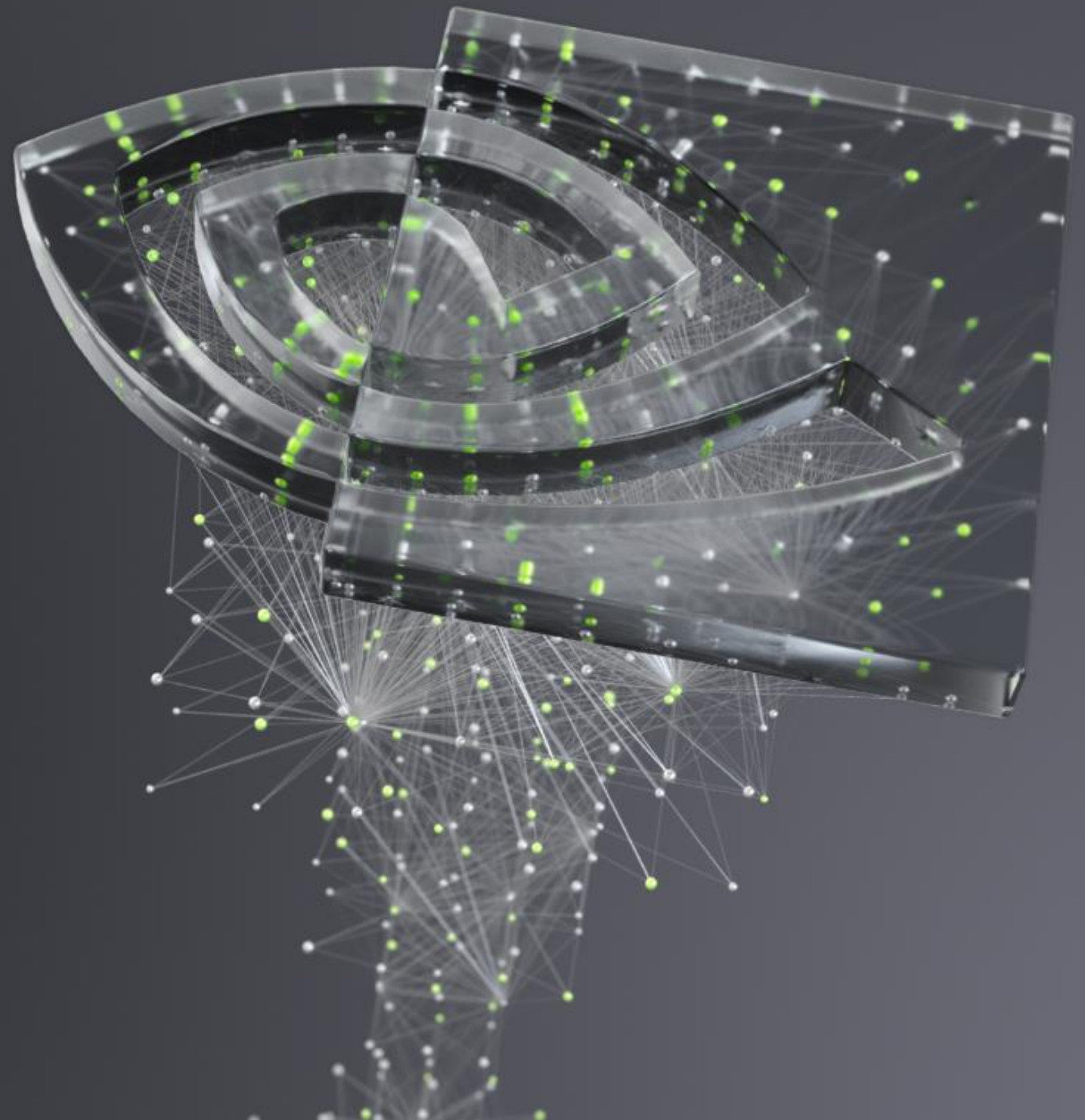
NVIDIA | DEEP LEARNING INSTITUTE

딥러닝의 기초

5부: 사전 트레이닝된 모델



목차

목차 – 5부

- 복습
- 사전 트레이닝된 모델
- 전이 학습(Transfer Learning)

