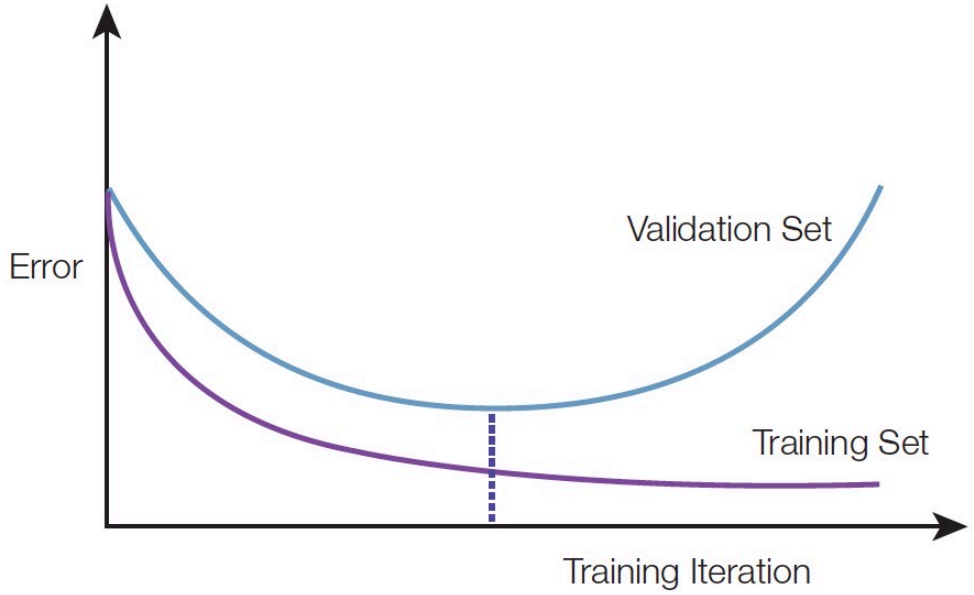
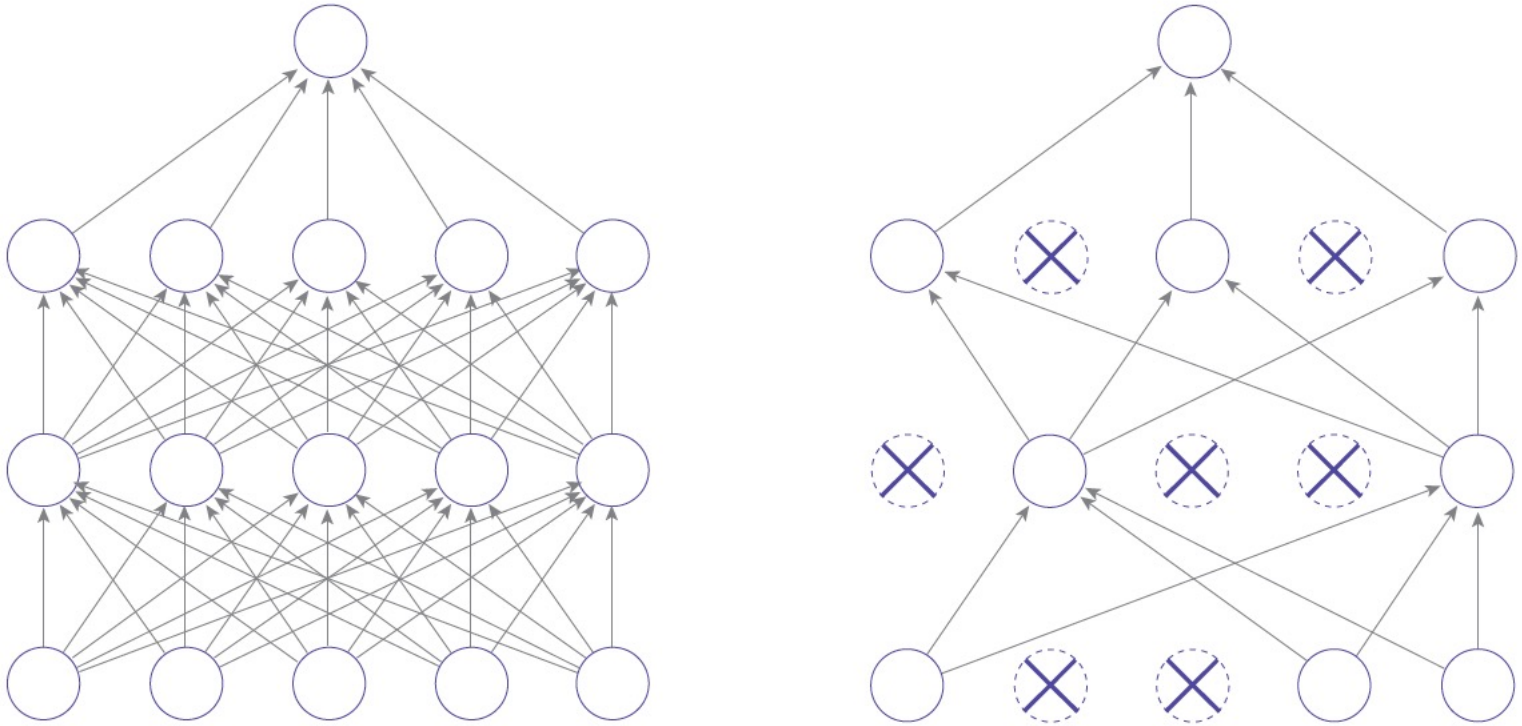
Regularization 기법

