

Our task : Collaborative Filter Recommendation System for Travel Agency using Lists and thier features

Findings and Comparison with other OTAs :

Aspect	Our List-Based CF	OTA Systems
Similarity Matching	Based on overlapping places or activities	Uses cosine or Pearson similarity on user ratings and histories
Neighbor-Based Recommendations	Recommends itineraries from the most similar user	Similar idea, but applied at scale with millions of users and interactions
Use of Side Information	Binary profile features only	Incorporates reviews, contextual info, embeddings, device types, time of access, etc.
Scale & Complexity	Simple list comparison	Operates on large datasets using matrix factorization, deep learning, and hybrid models
Algorithm Type	Memory-based collaborative filtering	Hybrid: combines memory-based, content-based, and model-based filtering
Data Sparsity Handling	No specific handling	Tackles sparsity using latent factor models (SVD, matrix factorization) and side-data injection

TripAdvisor

Weblink: <https://www.tripadvisor.com>

- Features a “**Similar Experiences**” section recommending attractions based on other users with overlapping interests. This mirrors **user-based collaborative filtering**, suggesting items liked by similar users.
- **Similarity to our algorithm:** Uses other users’ preferences to suggest matching items, just like matching places/activities in lists.

- **Difference:** Probably uses advanced metrics and large-scale data (reviews, location, ratings), not simple list comparisons.
- **Evidence:** Multiple industry sources describe TripAdvisor using collaborative filtering to recommend relevant experiences

Expedia:

Weblink: <https://www.expediagroup.com>

- Utilizes a **hybrid recommender**: combines collaborative filtering with content-based/contextual signals (e.g., channel, search context) and also employs **deep-learning ranking models** on top [IRJMETS+1arXiv+1](#).
- **Similarity to our algorithm:** Uses collaborative patterns from users; simple similarities drive recommendations.
- **Difference:** Incorporates search context, price diversity, deep models—far more complex than list overlaps.
- **Evidence:** Expedia acknowledges using collaborative filtering and experimenting with item/user similarity and ranking with neural networks

Ctrip (China)

- Research from Ctrip (published in a hybrid CF model paper) shows they **use collaborative filtering and matrix factorization**, then enhance with side information cdn.aaai.org.
- **Similarity:** Leverages user–item similarity to recommend, akin to matching user profiles.
- **Difference:** Uses matrix factorization and deep learning—more mathematically advanced than list overlaps.
- **Evidence:** Research attributed to Ctrip confirms their use of CF with side-data and deep-learning enhancements.

Can Collaborative Filtering (CF) Technique be used excluding other recent techniques?

MovieLens and Slope One illustrate that pure CF can be implemented and works for smaller-scale recommendation tasks.

MovieLens is a fully user-based collaborative filtering system built by GroupLens at the University of Minnesota. It recommends movies purely based on users' ratings and similarity to other users.

- **What it uses:** Fully user-item ratings matrix, with methods like user-based CF, item-based CF, and uses similarity metrics like cosine or Pearson correlation. Also incorporates SVD later for performance.
[arxiv.org+15en.wikipedia.org+15girlincomputerscience.blogspot.com+15](https://arxiv.org/abs/1509.02909)
- **Relevance:** Closely aligns with our list-based CF approach in intent—the system leverages overlapping preferences to recommend—but MovieLens uses numerical ratings rather than simple string lists.