Convolution Neural Network 3

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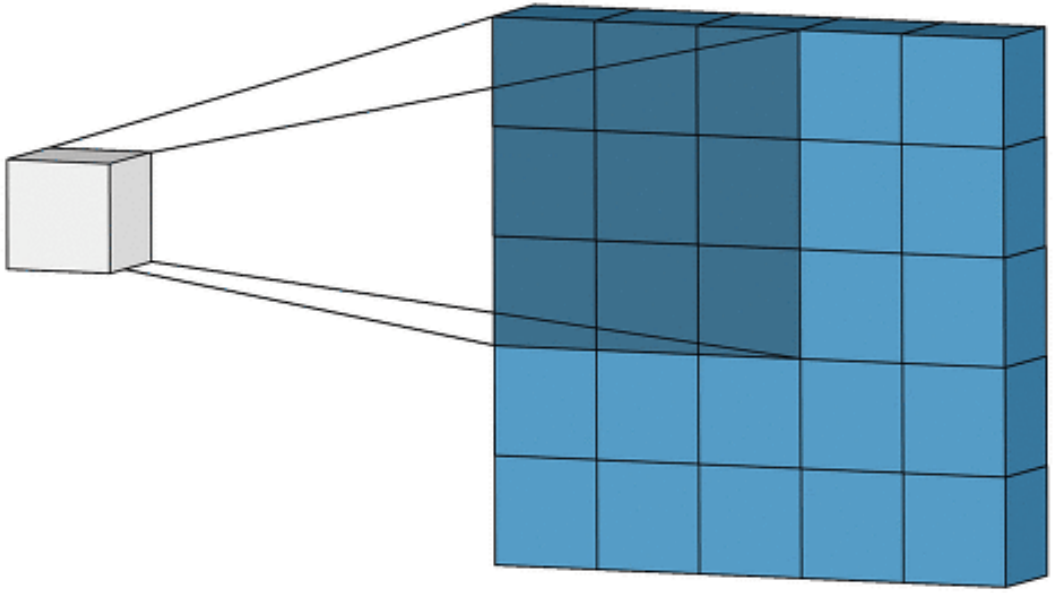
합성곱(Convolution)



패딩

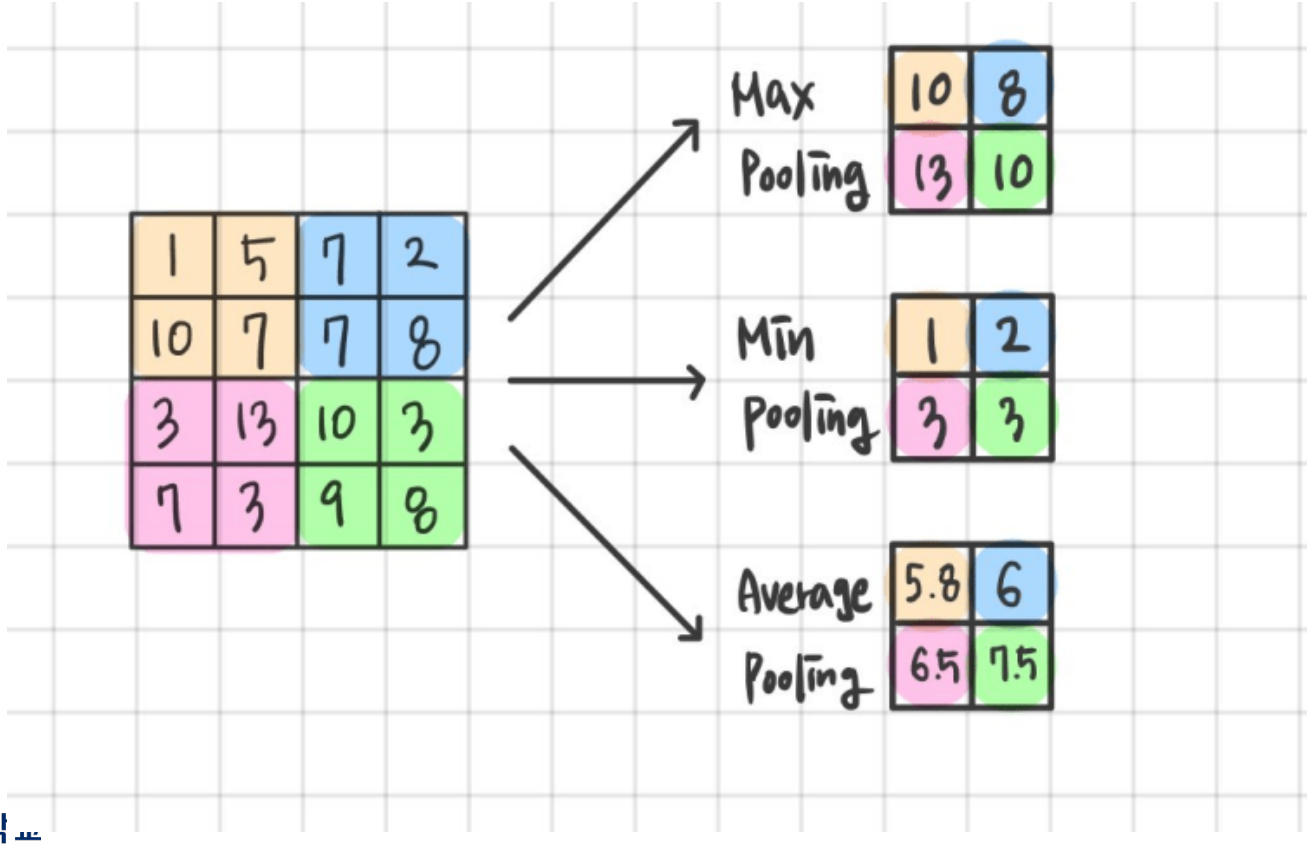
- 패딩이란 값을 0과 같은 임의의 값으로 채워서 텐서의 사이즈를 유지하거나 키우는 기법

