

# Music Playlist Continuation by Learning from Hand-Curated Examples and Song Features

DLRS Workshop at RecSys'17

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# Problem (un)definition

## Under the bridge (A)

Metallica - Nothing Else Matters

Weezer - Say It Ain't So

Red Hot Chili Peppers - Under The Bridge

Eels - Novocaine For The Soul

Pixies - Wave of Mutilation (UK Surf Version)

Green Day - Basket Case

Radiohead - Creep (Explicit)

Spacehog - In The Meantime

Alice In Chains - Them Bones

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## Under the bridge (B)

Cake - Rock 'n' Roll Lifestyle

Nirvana - Love Buzz

Red Hot Chili Peppers - Under The Bridge

Big Bad Voodoo Daddy - Mr. Pinstripe Suit

Spice Girls - The Lady Is A Vamp

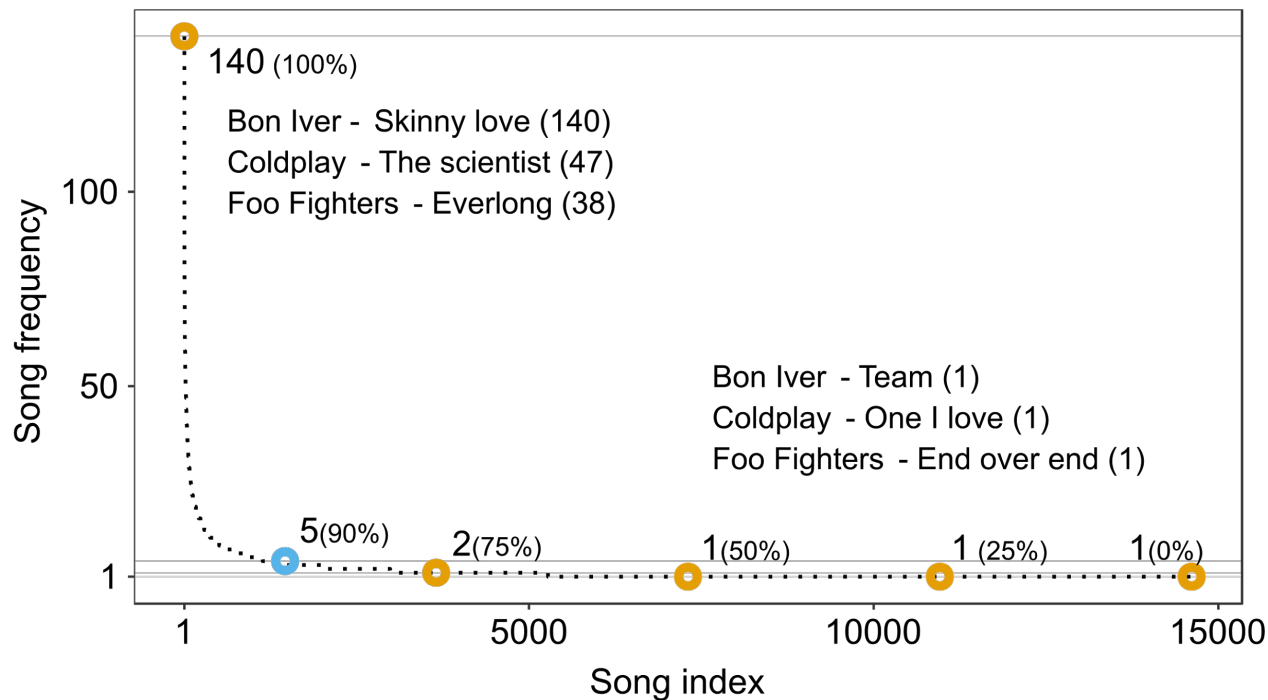
Our Lady Peace - Clumsy

Elliott Smith - Bled White

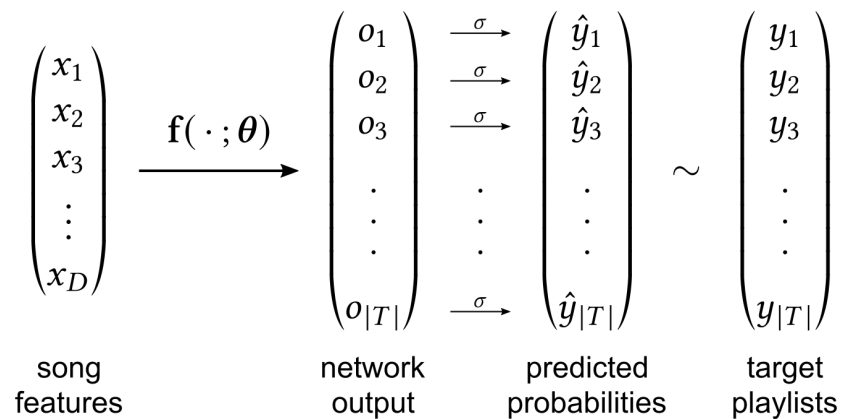
PJ Harvey - Down By The Water

Siouxsie And The Banshees - Playground Twist

