

Harpy Aerospace Summer Internship

AIOT project Recommendation system



Jhanavi S

Madras Institute of Technology

2022510020


B. Tech Artificial Intelligence and Data Science

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LOADING THE DATASET

Downloading and preparing dataset 4.70 MiB (download: 4.70 MiB, generated: 32.41 MiB, total: 37.10 MiB) to /root/tensorflow_datasets/movielens/100k-ratings/0.1.1...

0% Completed ... 100%  1/1 [00:03<00:00, 3.35s/ url]


0% Size ... 100%  4/4 [00:03<00:00, 2.69s/ MiB]

Extraction completed ... 100%  23/23 [00:03<00:00, 3.46s/ file]

Dataset movielens downloaded and prepared to /root/tensorflow_datasets/movielens/100k-ratings/0.1.1. Subsequent calls will reuse this data.

Downloading and preparing dataset 4.70 MiB (download: 4.70 MiB, generated: 158.35 KiB, total: 4.84 MiB) to /root/tensorflow_datasets/movielens/100k-movies/0.1.1...

0% Completed ... 100%  1/1 [00:00<00:00, 12.24 url/s]

0% Size ... 100%  46240294624029 [00:00<00:00, 77513002.85 MiB/s]

Extraction completed ... 0/0 [00:00<?, ? file/s]

Dataset movielens downloaded and prepared to /root/tensorflow_datasets/movielens/100k-movies/0.1.1. Subsequent calls will reuse this data.

Viewing one dataset:

Ratings Dataset:

User ID: b'138'

Movie Title: b'"One Flew Over the Cuckoo's Nest (1975)'"

User ID: b'92'

Movie Title: b'Strictly Ballroom (1992)'

User ID: b'301'

Movie Title: b'Very Brady Sequel, A (1996)'

User ID: b'60'

Movie Title: b'Pulp Fiction (1994)'

User ID: b'197'

Movie Title: b'Scream 2 (1997)'

MODEL 1:

```
Epoch 1/10
20/20 [=====] - 32s 1s/step - factorized_top_k/top_1_categorical_accuracy: 1.3750e-04 - factorized_top_k/top_5_categorical_accuracy: 0.0098 - factorized_top_k/top_10_categorical_accuracy: 0.0000
Epoch 2/10
20/20 [=====] - 34s 1s/step - factorized_top_k/top_1_categorical_accuracy: 1.6250e-04 - factorized_top_k/top_5_categorical_accuracy: 0.0066 - factorized_top_k/top_10_categorical_accuracy: 0.0000
Epoch 3/10
20/20 [=====] - 24s 1s/step - factorized_top_k/top_1_categorical_accuracy: 8.7500e-04 - factorized_top_k/top_5_categorical_accuracy: 0.0007 - factorized_top_k/top_10_categorical_accuracy: 0.0000
Epoch 4/10
20/20 [=====] - 24s 1s/step - factorized_top_k/top_1_categorical_accuracy: 6.6250e-04 - factorized_top_k/top_5_categorical_accuracy: 0.0000 - factorized_top_k/top_10_categorical_accuracy: 0.0000
Epoch 5/10
20/20 [=====] - 24s 1s/step - factorized_top_k/top_1_categorical_accuracy: 2.3750e-04 - factorized_top_k/top_5_categorical_accuracy: 0.0045 - factorized_top_k/top_10_categorical_accuracy: 0.0000
Epoch 6/10
20/20 [=====] - 24s 1s/step - factorized_top_k/top_1_categorical_accuracy: 1.1250e-04 - factorized_top_k/top_5_categorical_accuracy: 0.0035 - factorized_top_k/top_10_categorical_accuracy: 0.0000
Epoch 7/10
20/20 [=====] - 24s 1s/step - factorized_top_k/top_1_categorical_accuracy: 1.5000e-04 - factorized_top_k/top_5_categorical_accuracy: 0.0033 - factorized_top_k/top_10_categorical_accuracy: 0.0000
Epoch 8/10
20/20 [=====] - 24s 1s/step - factorized_top_k/top_1_categorical_accuracy: 2.3250e-04 - factorized_top_k/top_5_categorical_accuracy: 0.0034 - factorized_top_k/top_10_categorical_accuracy: 0.0000
Epoch 9/10
20/20 [=====] - 24s 1s/step - factorized_top_k/top_1_categorical_accuracy: 2.6250e-04 - factorized_top_k/top_5_categorical_accuracy: 0.0039 - factorized_top_k/top_10_categorical_accuracy: 0.0000
Epoch 10/10
20/20 [=====] - 27s 1s/step - factorized_top_k/top_1_categorical_accuracy: 3.3750e-04 - factorized_top_k/top_5_categorical_accuracy: 0.0047 - factorized_top_k/top_10_categorical_accuracy: 0.0000
tensorflow_recommenders.layers.factorized_top_k.BruteForce at 0x7836a31db2f0:
```

```
Top 3 recommendations for user 42: [b'Romper Stomper (1992)' b'Killing Zoe (1994)' b'Speed (1994)'
b'Copycat (1995)' b'Abyss, The (1989)' b'Malice (1993)'
b'Mallrats (1995)' b'Cape Fear (1991)' b'Tombstone (1993)'
b'Clear and Present Danger (1994)']
```