0	0	0	0	0	0	0
0	1	1	1	0	0	0
0	0	1	1	1	0	0
0	0	0	1	1	1	0
0	0	0	1	1	0	0
0	0	1	1	0	0	0
0	0	0	0	0	0	0

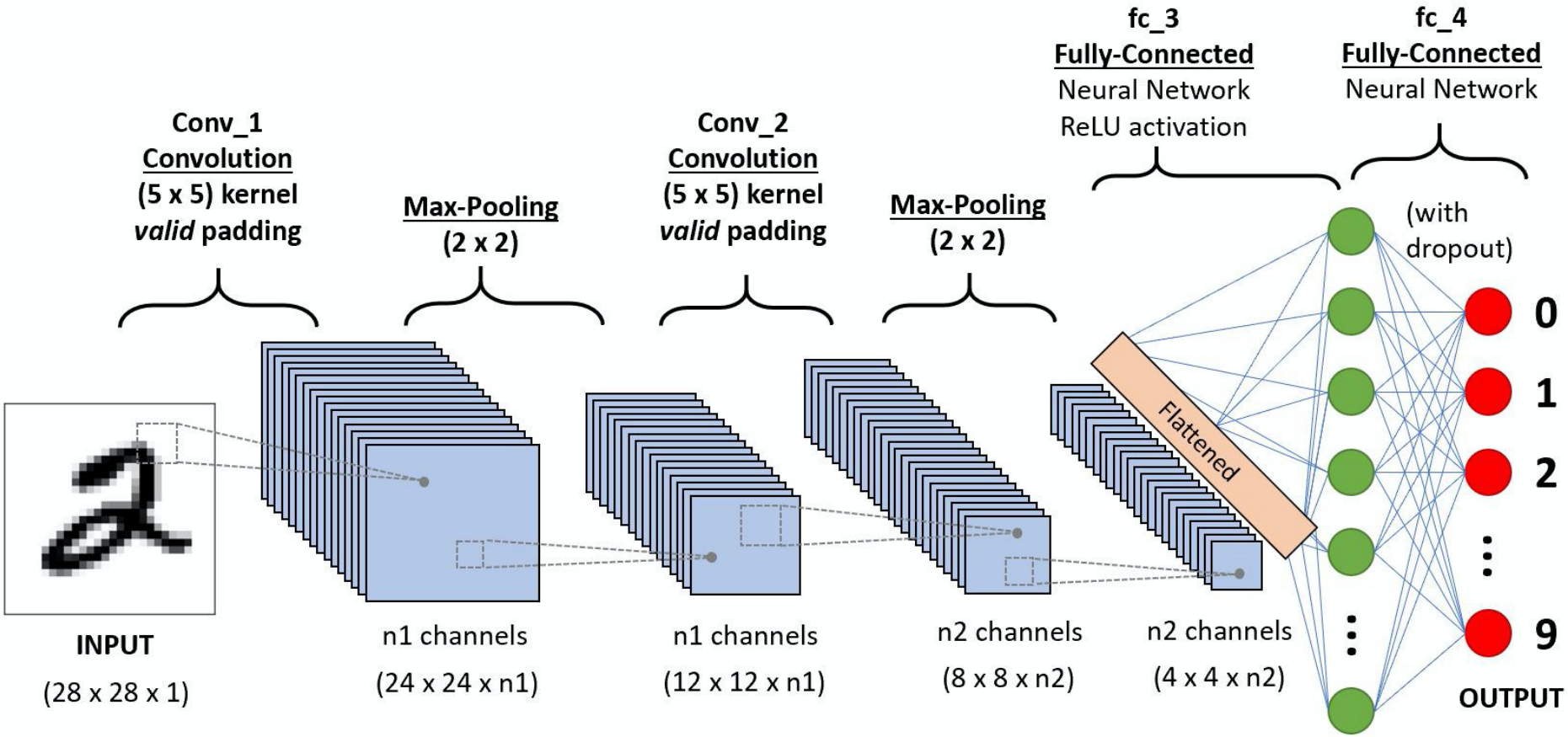
Image
(+zero Padding)

