Logging

Setup v1:

Data Augmentation:

A screenshot of a computer code

Description automatically generated

Stratified Batches to achieve balance of classes:

A computer code with text

Description automatically generated with medium confidence

Data Batches:

A screenshot of a computer code

Description automatically generated

Criterion & Optimiser:

A close-up of a computer screen

Description automatically generated

# Pytorch ResNet-18 (ImageNet trained)

## Training weights of one FC layer (512->1)

A graph with a line going up

Description automatically generated

A graph with lines and numbers

Description automatically generated

Test Loss: 0.5038, Test Accuracy: 75.1094

Model: ResNet18\_fc\_2025-01-22\_v1.pth

## Training weights on ResNet layer 4 + FC layer

A graph with numbers and lines

Description automatically generated

A graph on a screen

Description automatically generated

Test Loss: 0.8680, Test Accuracy: 0.8031

Model: ResNet18\_fc+layer4\_2025-01-22\_v1.pth

# Pytorch ResNet-50 (ImageNet trained)

## Training weights of one FC layer (2048->1)

A graph with lines and numbers

Description automatically generated

A graph with lines and numbers

Description automatically generated

Test Loss: 0.5966, Test Accuracy: 68.3260

Model: ResNet50\_fc\_2025-01-22\_v1.pth

## Training weights on ResNet layer 4 + FC layer

A graph with a line going up

Description automatically generated

A graph with lines and numbers

Description automatically generated

Test Loss: 0.8204, Test Accuracy: 80.9628

Model: ResNet50\_fc+layer4\_2025-01-22\_v1.pth

Hyperparameter Tuning

Setup v2:

Equal Batch Sizes

A screenshot of a computer program

Description automatically generated

A screenshot of a computer code

Description automatically generated



# ResNet-18

## Training on fc layer

A graph with a line going up

Description automatically generated

A graph with lines and numbers

Description automatically generated

Model: ResNet18\_fc\_2025-01-27\_v2.pth

## Training on ResNet layer 4 + fc

A graph with a line going up

Description automatically generated

A graph with green and orange lines

Description automatically generated

Model: ResNet18\_fc+layer4\_2025-01-27\_v2.pth

# ResNet-50

## Training on fc layer

A graph on a black background

Description automatically generated

A graph with lines and numbers

Description automatically generated

Model: ResNet50\_fc\_2025-01-27\_v2.pth

## Training on ResNet layer 4 + fc

A graph with a line going up

Description automatically generated

A graph with lines and numbers

Description automatically generated

Model: ResNet50\_fc+layer4\_2025-01-27\_v2.pth

Setup v3:

Image Normalisation by max value in image



Data Augmentation:

A screenshot of a computer program

Description automatically generated

Batch Size:

A screenshot of a computer code

Description automatically generated

Optimizer:



# ResNet-18

## Training on fc layer

A graph on a black background

Description automatically generated

A graph on a screen

Description automatically generated

Model: ResNet18\_fc \_2025-01-26\_v3.pth

## Training on ResNet layer4 + fc

A graph with a line going up

Description automatically generated

A graph with lines and numbers

Description automatically generated

Model: ResNet18\_fc+layer4 \_2025-01-26\_v3.pth

# ResNet-50

## Training on fc layer

A graph with a line going up

Description automatically generated

A graph with lines and numbers

Description automatically generated

Model: ResNet50\_fc\_2025-01-26\_v3.pth

## Training on ResNet layer 4 + fc

A graph with a line

Description automatically generated

A graph with lines and numbers

Description automatically generated

Model: ResNet50\_fc+layer4\_ 2025-01-26\_v3.pth