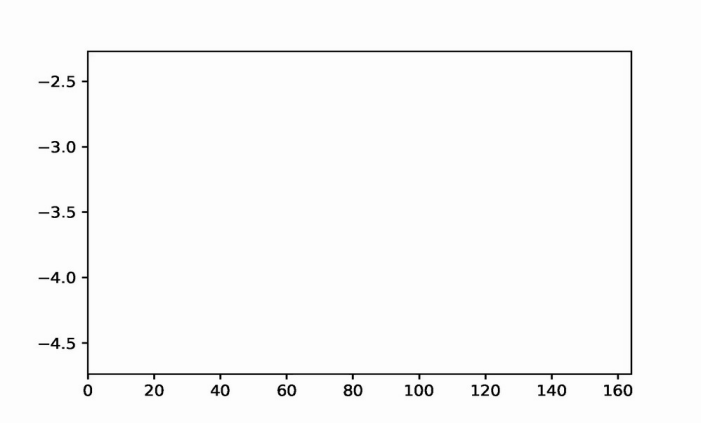
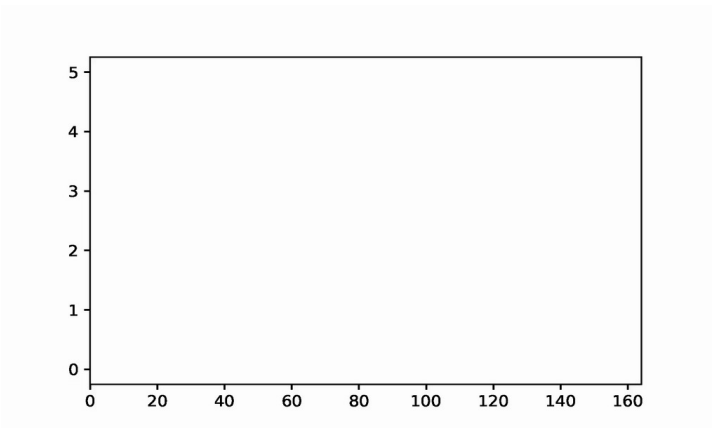
Sequence optimization

Likelyhood



Temperature



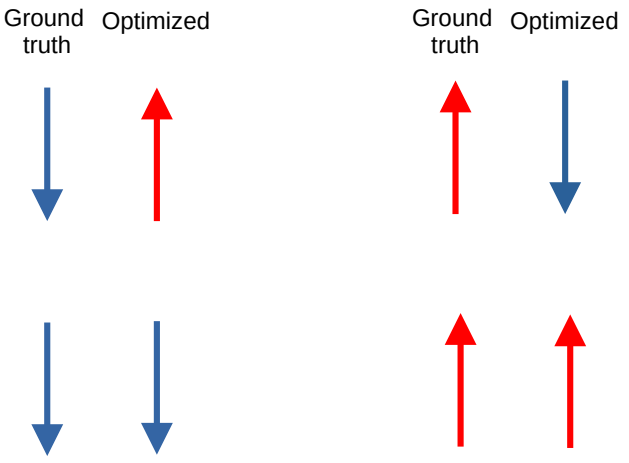
Album

	album_id	track_number	valence	energy	loudness	tempo
0	063rT6ZkMnoJ64zJ0aXPx4	1	start	start	start	start
1	063rT6ZkMnoJ64zJ0aXPx4	11	greater	greater	greater	smaller
2	063rT6ZkMnoJ64zJ0aXPx4	13	smaller	greater	smaller	greater
3	063rT6ZkMnoJ64zJ0aXPx4	12	smaller	greater	greater	smaller
4	063rT6ZkMnoJ64zJ0aXPx4	6	smaller	smaller	smaller	smaller
5	063rT6ZkMnoJ64zJ0aXPx4	10	smaller	smaller	smaller	greater
6	063rT6ZkMnoJ64zJ0aXPx4	2	smaller	smaller	smaller	greater
7	063rT6ZkMnoJ64zJ0aXPx4	7	smaller	greater	greater	greater
8	063rT6ZkMnoJ64zJ0aXPx4	9	greater	greater	greater	greater
9	063rT6ZkMnoJ64zJ0aXPx4	14	greater	smaller	greater	smaller
10	063rT6ZkMnoJ64zJ0aXPx4	5	smaller	greater	greater	greater
11	063rT6ZkMnoJ64zJ0aXPx4	3	greater	greater	greater	smaller
12	063rT6ZkMnoJ64zJ0aXPx4	16	smaller	smaller	smaller	smaller
13	063rT6ZkMnoJ64zJ0aXPx4	15	smaller	greater	smaller	greater
14	063rT6ZkMnoJ64zJ0aXPx4	4	smaller	greater	greater	smaller
15	063rT6ZkMnoJ64zJ0aXPx4	8	smaller	smaller	smaller	smaller