풀링

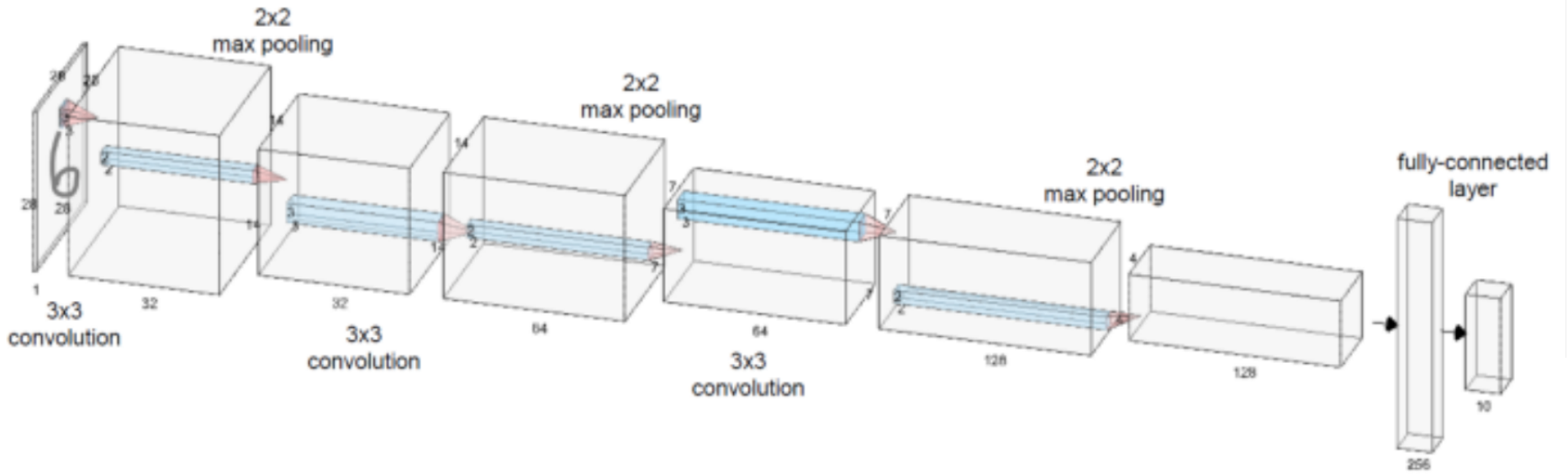
- 패딩과는 다르게 이미지의 크기를 줄이는 방법



합성곱 신경망 (Convolutional Neural Network)

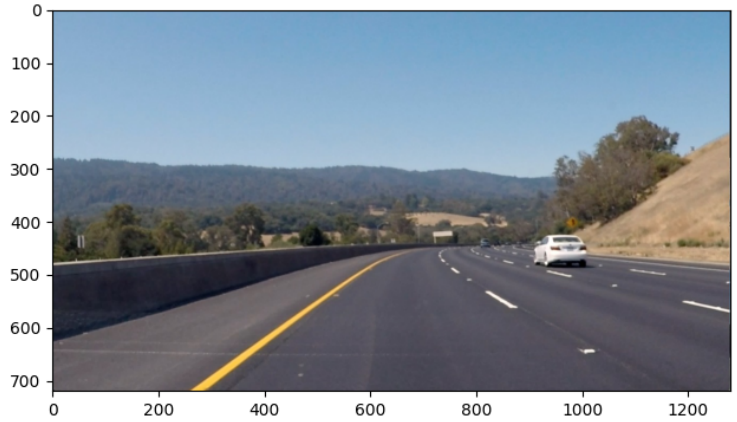


합성곱 신경망 (Convolutional Neural Network)



