

# 10월 20일

OpenBookQA에 대해서 실험을 진행하면서

2번 코드 완성하기 → 토, 월

Dense Retrieval of Knowledge Graphs for Question Answering

## Original Cycle count

### 1. aggr\_out(1차원)대신 cycle count를 그대로 넣기

- seed0(20231019\_140102)
- seed1(20231019\_140147)
- seed2(20231019\_140211)

→ 학습 안됨

### 2. aggr\_out(1차원)대신 cycle count를 넣고 차원 확장 후 MLP를 돌려서 넣기(9차원)

- seed0(20231019\_140340)
  - dev : 70, test : 71.6
- seed1(20231019\_140432)
  - dev : 71, test : 71
- seed2(20231019\_140530)
  - dev : 70.6, test : 71.4

dev : 70.53( $\pm 0.41$ ), test : 71.33( $\pm 0.25$ )

### 3. aggr\_out(1차원)대신 cycle count를 넣고 차원 확장 후 MLP를 돌려서 넣기(5차원)

- seed0(20231019\_140659)
  - dev : 71.6, test : 70.8

- seed1(20231019\_140741)
  - dev : 70.6, test : 69.4
- seed2(20231019\_140823)
  - dev : 69, test : 69.8

dev : 70.4( $\pm 1.07$ ), test : 70( $\pm 0.59$ )

#### 4. [aggr\_out; 차원 확장한 cycle count] 를 MLP에 돌려서 넣기(9+1 = 10차원) → 일어나서 진행하기

- seed0(20231019\_235902)
  - dev : 72, test : 72.2
- seed1(20231019\_235927)
  - dev : 72.2, test : 69.4
- seed2(20231020\_000057)
  - dev : 71.2, test : 71.4

dev : 71.8( $\pm 0.43$ ), test : 71( $\pm 1.18$ )

## New Cycle count

### 1. aggr\_out(1차원)대신 cycle count를 그대로 넣기

- seed0(20231020\_054428)
  - dev : 70.6, test : 71.8
- seed1(20231020\_054537)
  - dev : 70.4, test : 72.8
- seed2(20231020\_054611)
  - dev : 70.8, test : 69.8

dev : 70.6( $\pm 0.16$ ), test : 71.47( $\pm 1.25$ )

### 2. aggr\_out(1차원)대신 cycle count를 넣고 차원 확장 후 MLP를 돌려서 넣기(9차원)

- seed0(20231020\_054737)

- dev : 69, test : 67.4
- seed1(20231020\_054814)
  - dev : 71, test : 70
- seed2(20231020\_054849)
  - dev : 70.6, test : 70.2

dev : 70.2( $\pm 0.86$ ), test : 69.2( $\pm 1.28$ )

### 3. aggr\_out(1차원)대신 cycle count를 넣고 차원 확장 후 MLP를 돌려서 넣기(5차원)

- seed0(20231020\_090647)
  - dev : 70.8, test : 71.4
- seed1(20231020\_090716)
  - dev : 73.4, test : 73
- seed2(20231020\_091135)
  - dev : 71.4, test : 71

dev : 71.87( $\pm 1.11$ ), test : 71.8( $\pm 0.86$ )

### 4. [aggr\_out; 차원 확장한 cycle count] 를 MLP에 돌려서 넣기(9+1 = 10차원) → 일어나서 진행하기

- seed0(20231020\_091512)
  - dev : 70.8, test : 71.4
- seed1(20231020\_091554)
  - dev : 69.2, test : 70.6
- seed2(20231020\_091614)
  - dev : 70.6, test : 71.6

dev : 70.2( $\pm 0.71$ ), test : 71.2( $\pm 0.43$ )

## Random Number

### 1. aggr\_out(1차원)대신 random count를 그대로 넣기

- seed0(20231020\_144347)

- dev : 69.6, test : 69.8
- seed1(20231020\_144418)
  - dev : 66.6, test : 67.4
- seed2(20231020\_144441)
  - dev : 69.4, test : 71.2

dev : 68.53( $\pm 1.37$ ), test : 69.47( $\pm 1.57$ )

## 2. aggr\_out(1차원)대신 random count를 넣고 차원 확장 후 MLP를 돌려서 넣기(9차원)

- seed0(20231020\_144728)
  - dev : 68.6, test : 67.8
- seed1(20231020\_144801)
  - dev : 71.6, test : 71.4
- seed2(20231020\_144821)
  - dev : 71.6, test : 70

dev : 70.6( $\pm 1.41$ ), test : 69.73( $\pm 1.48$ )

## 3. aggr\_out(1차원)대신 random count를 넣고 차원 확장 후 MLP를 돌려서 넣기(5차원)

- seed0(20231021\_112224)
  - dev : 64, test : 65.4
- seed1(20231021\_112311)
  - dev : 71.2, test : 72
- seed2(20231021\_112338)
  - dev : 70.8, test : 69.8

dev : 68.67( $\pm 3.30$ ), test : 69.07( $\pm 2.74$ )

## 4. [aggr\_out; 차원 확장한 random count] 를 MLP에 돌려서 넣기(9+1 = 10차원)

- seed0(20231021\_145330)

- dev : 69.4, test : 69.8
- seed1(20231021\_112523)
  - dev : 69.4, test : 68.8
- seed2(20231021\_112555)
  - dev : 71, test : 70.8

dev : 69.93( $\pm 0.75$ ), test : 69.8( $\pm 0.82$ )

## Degree count

### 1. aggr\_out(1차원)대신 degree count를 그대로 넣기

- seed0(20231022\_102229)
  - dev : 70.2, test : 72
- seed1(20231022\_102322)
  - dev : 72, test : 71.4
- seed2(20231022\_102346)
  - dev : 70.2, test : 70.4

dev : 70.8( $\pm 0.85$ ), test : 71.27( $\pm 0.66$ )

### 2. aggr\_out(1차원)대신 degree count를 넣고 차원 확장 후 MLP를 돌려서 넣기(9차원)

- seed0(20231022\_102600)
  - dev : 73.6, test : 72
- seed1(20231022\_102634)
  - dev : 69.4, test : 67.2
- seed2(20231022\_102658)
  - dev : 71.2, test : 70.6

dev : 71.4( $\pm 1.72$ ), test : 69.93( $\pm 2.02$ )

### 3. aggr\_out(1차원)대신 degree count를 넣고 차원 확장 후 MLP를 돌려서 넣기(5차원)

- seed0(20231022\_102828)

- dev : 71.6, test : 72.4
- seed1(20231022\_102916)
  - dev : 68.2, test : 68.8
- seed2(20231022\_102942)
  - dev : 68.8, test : 67.8

dev : 69.53( $\pm 1.48$ ), test : 69.67( $\pm 1.98$ )

#### 4. [aggr\_out; 차원 확장한 degree count] 를 MLP에 돌려서 넣기(9+1 = 10차원)

- seed0(20231022\_134526)
  - dev : 68.2 , test : 69.2
- seed1(20231022\_134555)
  - dev : 70.2, test : 70.6
- seed2(20231022\_134858)
  - dev : 65.4, test : 64.8

dev : 67.93( $\pm 1.97$ ), test : 68.2( $\pm 2.47$ )