This document describes the dataset and code descriptions.

HVIDEO description

- Data description

HVIDEO is a smart TV dataset that contains 260k users watching logs from October 1st 2016 to June 30th 2017. The logs are collected on two platforms (the V-domain and the E-domain) from a well-known smart TV service provider.

The *V-domain* contains family video watching behavior including TV series, movies, cartoons, talent shows and other programs. And the *E-domain* covers online educational videos based on textbooks from elementary to high school, as well as instructional videos on sports, food, medical, etc.

On the two platforms, we gather user behaviors, including which video is played, when a smart TV starts to play a video, and when it stops playing the video, and how long the video has been watched.

- Data statistics

We craw 13,714 overlapped user, which includes 16,407 items, 227,390 logs of *V-domain* and 3,380 items, 177,758 logs of *E-domain*.

Table 1: Statistics of the HVIDEO dataset.

V-domain	
#Items	16,407
#Logs	227,390
E-domain	
#Items	3,380
#Logs	177,758
#Overlapped-users	13,714
#Sequences	134,349
#Training-sequences	102,182
#Test-sequences	13,201
#Validation-sequences	18,966

We randomly divide the data sets into training set(75%), test set(10%), valid set(15%)

- traindata.txt
- traindata_sess.txt
- testdata.txt
- testdata_sess.txt
- validdata.txt
- valisdata_sess.txt

Code description

- Version

Python 3.6

Tensorflow 1.12.0

- Baseline code

POP, Item-KNN, BPR-MF see: https://github.com/hidasib/GRU4Rec

Conet see: baseline/Conet, which is quoted from " Conet: Collaborative Cross Networks for Cross-Domain Recommendation "

VUI-KNN see: baseline/VUI-KNN/, preprocess.py is the pre-processing code that generates the input data needed by code vui-knn.py.

NCF-MLP++ see: baseline/ncfmlp.py, which is quoted from "Neural Collaborative Filtering"

GRU4REC see: baseline/GRU4REC.py, which is implemented in Tensorflow

HGRU4REC see: baseline/HRNN.py, which is implemented in Tensorflow

- PINET code

PINET model see: PINET/PiNet.py

No SFU see: PINET/PiNet_WSFU.py

No SFUCTU see: PINET/PiNet_WSFUACTU.py