시즌 1 - 딥러닝의 기본 - ML lab 12

노트북: 모두를 위한 머신러닝
만든 날짜: 2019-01-11 오후 4:53 **수정한 날짜:** 2019-01-11 오후 6:00
작성자: rr
태그: #모두를 위한, .ML lab

ML lab 12

= RNN

1. cell 생성

```
cell = tf.contrib.rnn.BasicRNNCell(num_units=hidden_size)
```

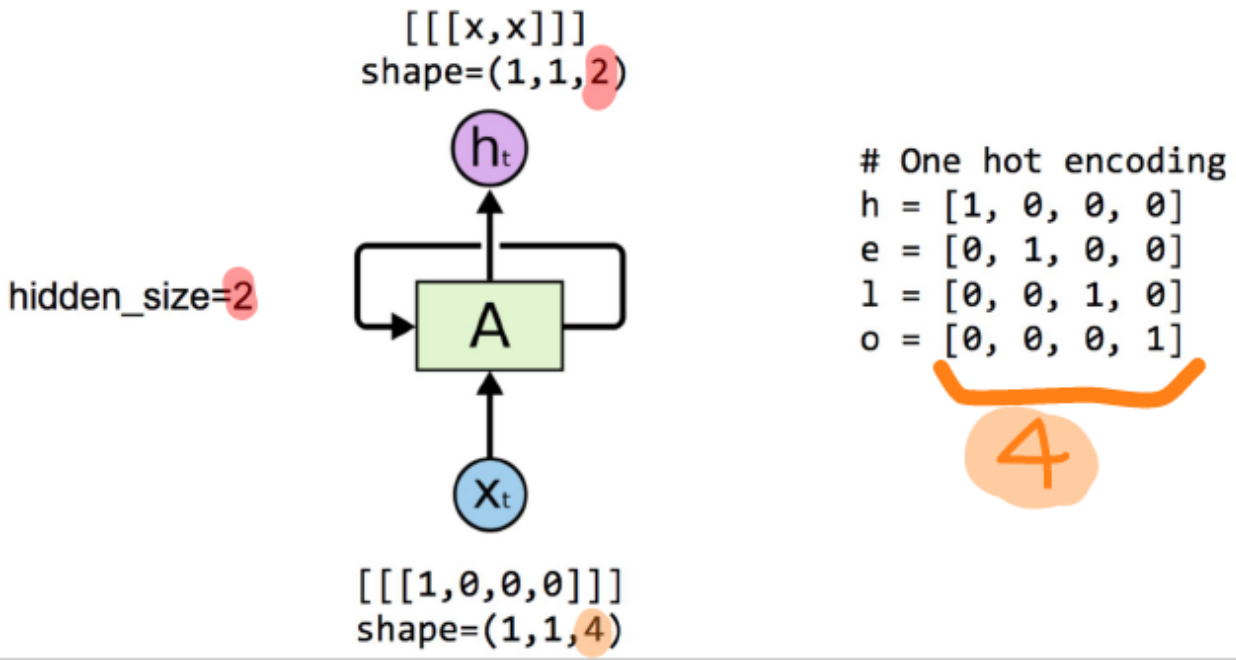
어떤 형태의 cell을 만들 것인가? BasicRNNCell, BasicLSTMCell
num_units, hidden_size: output 출력 크기

2. cell 구동

```
outputs, _states = tf.nn.dynamic_rnn(cell, x_data, dtype=tf.float32)
```

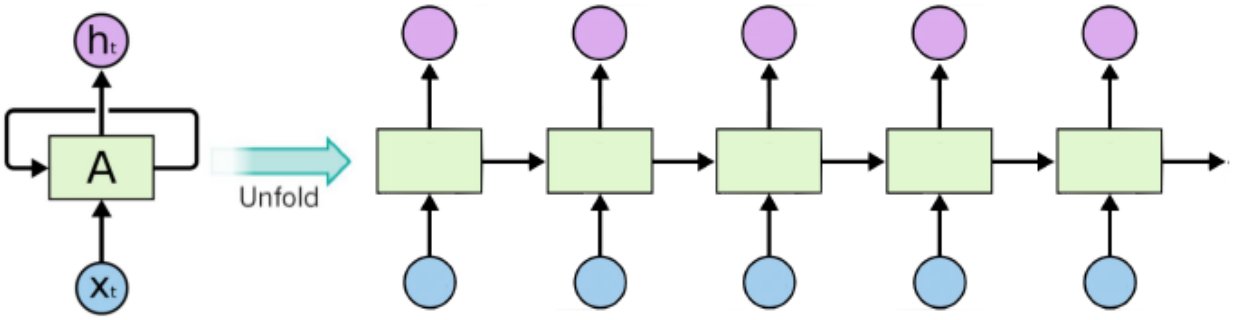
만든 cell, 원하는 입력 데이터를 넘겨줘서 두 가지 출력(outputs, _states)을 만들어냄

= One node: 4 (input-dim) in 2 (hidden_size)



= unfolding to n sequences

```
shape=(1,5,2): [[[x,x], [x,x], [x,x], [x,x], [x,x]]]
```




```
shape=(1,5,4): [[[1,0,0,0], [0,1,0,0], [0,0,1,0], [0,0,1,0], [0,0,0,1]]]
                      h         e         l         l         o
```

- shape=(1, 5, 4)

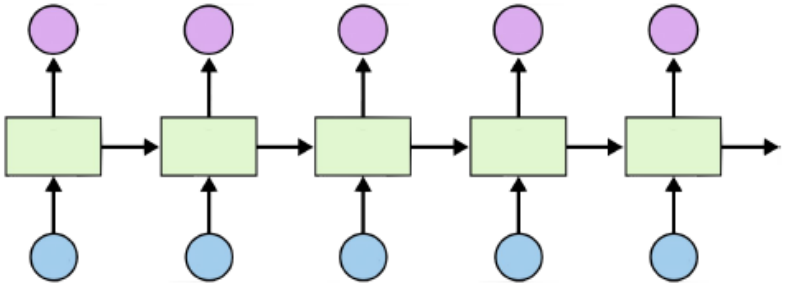
5: sequence_length

- shape=(1, 5, 2)

2: hidden_size

= Batching input

```
shape=(3,5,2): [[[x,x], [x,x], [x,x], [x,x], [x,x]],
                [[x,x], [x,x], [x,x], [x,x], [x,x]],
                [[x,x], [x,x], [x,x], [x,x], [x,x]]]
```



```
shape=(3,5,4): [[[1,0,0,0], [0,1,0,0], [0,0,1,0], [0,0,1,0], [0,0,0,1]], # hello
                [[0,1,0,0], [0,0,0,1], [0,0,1,0], [0,0,1,0], [0,0,1,0]]  # eolll
                [[0,0,1,0], [0,0,1,0], [0,1,0,0], [0,1,0,0], [0,0,1,0]]] # lleel
```

- shape=(3, 5, 4)

3: batch_size