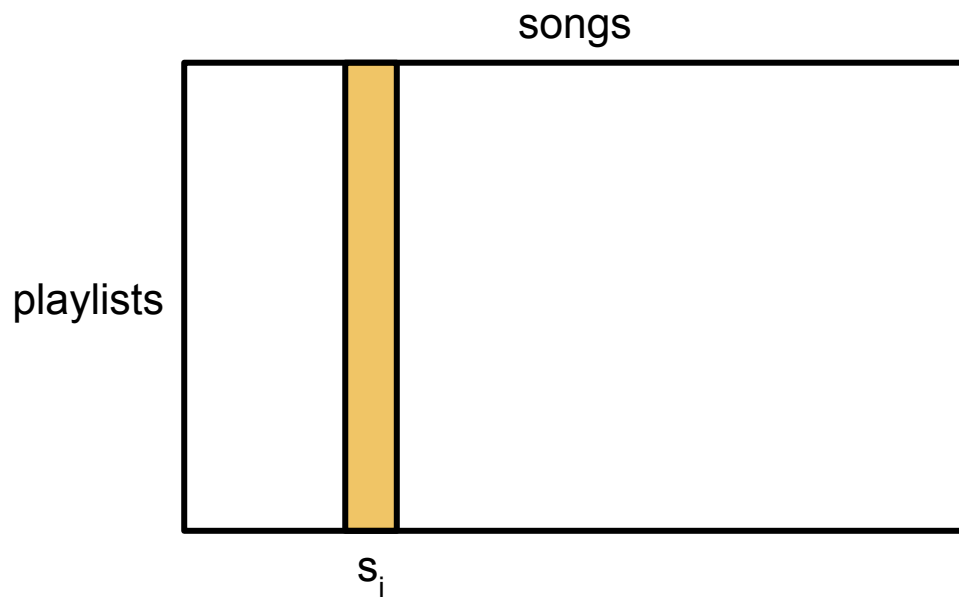
# Bias towards popular songs



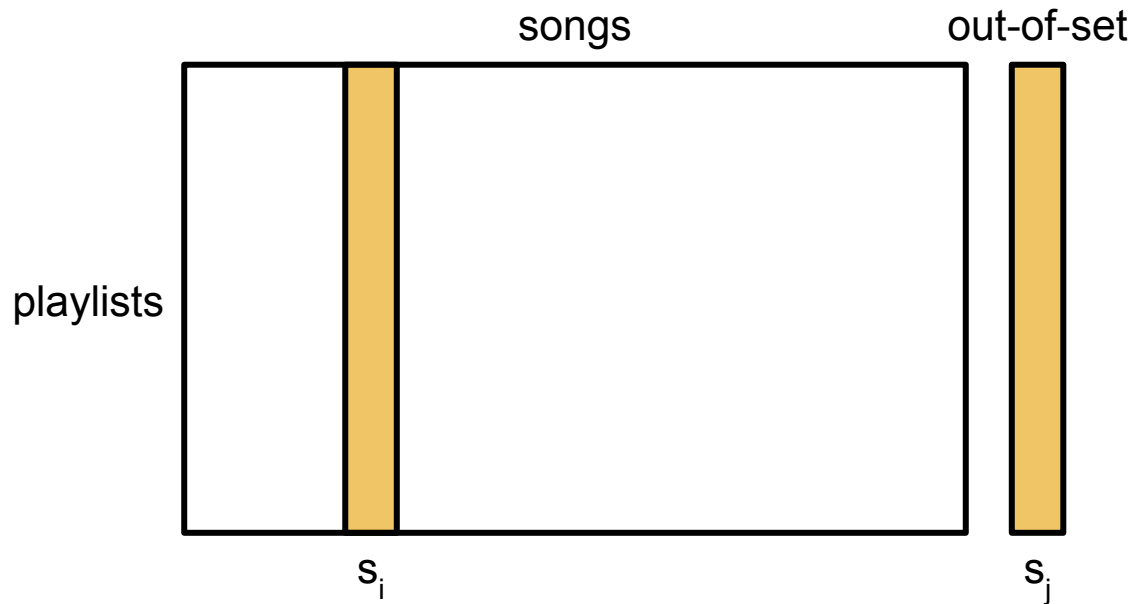
# Hybrid music playlist continuation



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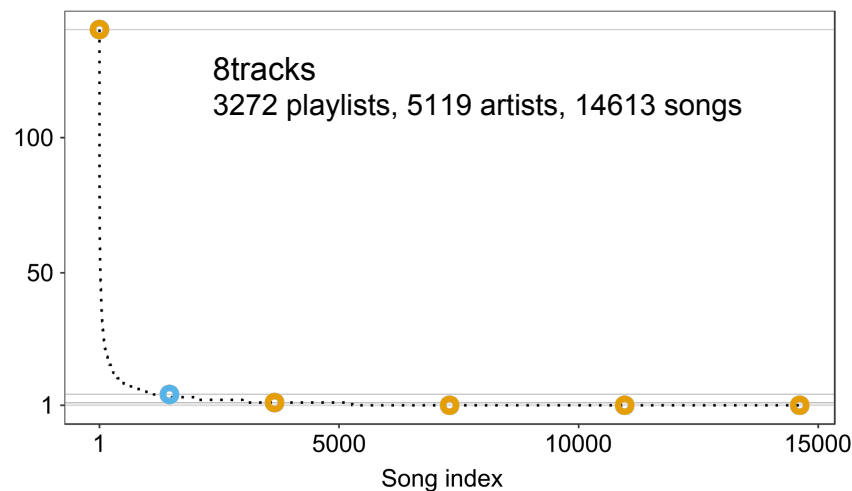
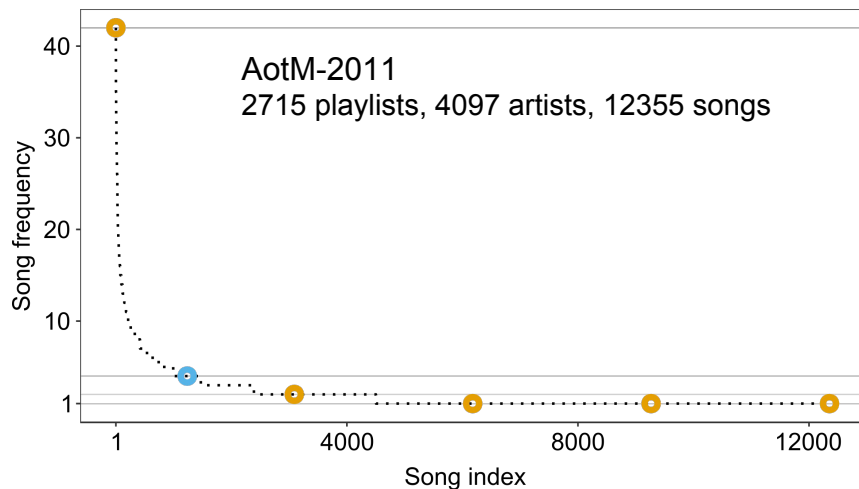


# Hybrid music playlist continuation



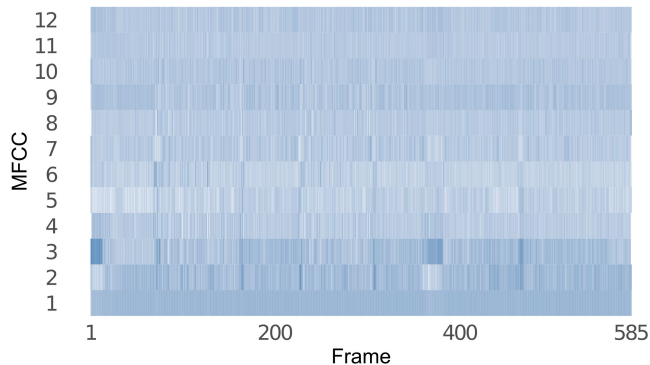
# Study on two playlists datasets

- Compare the proposed approach to Collaborative Filtering (CF)
- Assess multimodal song features