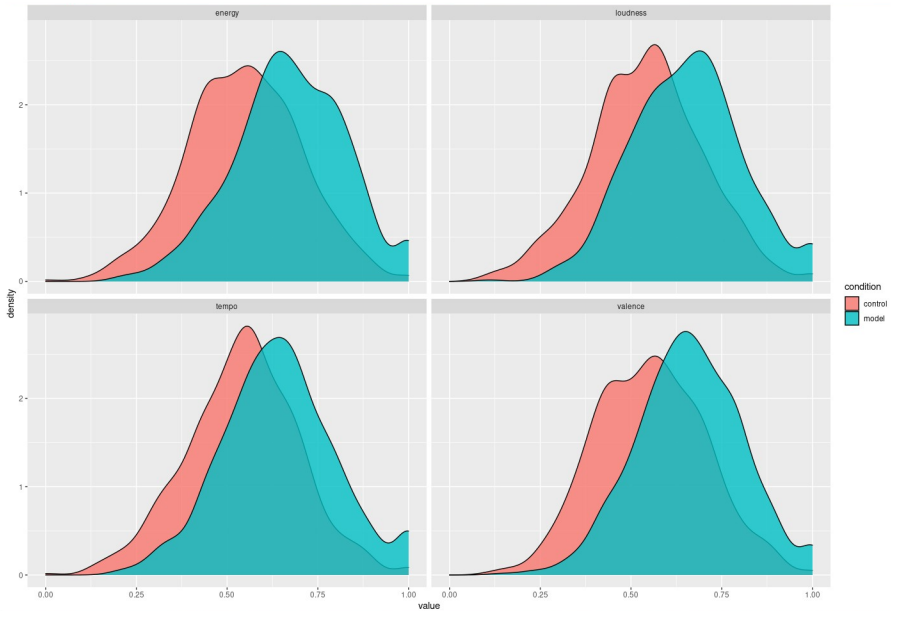
Model evaluation -

Accuracy

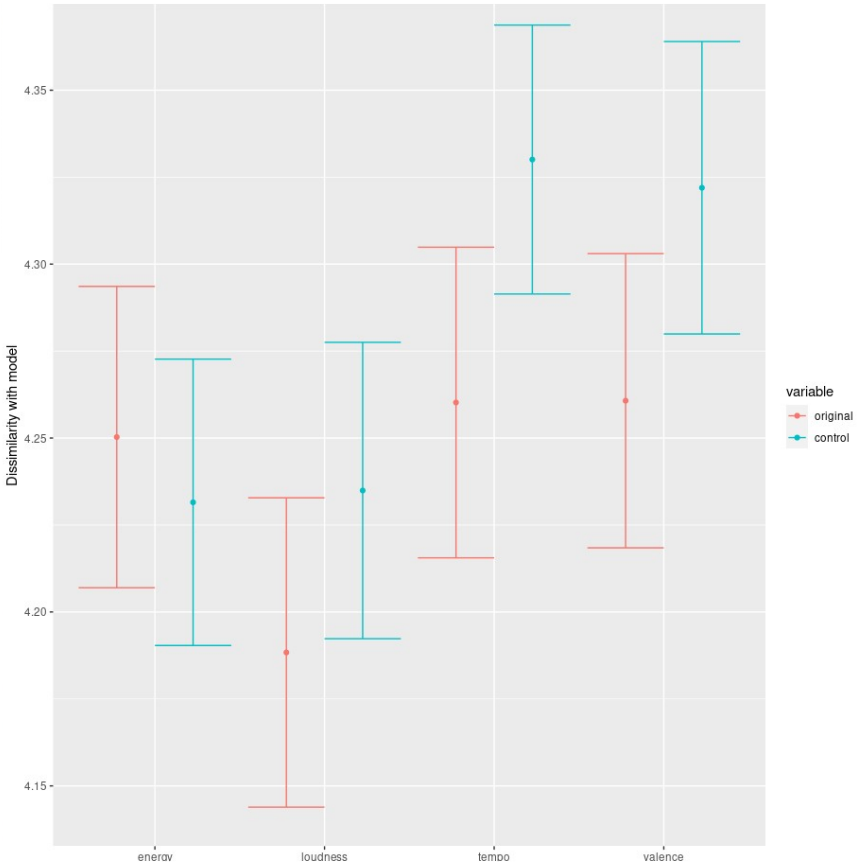
Do we get right directions?