복습

복습

- Learning Rate
- Number of Layers
- Neurons per Layer
- Activation Functions
- Dropout
- Data

사전 트레이닝된 모델
PRE-TRAINED MODELS

사전 트레이닝된 모델 (PRE-TRAINED MODELS)

TensorFlow Hub

https://www.tensorflow.org/hub?hl=ko

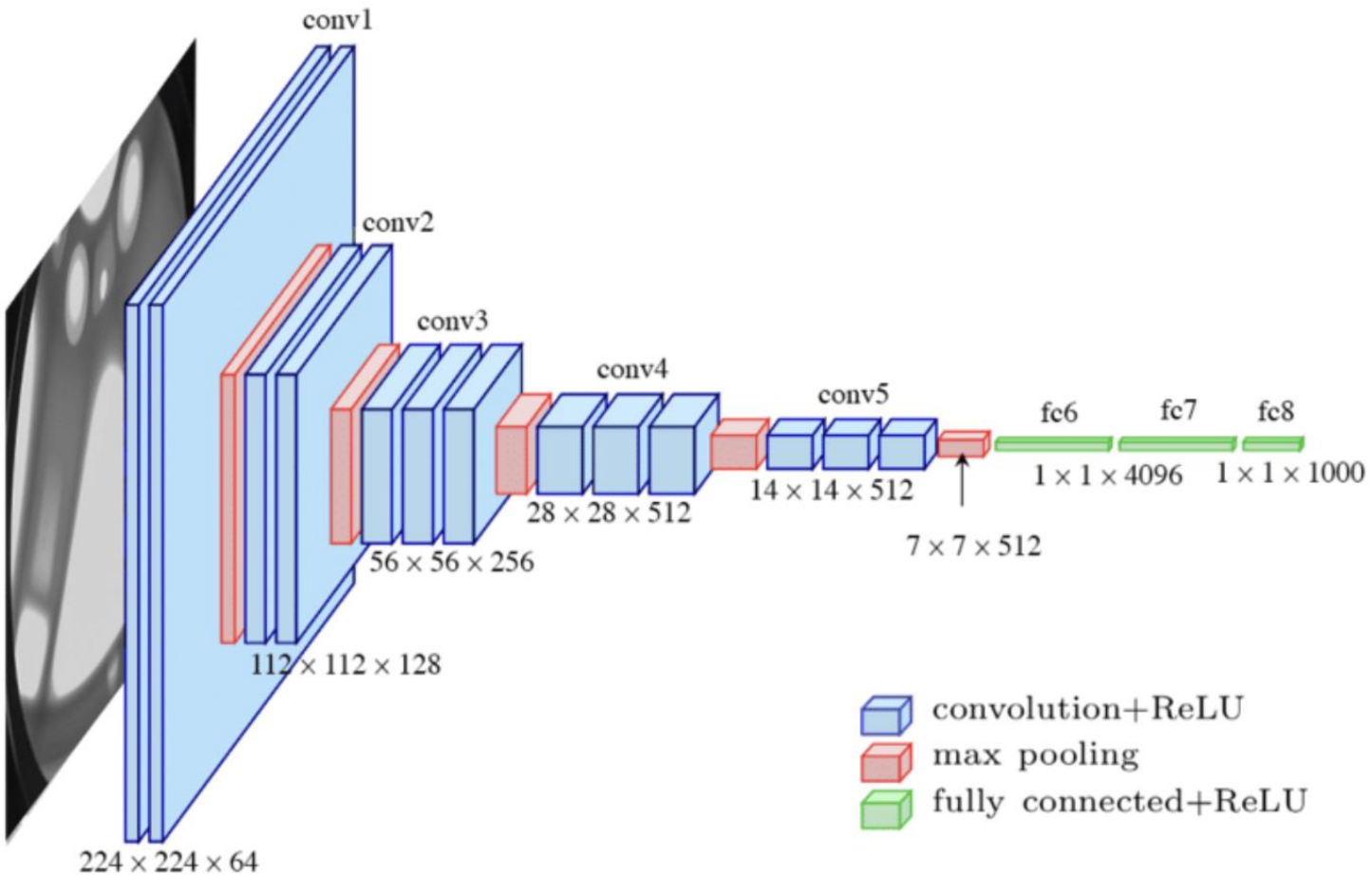
사전 트레이닝된 모델 (PRE-TRAINED MODELS)
VGG 16

VERY DEEP CONVOLUTIONAL NETWORKS
FOR LARGE-SCALE IMAGE RECOGNITION

Karen Simonyan* **& Andrew Zisserman+**
Visual Geometry Group, Department of Engineering Science, University of Oxford
{karen,az}@robots.ox.ac.uk

