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Apparel Window Recommendation

At each time-step we have to recommend a window of 4 images which are based on previous likes,dislikes and neutral choice of user.So we have used 2 different techniques to achieve this.
Technique 1 :

1. Initially we have 5000 image Databases. We calculate embedding of this images from pretrained model ResNet50.
2. Compute cosine-similarity matrix between these embeddings.
3. Now Initially we show 4 random images. And users like, dislike or give neutral opinion on these images.
4. We find similarity between liked and database images and extract top 50% of it, for dislike and database images also find similarity and remove top 20 images and add bottom images which may be similar and for neutral and database images we take top 10 images and add that also in our case. So we make a new database of these images(which is ~3000 in avg case from 5000).(new database which is narrow down database from all original images every time so we got narrow down on choices)
5. Now from the new database we take the top 3 images and one image randomly from this new database and show these 4 into a window of images.
6. 4 and 5 repeats till our catalog ends or the user will find his/her desired item.

Technique 2:

1. First 3 steps are the same.
2. Here we maintain one hidden_embedding which comes from previous timestep, let's say we are at timestep T so we take linear combination of all previous liked image embedding and this hidden_embedding and new database of image as mention is previous one to find similarity and show top similar image into 4th place. For 1st and 2nd image we used similar approach and 3rd image we show randomly from this new database.
3. Repeat step 2.

Average time to generate a new window is 0.035 seconds.
Any CPU with minimum 4 GB ram.