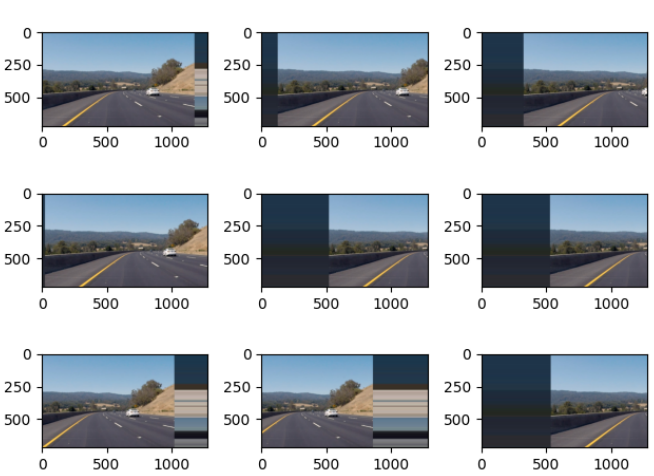
CNN의 성능을 높이는 방법

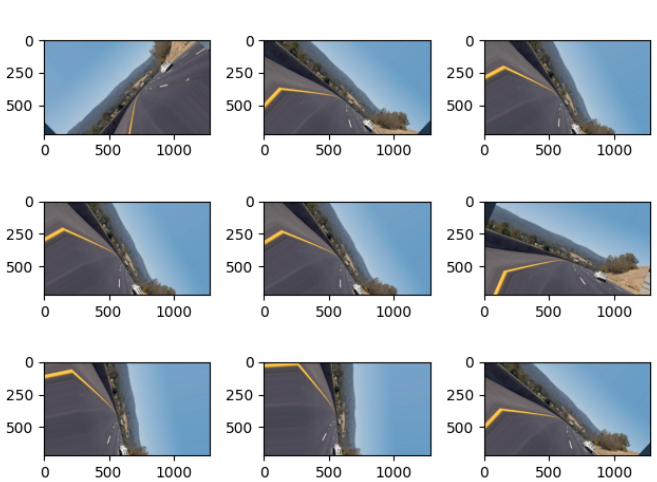
- **데이터의 양 늘이기 (Data Augmentation)**
- **Keras의 ImageDataGenerator 함수를 사용하여 데이터를 합성하기**

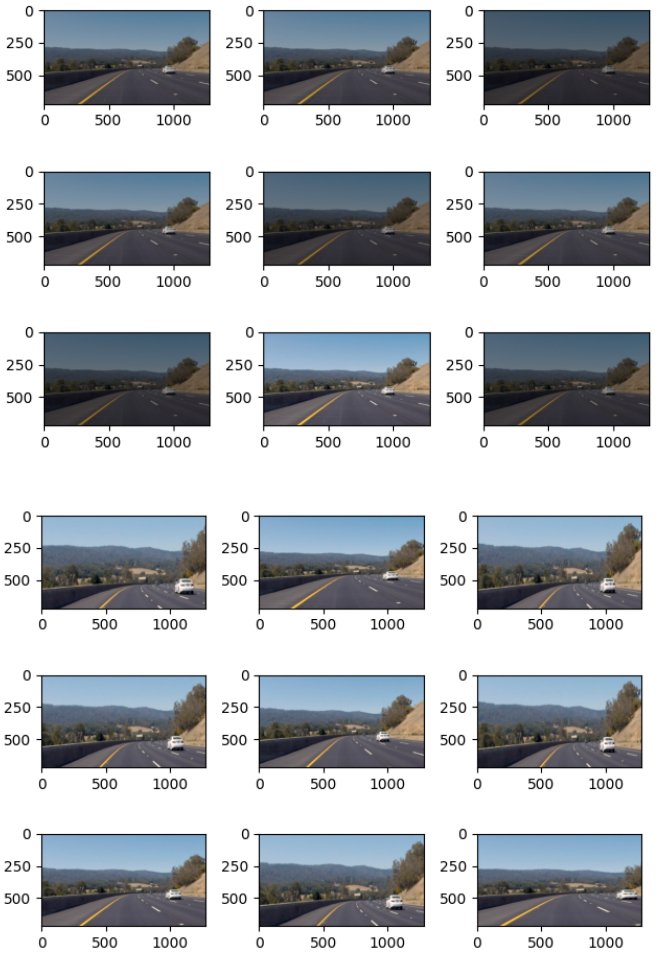


https://machinelearningmastery.com/how-to-configure-image-data-augmentation-when-training-deep-learning-neural-networks/

