

8-2: The Cold Start Problem

Learning Objectives

- To understand the various cold-start problems:
 - New user
 - New item
 - New system
- To understand various approaches to addressing cold start problems

New Users ... how to handle

- Problem: lack of a profile of preferences
 - Not an issue for non-personalized
 - When possible, provide useful default personalization options
 - Popular items, demographically relevant
 - Product association
 - Even trust-based social network data
 - Or get explicit preferences (products, attributes)
 - Phase in personalization as feasible

New Items – How to Handle

- Challenge: Can't recommend ... but need ratings (or equivalent) quickly
- Options
 - Use content-based approaches (including similarity to other items) as an early proxy
 - Recommend to random, or well-chosen set of users (people with diverse tastes, tolerance, interest, influence)

New Systems – Worst of Both?

- Nothing else to anchor to ... how do you bootstrap a new system?
 - Syndicated data (get data from another source)
 - Design a non-recommender system that captures data to feed a later recommender

Plenty of Research

- Mostly focuses on use of other forms of data
 - Tagging
 - Social networks
 - Techniques to infer or boost ratings
 - Preference elicitation strategies

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