



Practical Computer Vision Week 2

CNN Architectures and
Image Classification



Week 2

- Group Presentation: CNN Architectures
- Study: Transfer Learning and Data Augmentation
- LAB: Transfer Learning: Frozen Parameters Using VGG

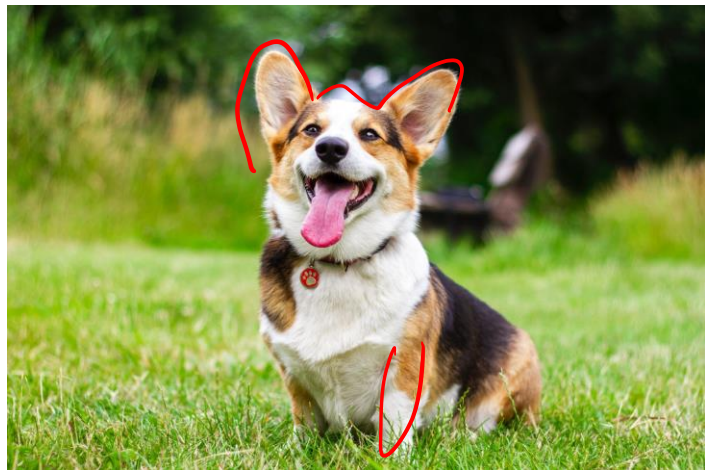
Group Presentation: CNN Architecture

CNN Architecture

- AlexNet, VGG
- Inception & Xception
- ResNet & ResNeXt