- **오버피팅(OverFitting)을 방지**할 수 있도록 만들어주는 기법들을 총칭해서 **Regularization 기법**이라고 부릅니다.
- 드롭아웃(Dropout)은 대표적인 Regularization 기법중에 하나입니다.



드롭아웃(Dropout)

- **드롭아웃(Dropout)**은 학습 과정에서 일부 노드를 사용하지 않는 형태로 만들어서 **오버피팅(OverFitting)을 방지**할 수 있도록 만들어주는 Regularization 기법입니다.



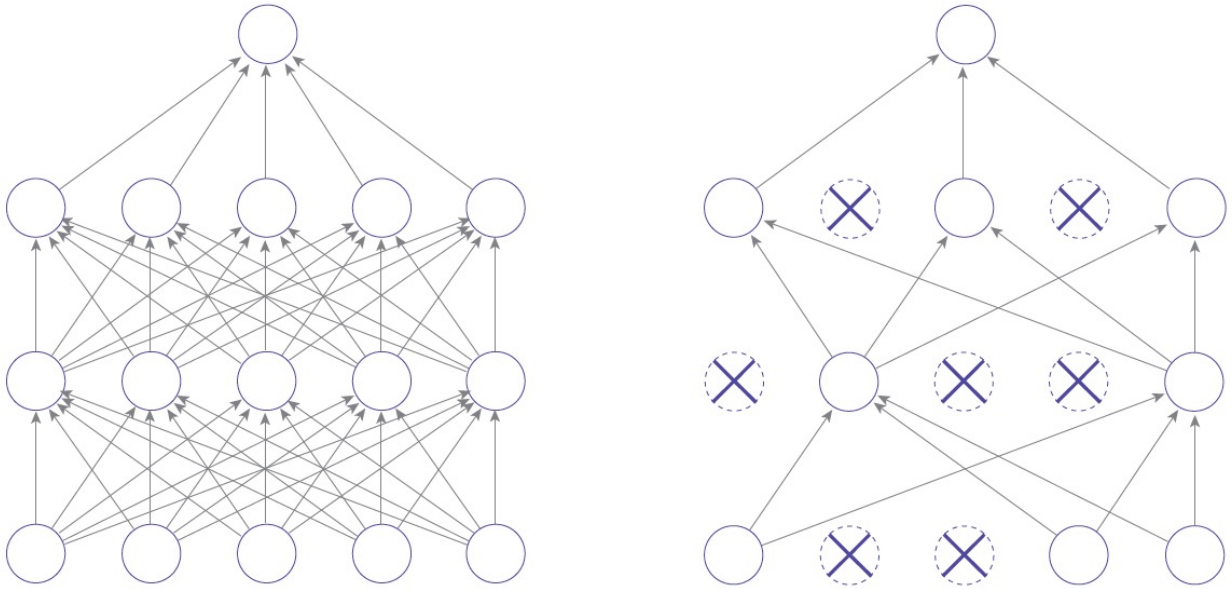
(a) Standard Neural Net

(b) After applying dropout

그림 7-7 | 드롭아웃 기법

Test Data에 대한 드롭아웃(Dropout)

- Training Data에 대해서는 오버피팅을 방지하기위해서 드롭아웃을 수행하지만 **Test Data에 대해서는 Dropout을 수행하지 않습니다**.