CNN의 성능을 높이는 방법



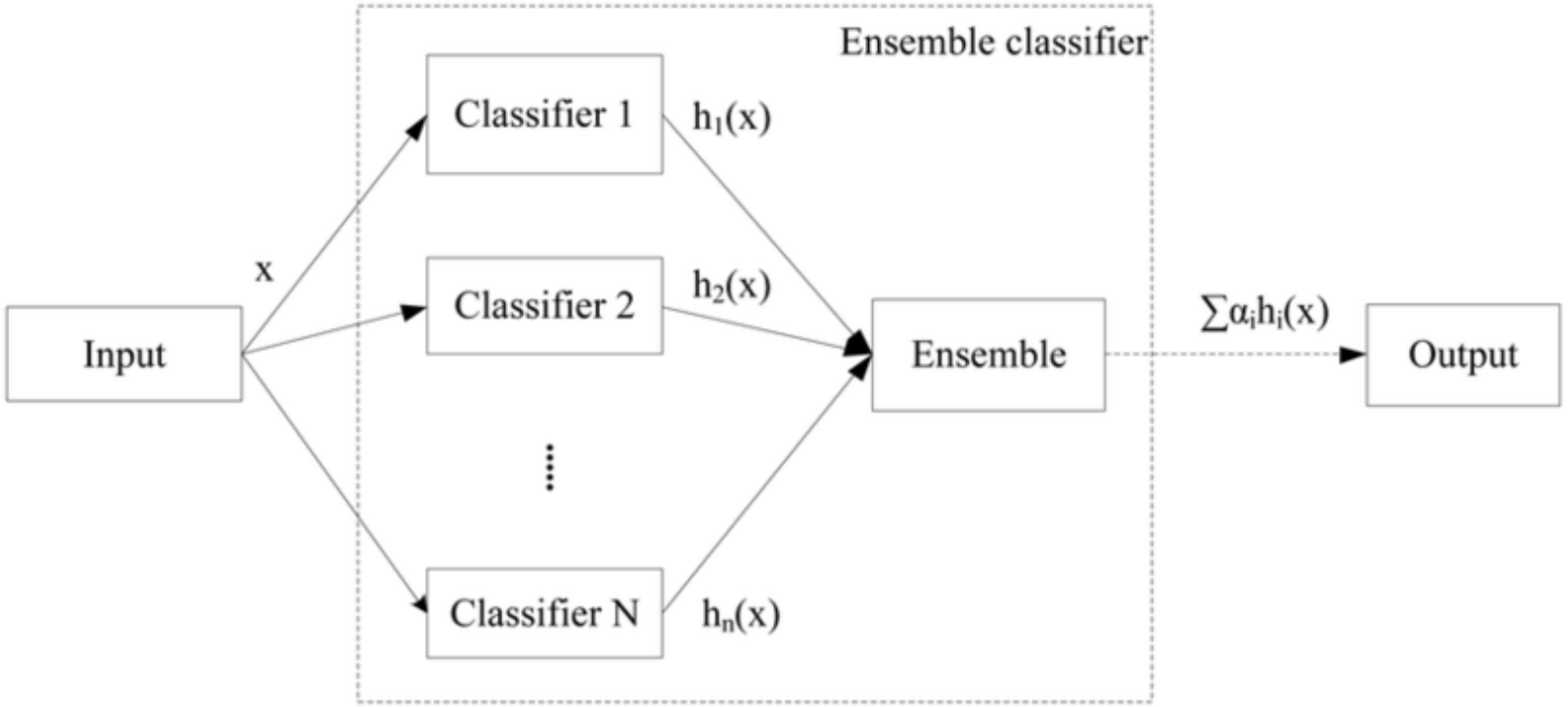




```
datagen = ImageDataGenerator(zoom_range=[0.5,1.0])
datagen = ImageDataGenerator(rotation_range=90)
```