Transfer Learning

Transfer Learning Example



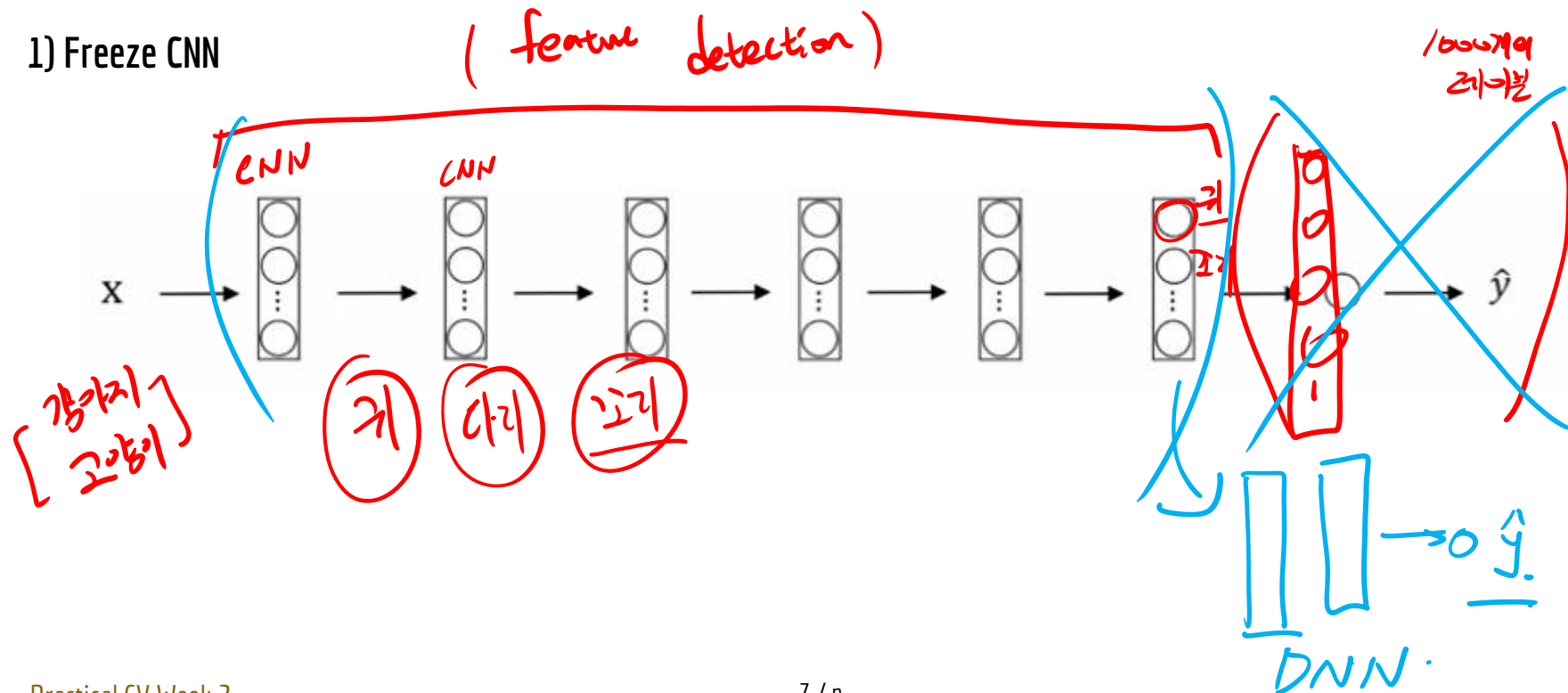
두리



순딩이

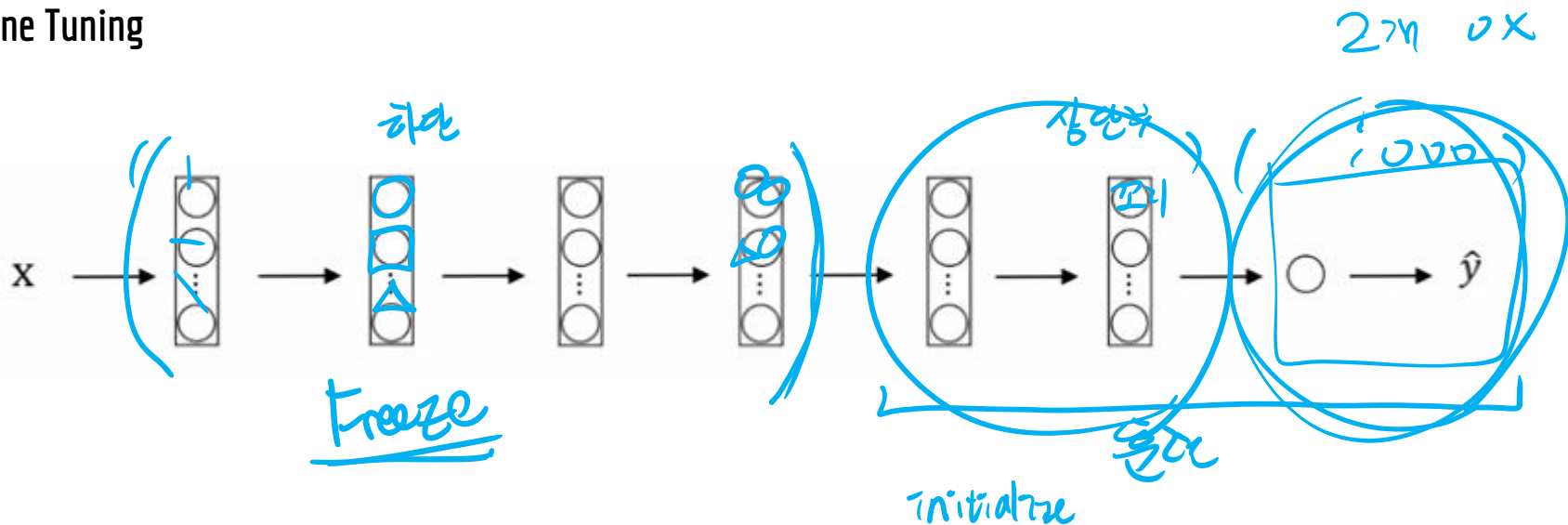
Transfer Learning

1) Freeze CNN



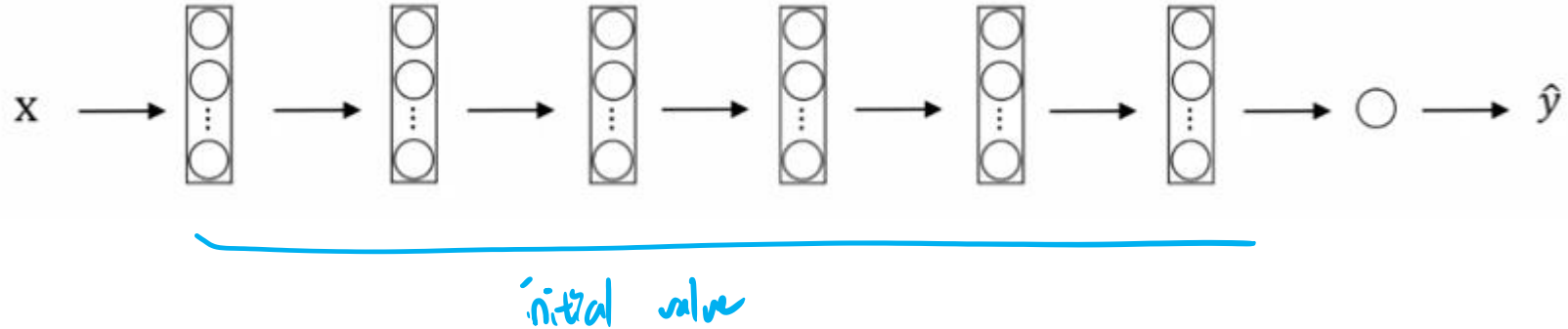
Transfer Learning

2) Fine Tuning



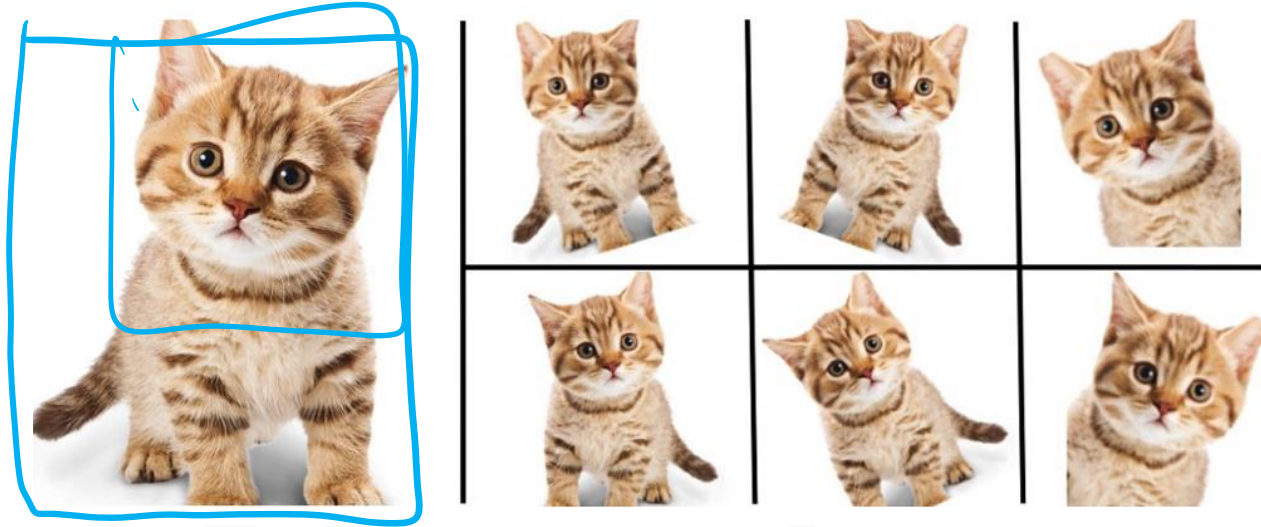
Transfer Learning

3) Initialized Parameters



Data Augmentation

Data Augmentation



Enlarge your Dataset