https://keras.io/api/applications/vgg/
https://keras.io/api/applications/#available-models
https://gist.github.com/yrevar/942d3a0ac09ec9e5eb3a

사전 트레이닝된 모델 (PRE-TRAINED MODELS)
VGG 16



다음 과제

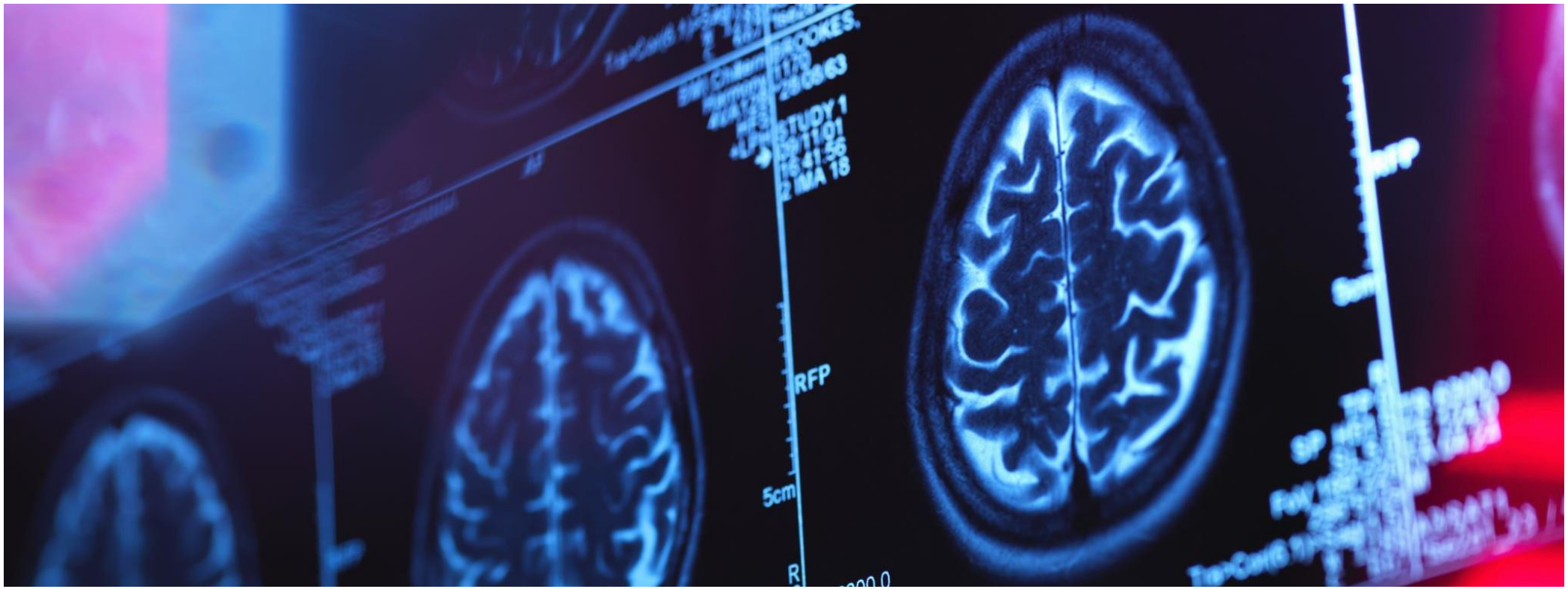
강아지 분류

전이 학습
TRANSFER LEARNING

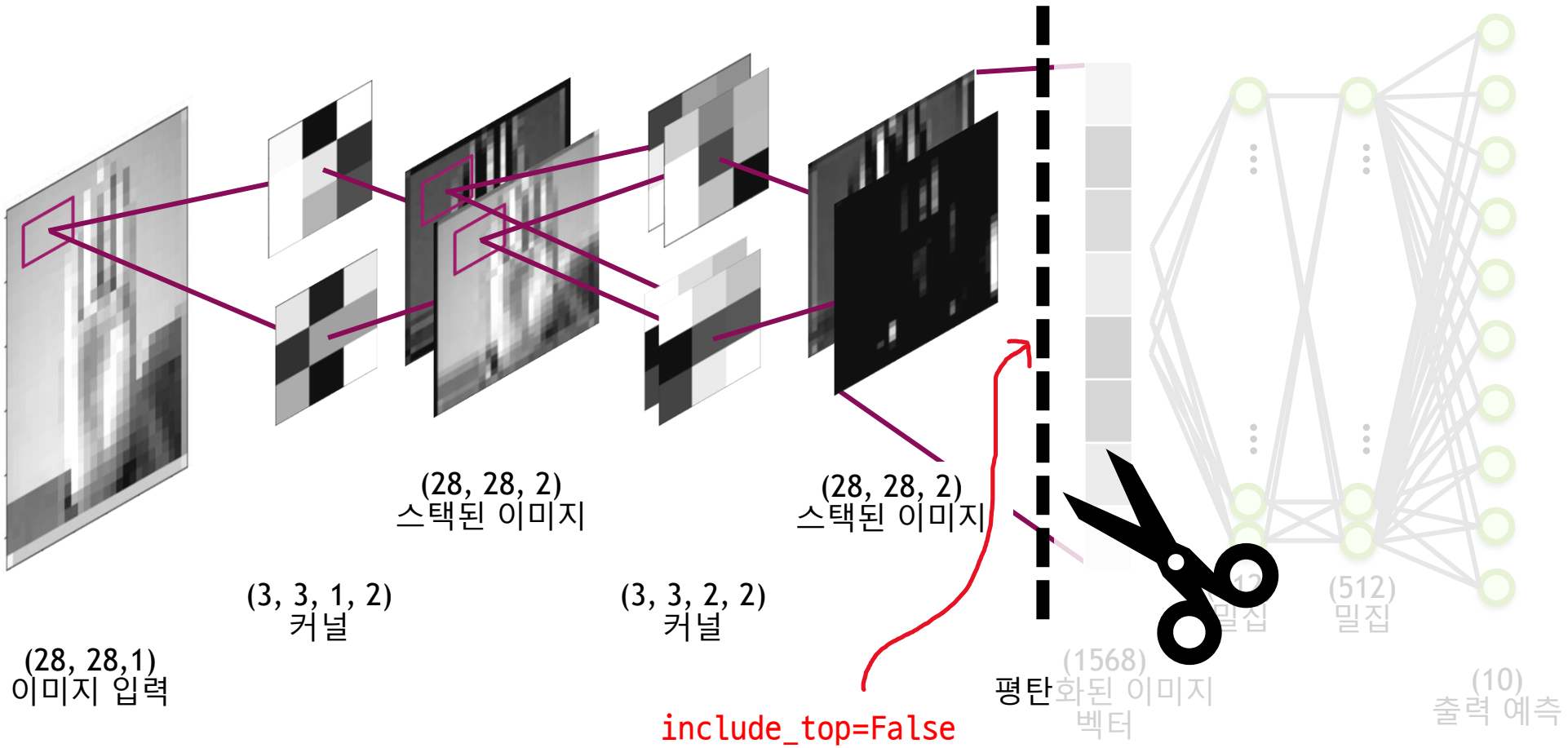
후속 과제

대통령 사저의 강아지 분류기