Accuracy – *per album*



Dissimilarities



Model evaluation -

Entropy

Entropy

$$E(d) = -\sum_{i=1}^{|k|} p_i \log_2(p_i)$$

States (k) and its probabilities (p)

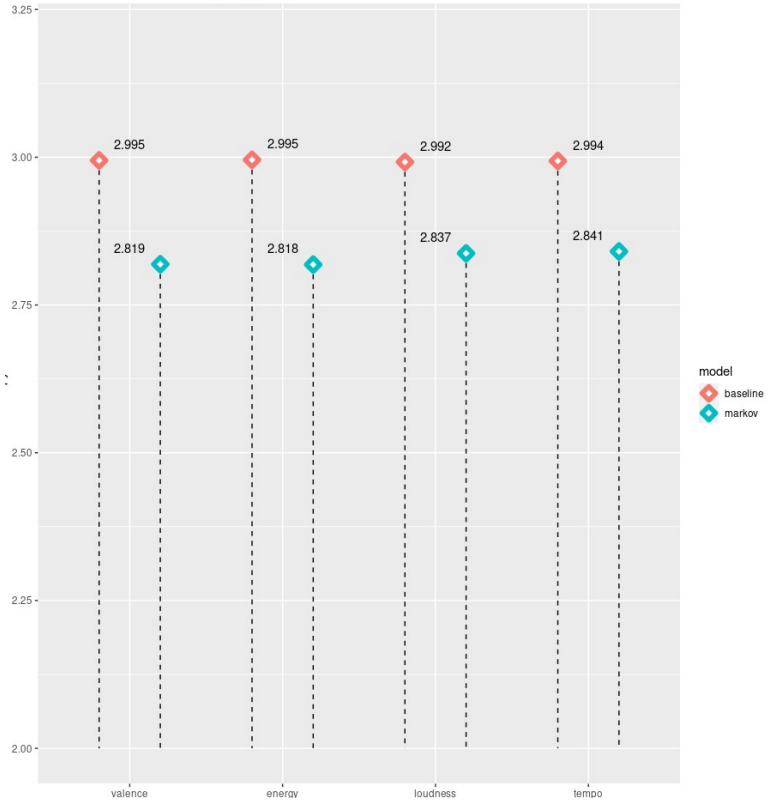
	greater	smaller	start
greater	0.3205376	0.6794624	0
smaller	0.6677269	0.3322731	0
start	0.5336611	0.4663389	0

	greater	smaller	start
greater	0.3223561	0.6776439	0
smaller	0.6515744	0.3484256	0
start	0.5279879	0.4720121	0

	greater	smaller	start
greater	0.3118086	0.6881914	0
smaller	0.6616254	0.3383746	0
start	0.5075643	0.4924357	0

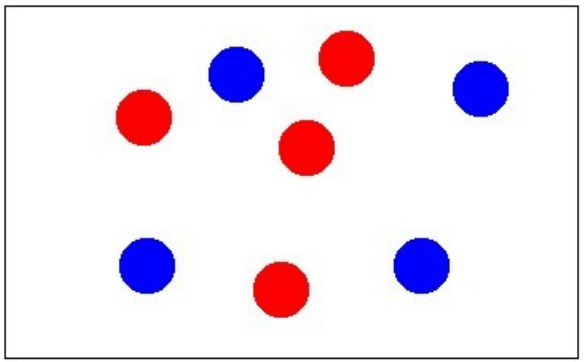
	greater	smaller	start
greater	0.3328422	0.6671578	0
smaller	0.6619533	0.3380467	0
start	0.5075643	0.4924357	0

Overall Entropy

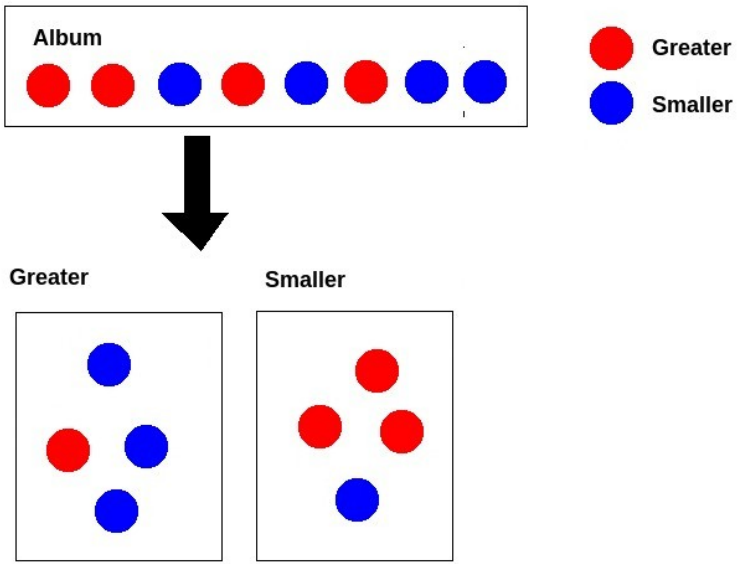


Entropy for a partition and Information Gain

Data set



Overall entropy =
1/2*log2(1/2)+1/2*log2(1/2) = 2



Paratition entropy =
1/4*log2(1/4)*w+3/4*log2(3/4)*w

Information Gain