Recommender System

2017/2018

Team: North

Rank: 12/59(public)

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CF item/user

Implicit MF

MF-BPR   Content Based

Hybrid

Algorithm

- Content-based

- Memory-based

- Similarity measure : cosine + KNN

CF item

track

1	**0**	**1**	**1**	**1**
0	0	1	1	1
0	1	0	1	1

playlist

URM

X

track

track

track-track

=

track

playlist

prediction

track

1	**0**	**1**	**1**	**1**
0	0	1	1	1
0	1	0	1	1

playlist

track

album

track

artist

attributes

track

Tricks

- Different weights
- More features from playlist
- KNN
- Normalize before URM * track-track
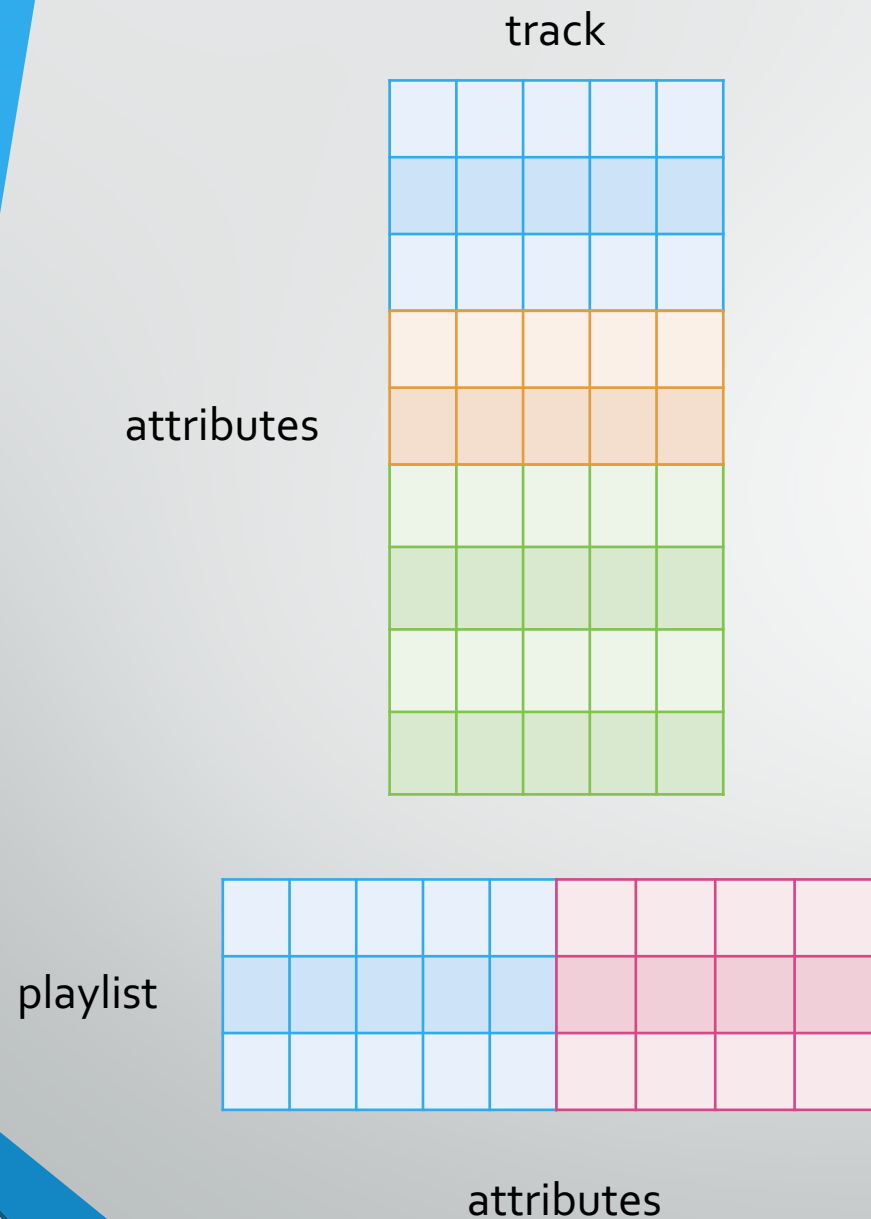
Normalize

playlist

1	0	0	1	1

track

track

track

track				
	12		7	
	-		-	
	-		-	
	45		0	
	1		2	

normalize by rows using l2 norm

Experiment

track

attributes

playlist

attributes

- Model Based
- Symmetric
- Hybrid

Hybrid

- sum similarity matrix
- voting
- validation set

Best Result

cb_item.fit(topk=50, artist=15, album=15, owner=2, tag=2, history=7)

public score = 0.10033

Thank you

Q & A

https://github.com/marioZYN/Recommender-System-Challenge-2017