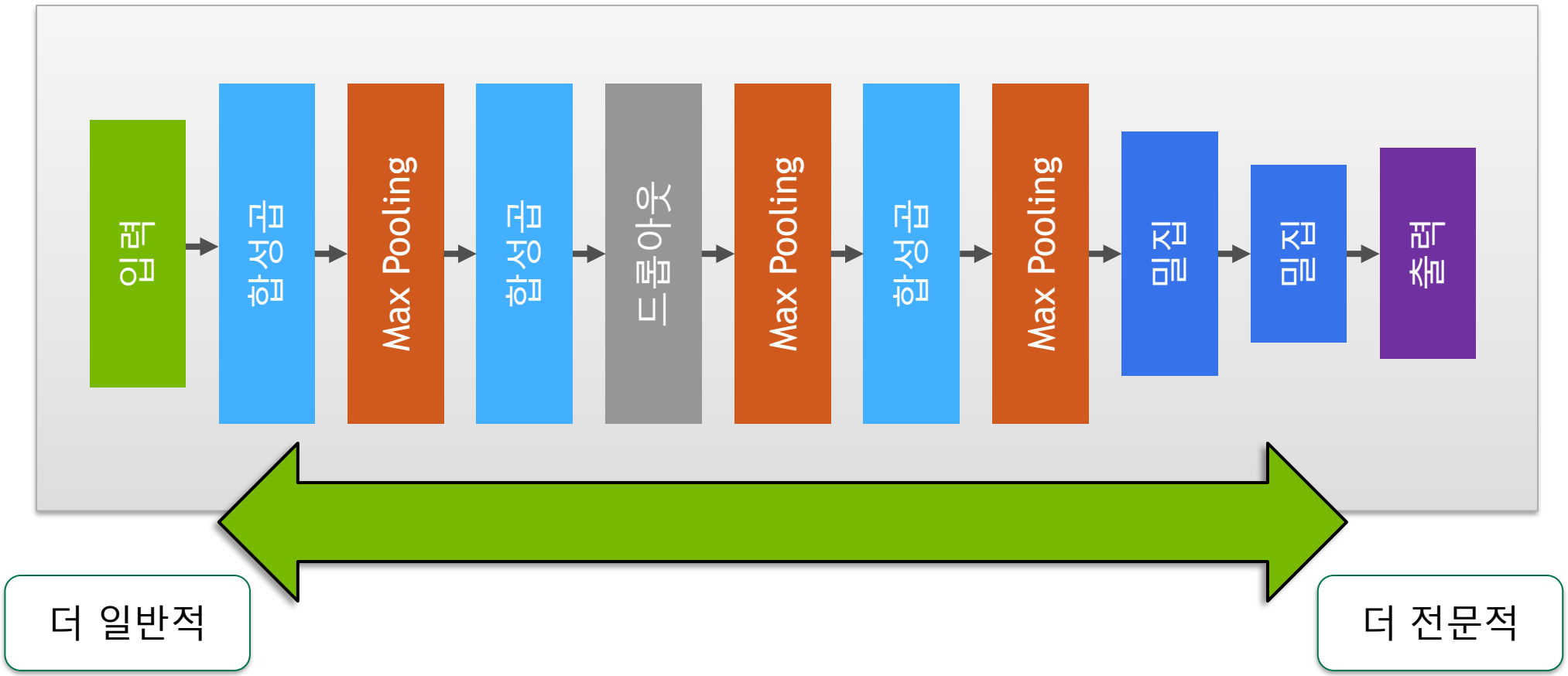
전이 학습(TRANSFER LEARNING)



전이 학습(TRANSFER LEARNING)



전이 학습(TRANSFER LEARNING)



전이 학습(TRANSFER LEARNING)

모델 동결(Freeze)

