[질문]BiLSTM + character level 1D CNN으로 NER 문제 풀 때 차원 문제

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1/1명 읽음

```
inputs_word = tf.keras.Input(shape=(max_len,), dtype="int32",
name="Input_word")
logits_word = tf.keras.layers.Embedding(input_dim=vocab_size+2, output_dim=64)
(inputs_word)

inputs_char = tf.keras.Input(shape=(max_len, max_len_char), name="Input_char")
embs_char = tf.keras.layers.Embedding(input_dim=len(tag2idx)+1, output_dim=32,
embeddings_initializer=tf.keras.initializers.RandomUniform(minval=-0.5,
maxval=0.5), name="Embedding_char")(inputs_char)
z = tf.keras.layers.Dropout(rate=0.5)(embs_char)
z = tf.keras.layers.Conv1D(filters=30, kernel_size=3, padding="same",
activation="tanh", strides=1)(z)
z = tf.keras.layers.MaxPool1D(pool_size=max_len_char)(z)
z = tf.keras.layers.Flatten()(z)
logits_char = tf.keras.layers.Dropout(rate=0.5)(z)

z = tf.concat([logits_word, logits_char], axis=3)
z = tf.keras.layers.Bidirectional(tf.keras.layers.LSTM(units=50,
return_sequences=True, dropout=0.5, recurrent_dropout=0.25))(z)
outputs = tf.keras.layers.Dense(units=len(tag2idx), activation="softmax")(z)

model = tf.keras.Model(inputs=[inputs_word, inputs_char], outputs=[outputs])

model.summary()
```

첨부파일

에서 위와 같이 모델을 생성했는데요. 여기서 에러가 납니다.

```
----------------------------------------------------------------------------
--
ValueError                                Traceback (most recent call last)
<ipython-input-20-7880153bf393> in <module>
      6 z = tf.keras.layers.Dropout(rate=0.5)(embs_char)
      7 z = tf.keras.layers.Conv1D(filters=30, kernel_size=3, padding="same", act
ivation="tanh", strides=1)(z)
----> 8 z = tf.keras.layers.MaxPool1D(pool_size=max_len_char)(z)
      9 z = tf.keras.layers.Flatten()(z)
     10 logits_char = tf.keras.layers.Dropout(rate=0.5)(z)

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ngine\base_layer.py in __call__(self, *args, **kwargs)
    924     if _in_functional_construction_mode(self, inputs, args, kwargs, input_l
ist):
    925       return self._functional_construction_call(inputs, args, kwargs,
--> 926                                                  input_list)
    927
    928     # Maintains info about the `Layer.call` stack.

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ngine\base_layer.py in _functional_construction_call(self, inputs, args, kwar
gs, input_list)
   1090       # TODO(reedwm): We should assert input compatibility after th
e inputs
   1091       # are casted, not before.
-> 1092       input_spec.assert_input_compatibility(self.input_spec, inputs, sel
f.name)
   1093       graph = backend.get_graph()
   1094       # Use `self._name_scope()` to avoid auto-incrementing the nam
e.

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ngine\input_spec.py in assert_input_compatibility(input_spec, inputs, layer_n
ame)
    178                          'expected ndim=' + str(spec.ndim) + ', found n
dim=' +
    179                          str(ndim) + '. Full shape received: ' +
--> 180                          str(x.shape.as_list()))
    181     if spec.max_ndim is not None:
    182       ndim = x.shape.ndims

ValueError: Input 0 of layer max_pooling1d is incompatible with the layer: expecte
d ndim=3, found ndim=4. Full shape received: [None, 43, 15, 30]
```

대충 3D 여야 하는데 4D를 집어넣었다는 얘기 같은데 어디가 문제인지 모르겠습니다 ㅠㅠ

혹시 첫번째 차원의 None 때문일까요..?

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