Review

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Day 1: Word Embedding:

① How are these word embedding models developed?
② What is the semantic meaning behind the model?
③ What are the tricks used to reduce training load?

Day 2: Recommender System Introduction

① How the app interacts with users?
② What are the metric to measure the interaction?
③ How we measure business impacts?
④ High-level workflow of recommender system.
⑤ How we perform A/B test on users?

Day 3: Item Collaborative Filtering (CF)

① Intuition behind Item CF.
② Calculate similarity between two items
③ What offline computation is needed for item CF?
④ How online retrieval is performed?

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Day 4: Swing Model

① How swing model is different from item CF?

② How to adapt similarity calculation?

Day 5: User Collaborative Filtering (CF)

① Intuition behind User CF

② Naive implementation of user CF

③ How to improve user CF to address "hot" item issue?

④ What offline calculation is required for user CF?

⑤ How online retrieval is performed?

⑥ How categorical variables are handled?

Day 6: Matrix Completion Model

① Architecture of matrix completion model?

② How the model is trained?

③ limitations of the model

④ offline computation and storage

⑤ Online inference and retrieval

⑥ Approximate nearest neighbor search.

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Day 7: Two Tower Model

① Architecture of two tower model ?

② Different training setup for model

(a) point-wise (b) pair-wise (c) list-wise

Day 8: Positive and Negative Samples

① How to select positive samples for training?

② How we identify negative samples?

③ Wrong negative samples.

Day 9: Two Tower Model Maintainence

① How two tower model works online and offline ?

② Two types of updates for the model:

(a) full update (b) incremental update

③ proper timing to arrange different updates

Day 10: Two Tower Model with Self-Supervision

① limitation of naive two tower model

② how to learn unpopular items better?

③ architecture of self-supervision

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Day 11: Deep Retrieval

1. item representation
2. architecture of deep retrieval
3. offline training and online inference
4. Two parts of training

Day 12: Other Retrievals

1. location-based retrieval
2. author-based retrieval
3. cache-based retrieval

Day 13: Bloom Filter

1. why we need bloom filter?
2. how we implement bloom filter?
3. where and how bloom filter works?
4. limitation of bloom filter