

1.论文收获:

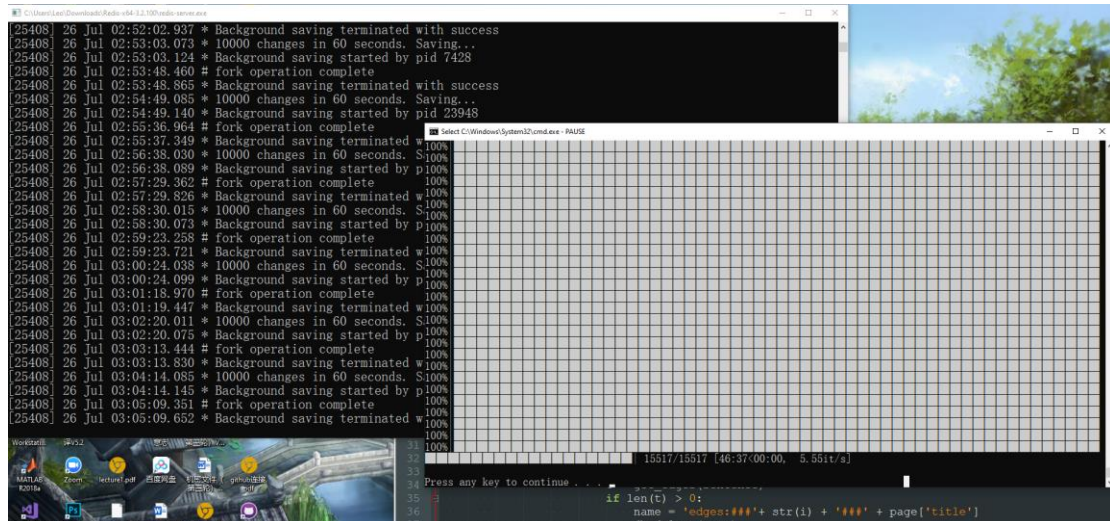
提出一种新颖的迭代框架: 算法使用两个系统来维护一张认知图谱,
系统一在文本中抽取与问题相关的实体名称并扩展节点和汇总语义向量, 比如现在流行的 BERT。

系统二利用图神经网络在认知图谱上进行隐式推理计算。

收获: 引入了因果推理和逻辑链条, 使得让我们更加理解了 GNN 的工作原理, 增加了其可解释性, 相较于 BERT 的黑盒工作, 这个认知科学思路很棒!

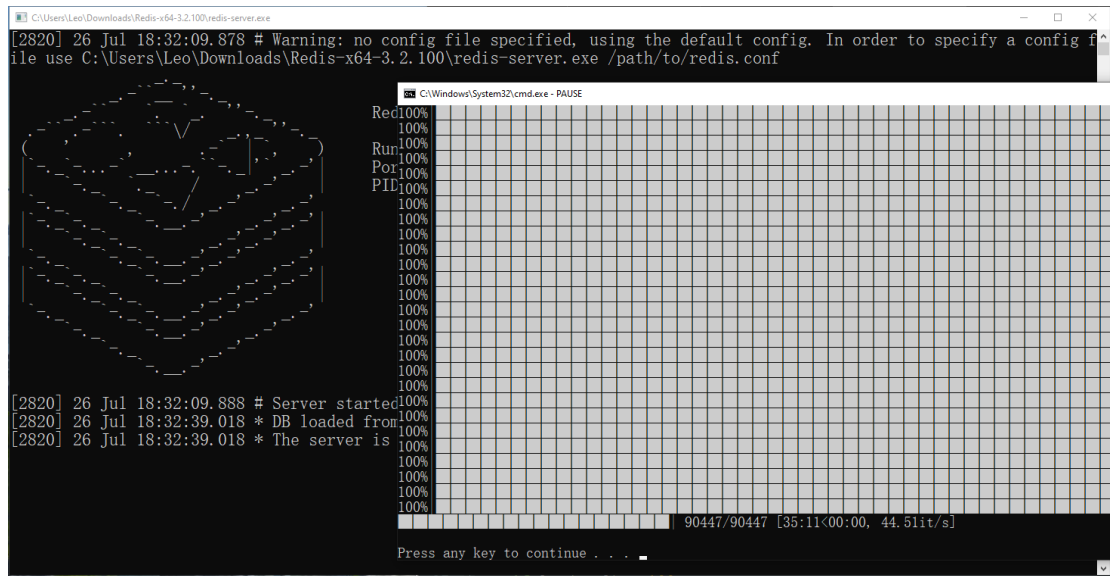
2.程序训练过程: <https://github.com/THUDM/CogQA>