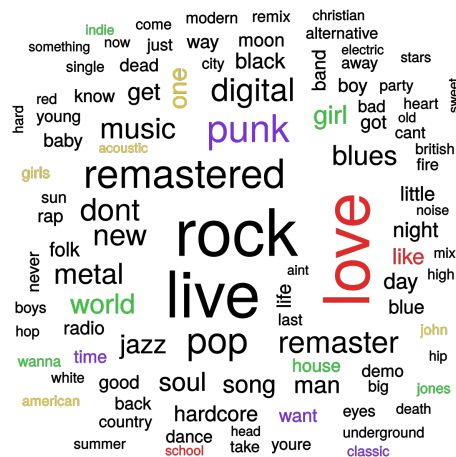


# Multimodal song features

audio



tags



logs

user	song	count
1	3	3
1	6	11
1	12	4
2	2	6
2	4	55
4	2	12
5	4	2
5	7	1
5	12	7
6	1	8
⋮	⋮	⋮



# Results

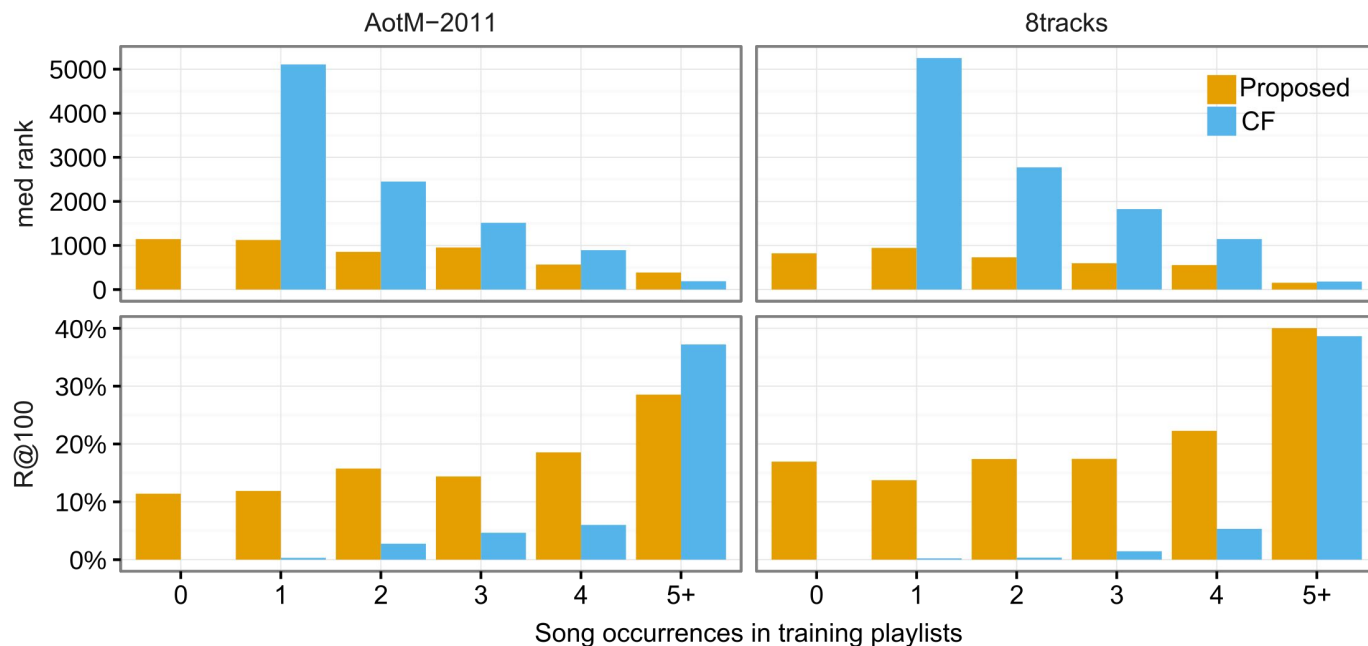
## AotM-2011

feature	med rank	R@100
audio + tags + logs	860	17.61%
logs	993	16.32%
tags	1372	12.99%
CF	1444	14.56%
audio	2715	4.85%
random	6087	0.79%

## 8tracks

feature	med rank	R@100
audio + tags + logs	448.5	26.85%
logs	612.5	23.28%
tags	935	18.57%
CF	1000	19.60%
audio	1985	7.53%
random	7320	0.66%

# Cold-starting rare and out-of-set songs



# Summary

- Flexible and robust hybrid music playlist continuation model
- Competes with CF when sufficient data is available
- Outperforms CF when recommending rare and out-of-set songs
- Different modalities indeed carry complementary song information
- Check it out! <https://github.com/andreuvall/HybridPlaylistContinuation>

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