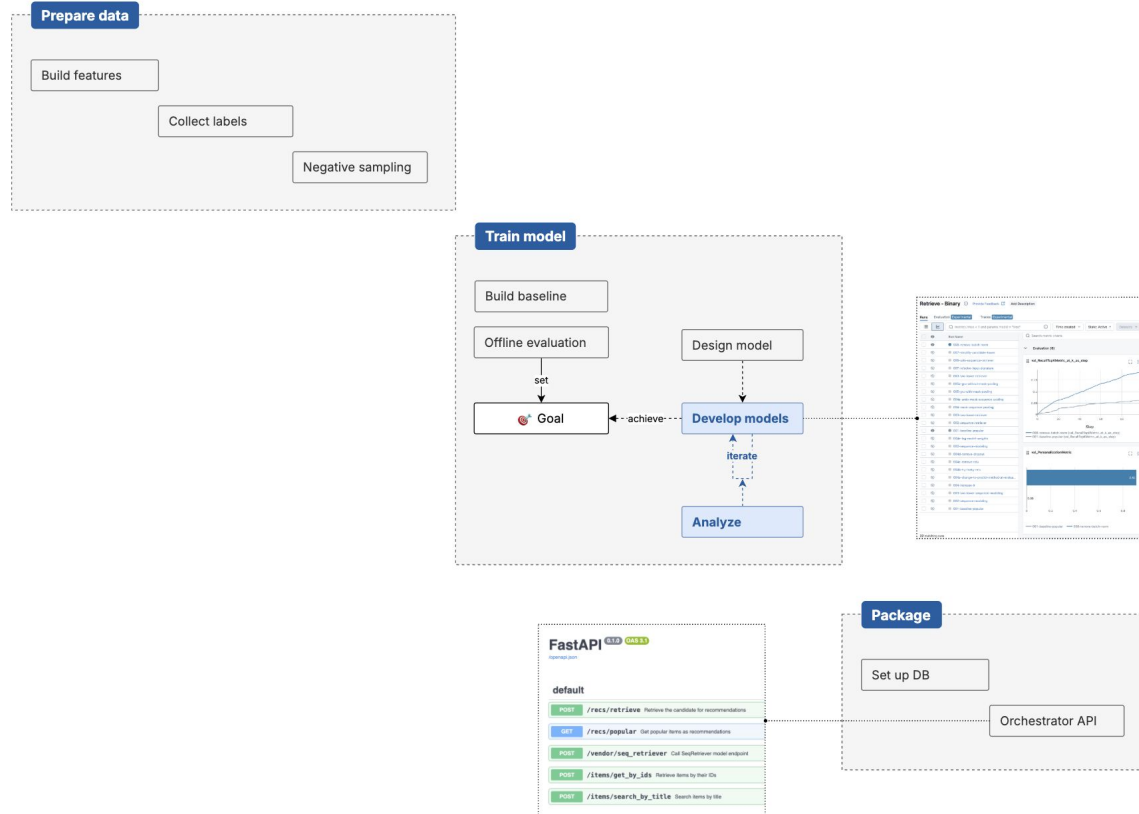
User Lookup
Enter a user ID to fetch their recommendations

User ID

Enter user ID (optional)

Submit

Development Roadmap (Lab)

https://github.com/dvguy13/recsys-seq-model

Thank you!