MODEL 2:

```
Epoch 1/10
20/20 [=====] - 24s 509ms/step - factorized_top_k/top_1_categorical_accuracy: 2.5000e-05 - factorized_top_k/top_5_categorical_accuracy: 0.0026 - factorized_top_k/top_10_categorical_accuracy: 0.0000
Epoch 2/10
20/20 [=====] - 24s 1s/step - factorized_top_k/top_1_categorical_accuracy: 2.5000e-05 - factorized_top_k/top_5_categorical_accuracy: 0.0026 - factorized_top_k/top_10_categorical_accuracy: 0.0000
Epoch 3/10
20/20 [=====] - 19s 840ms/step - factorized_top_k/top_1_categorical_accuracy: 3.7500e-05 - factorized_top_k/top_5_categorical_accuracy: 0.0030 - factorized_top_k/top_10_categorical_accuracy: 0.0000
Epoch 4/10
20/20 [=====] - 20s 838ms/step - factorized_top_k/top_1_categorical_accuracy: 1.2500e-05 - factorized_top_k/top_5_categorical_accuracy: 0.0033 - factorized_top_k/top_10_categorical_accuracy: 0.0000
Epoch 5/10
20/20 [=====] - 19s 846ms/step - factorized_top_k/top_1_categorical_accuracy: 0.0000e+00 - factorized_top_k/top_5_categorical_accuracy: 0.0028 - factorized_top_k/top_10_categorical_accuracy: 0.0000
Epoch 6/10
20/20 [=====] - 19s 823ms/step - factorized_top_k/top_1_categorical_accuracy: 0.0000e+00 - factorized_top_k/top_5_categorical_accuracy: 0.0018 - factorized_top_k/top_10_categorical_accuracy: 0.0000
Epoch 7/10
20/20 [=====] - 23s 1s/step - factorized_top_k/top_1_categorical_accuracy: 0.0001 - factorized_top_k/top_5_categorical_accuracy: 0.0141 - factorized_top_k/top_10_categorical_accuracy: 0.0000
Epoch 8/10
20/20 [=====] - 18s 807ms/step - factorized_top_k/top_1_categorical_accuracy: 2.5000e-04 - factorized_top_k/top_5_categorical_accuracy: 0.0035 - factorized_top_k/top_10_categorical_accuracy: 0.0000
Epoch 9/10
20/20 [=====] - 19s 828ms/step - factorized_top_k/top_1_categorical_accuracy: 0.0013 - factorized_top_k/top_5_categorical_accuracy: 0.0068 - factorized_top_k/top_10_categorical_accuracy: 0.0000
Epoch 10/10
20/20 [=====] - 19s 842ms/step - factorized_top_k/top_1_categorical_accuracy: 9.1250e-04 - factorized_top_k/top_5_categorical_accuracy: 0.0054 - factorized_top_k/top_10_categorical_accuracy: 0.0000
tensorflow_recommenders.layers.factorized_top_k.BruteForce at 0x7836a31db670:
```

```
Top 3 recommendations for user 42: [b'Baby-Sitters Club, The (1995)' b'Swan Princess, The (1994)'
b'Striking Distance (1993)' b'Rent-a-Kid (1995)' b'Tom and Huck (1995)'
b'Little Rascals, The (1994)' b'Kid in King Arthur's Court, A (1995)'
b'Love Affair (1994)' b'For Love or Money (1993)' b'Amos & Andrew (1993)']
```

