

## **Experiment Design for Data Science – Exercise 2**

### **Group 13**

#### **GitHub repositories used:**

“Collaborative Memory Network for Recommendation Systems” (SIGIR 18):  
<https://github.com/tebesu/CollaborativeMemoryNetwork>

“Are We Really Making Much Progress? A Worrying Analysis of Recent Neural Recommendation Approaches” (RecSys 19):  
[https://github.com/MaurizioFD/RecSys2019\\_DeepLearning\\_Evaluation](https://github.com/MaurizioFD/RecSys2019_DeepLearning_Evaluation)

#### **Python packages versions:**

Used the requirement.txt file from the second GitHub repository

#### **Commands executed:**

##### Pre-train the data:

###### Citeulike dataset:

```
python pretrain.py --gpu 0 --dataset data/citeulike-a.npz --output  
pretrain/citeulike-a_eX.npz -e X  
For X in [20,40,50,60,80,100]
```

###### Epinions dataset:

```
python pretrain.py --gpu 0 --dataset data/citeulike-a.npz --output  
pretrain/citeulike-a_e50.npz
```

##### Variation of number of hops:

```
python train.py --gpu 3 --dataset data/citeulike-a.npz --pretrain  
pretrain/citeulike-a_e50.npz --hops H  
For H in [1,2,3]
```

##### Variation of embedding sizes:

```
python train.py --gpu 3 --dataset data/citeulike-a.npz --pretrain  
pretrain/citeulike-a_eX.npz --hops H -e X  
For H in [1,2,3] and X in [20,40,50,60,80,100]
```

##### Variation of number of negative samples:

```
python train.py --gpu 3 --dataset data/citeulike-a.npz --pretrain  
pretrain/citeulike-a_e50.npz --hops H --neg N  
For H in [1,2,3] and N in [2,3,4,5,6,7,8,9,10]
```