数据预处理部分: `read_fullwiki.py`



```
25408 26 Jul 02:52:02.937 * Background saving terminated with success
25408 26 Jul 02:53:03.073 * 10000 changes in 60 seconds. Saving...
25408 26 Jul 02:53:03.124 * Background saving started by pid 7428
25408 26 Jul 02:53:48.460 # fork operation complete
25408 26 Jul 02:53:48.865 * Background saving terminated with success
25408 26 Jul 02:54:49.085 * 10000 changes in 60 seconds. Saving...
25408 26 Jul 02:54:49.140 * Background saving started by pid 23948
25408 26 Jul 02:55:36.964 # fork operation complete
25408 26 Jul 02:55:37.349 * Background saving terminated with success
25408 26 Jul 02:56:38.030 * 10000 changes in 60 seconds. Saving...
25408 26 Jul 02:56:38.089 * Background saving started by pid 15008
25408 26 Jul 02:57:29.362 # fork operation complete
25408 26 Jul 02:57:29.826 * Background saving terminated with success
25408 26 Jul 02:58:30.015 * 10000 changes in 60 seconds. Saving...
25408 26 Jul 02:58:30.073 * Background saving started by pid 10008
25408 26 Jul 02:59:23.258 # fork operation complete
25408 26 Jul 02:59:23.721 * Background saving terminated with success
25408 26 Jul 03:00:24.038 * 10000 changes in 60 seconds. Saving...
25408 26 Jul 03:00:24.089 * Background saving started by pid 15008
25408 26 Jul 03:01:15.970 # fork operation complete
25408 26 Jul 03:01:19.447 * Background saving terminated with success
25408 26 Jul 03:02:20.011 * 10000 changes in 60 seconds. Saving...
25408 26 Jul 03:02:20.075 * Background saving started by pid 10008
25408 26 Jul 03:03:13.444 # fork operation complete
25408 26 Jul 03:03:13.830 * Background saving terminated with success
25408 26 Jul 03:04:14.085 * 10000 changes in 60 seconds. Saving...
25408 26 Jul 03:04:14.145 * Background saving started by pid 15008
25408 26 Jul 03:05:09.351 # fork operation complete
25408 26 Jul 03:05:09.652 * Background saving terminated with success
```

Process_train.py



```
[2820] 26 Jul 18:32:09.878 # Warning: no config file specified, using the default config. In order to specify a config file use C:\Users\Leo\Downloads\Redis-x64-3.2.100\redis-server.exe /path/to/redis.conf
[2820] 26 Jul 18:32:09.888 # Server started
[2820] 26 Jul 18:32:39.018 * DB loaded from disk
[2820] 26 Jul 18:32:39.018 * The server is ready to accept connections
```

train.py



```
Start Training... on 1 GPUs
Epoch: 0%
loss: 1.05, hop loss: 0.75, 0%
| 0/1 [00:00<?, ?it/s]
| 73/892222 [00:27:40:38:56, 2.73it/s]
if mode == 'bundle':
    print(batch_id)
return (model1, model2)
def main(output_model_file = './models/bert-base-uncased.bin', load = False, mode = 'tensors', batch_size = 1,
        num_epoch = 1, gradient_accumulation_steps = 1, lr1 = 1e-4, lr2 = 1e-4, alpha = 0.2):
```

最后这个程序我确实跑了五天的。。今早息屏不小心按了空格。。退出了，自闭了，结果没看到。。伤心