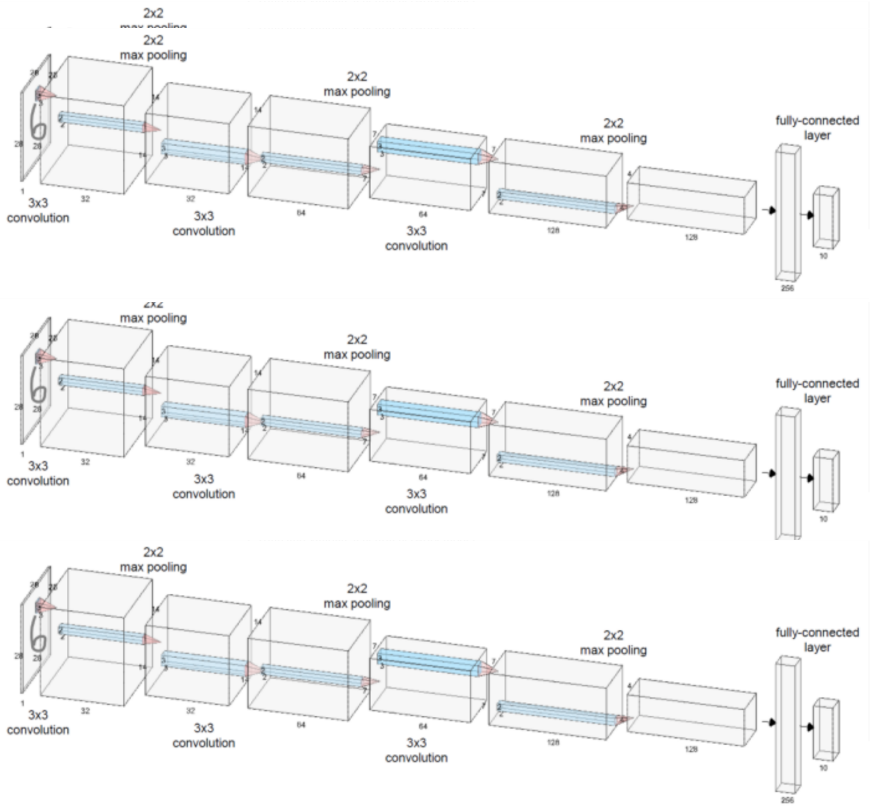
CNN의 성능을 높이는 방법

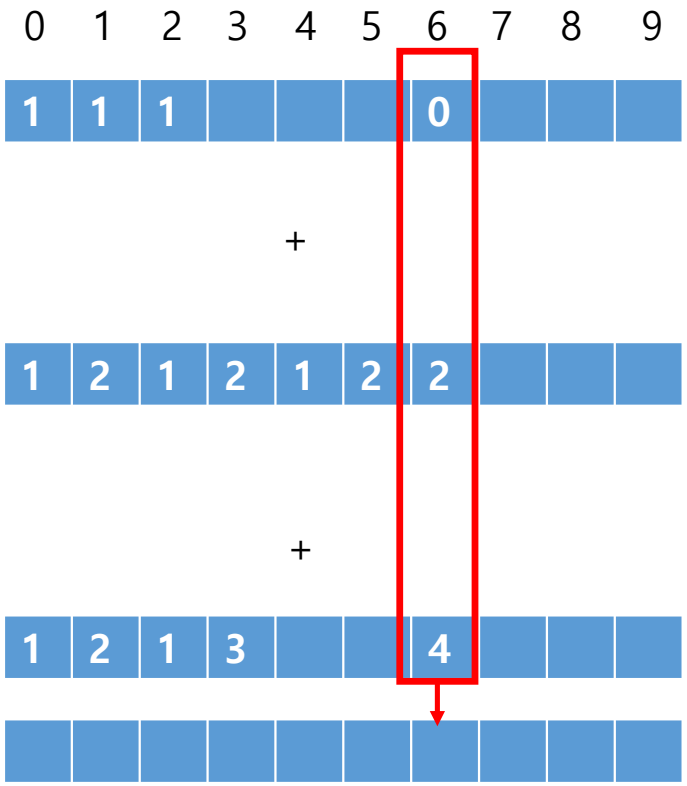
Ensemble 모델



CNN의 성능을 높이는 방법

Ensemble 모델





최종적으로 결정