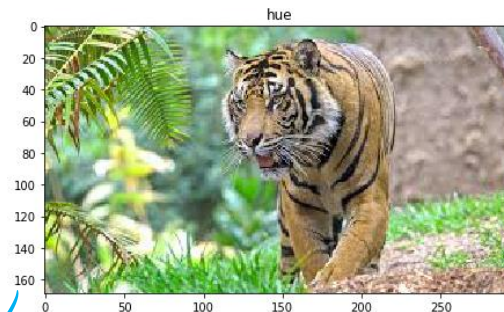
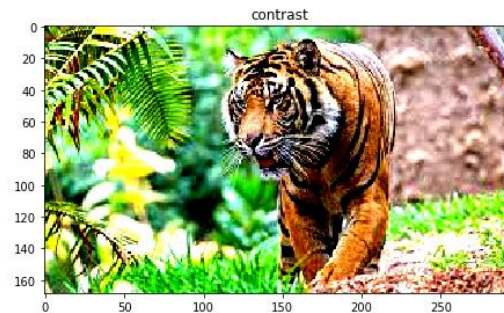
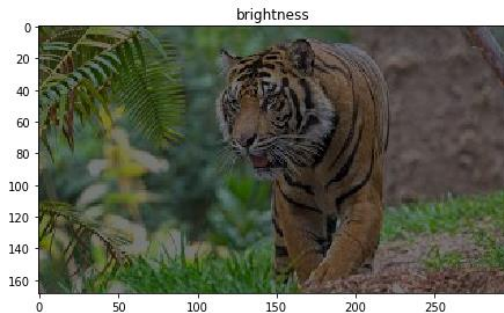
2012 ImageNet classification with Deep CNN

Data Augmentation

LEVEL ①

Alex Net

R G B
-10 +10 -20



PCA
RG B
↓

R G B
12.1n

LAB

HOMEWORK

- **GROUP Assignment**
- CAT vs DOG Small Competition
- **INDIVIDUAL Self Practice**
- CNN Practice Data Augmentation & Transfer Learning