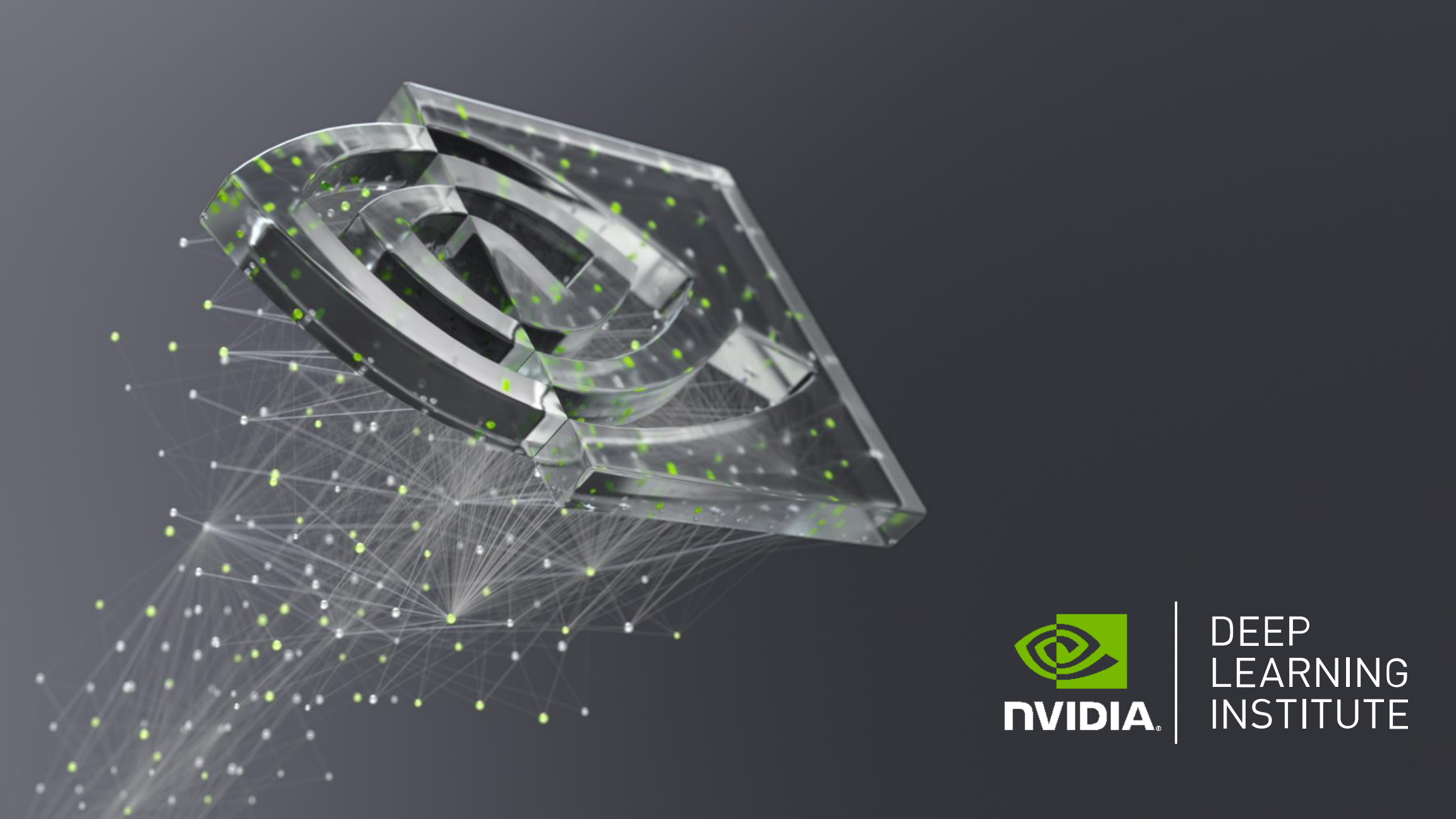
전이 학습(TRANSFER LEARNING)

tensorflow Sequential, Funcational Model

```
# Functional Model API
 inputs = keras.Input(shape=(224, 224, 3))
 x = base_model(inputs, training=False)

 # CNN layer의 차원을 1차원 벡터로 줄여
 pooling하여 다음 FC layer로 전달
 x =
 keras.layers.GlobalAveragePooling2D()(x)

 # A Dense classifier with a single unit
 (binary classification)
 outputs = keras.layers.Dense(1)(x)
 model = keras.Model(inputs, outputs)
```

```
# Sequential Model API
from tensorflow.keras.models import
Sequential
from tensorflow.keras.layers import
Dense, GlobalAveragePooling2D

model = Sequential()
model.add(base_model)
model.add(GlobalAveragePooling2D())
model.add(Dense(units=1,
activation='binary_crossentropy'))
```


시작하겠습니다!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