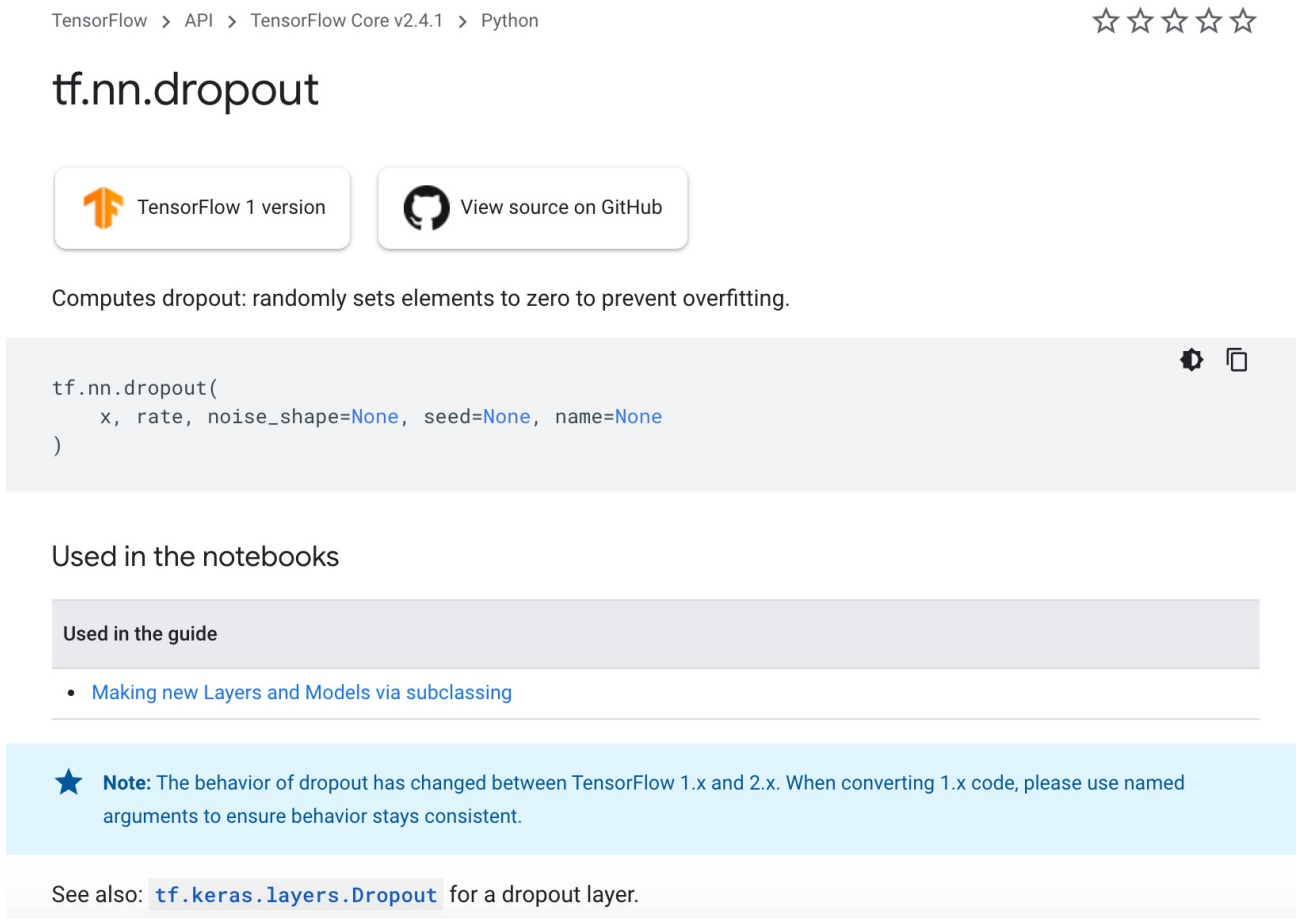


(a) Standard Neural Net　　(b) After applying dropout

그림 7-7 | 드롭아웃 기법

TensorFlow를 이용한 Dropout 구현 – tf.nn.dropout

- https://www.tensorflow.org/api_docs/python/tf/nn/dropout



TensorFlow > API > TensorFlow Core v2.4.1 > Python

☆☆☆☆☆

tf.nn.dropout

TensorFlow 1 version | View source on GitHub

Computes dropout: randomly sets elements to zero to prevent overfitting.

```
tf.nn.dropout(
    x, rate, noise_shape=None, seed=None, name=None
)
```

Used in the notebooks

Used in the guide
• Making new Layers and Models via subclassing

★ **Note:** The behavior of dropout has changed between TensorFlow 1.x and 2.x. When converting 1.x code, please use named arguments to ensure behavior stays consistent.

See also: `tf.keras.layers.Dropout` for a dropout layer.

Thank you!