

Starting PBT ViT Experiment with Timing...  
Note: This will train ViT-Small models on CIFAR-10  
Each member may have different batch sizes

Google Drive already mounted.  
Using device: cuda  
Google Drive already mounted.  
/tmp/ipython-input-123503625.py:51: FutureWarning: `torch.cuda.amp.GradScaler(args...)` is deprecated. Please use `torch.  
scaler = torch.cuda.amp.GradScaler(enabled=torch.cuda.is\_available())`  
Starting PBT Training for ViT-Small...  
Population size: 5  
Total epochs: 70  
Exploit interval: 5 epochs  
Checkpoints will be saved to: /content/drive/MyDrive/Colab\_Checkpoints

=====  
Epoch 1/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.576493740081787 seconds  
/tmp/ipython-input-228132033.py:694: FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. Please use `torch.  
with torch.cuda.amp.autocast(enabled=torch.cuda.is\_available()):`  
LR changed during epoch: 1.78e-07 -> 3.51e-05  
total runtime to train this model was 26.470427751541138 seconds  
Hyperparameteres for model 0 at epoch 1  
lr: 0.00017473127310585154  
  
weight\_decay: 0.061266106049719646  
  
drop\_path: 0.003725775441671897  
  
warmup\_epochs: 5  
  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.435899019241333 seconds  
Loss: 2.0314  
Train Accuracy: 24.43%  
Test Accuracy: 29.81%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.7058703899383545 seconds  
LR changed during epoch: 6.96e-07 -> 1.37e-04  
total runtime to train this model was 26.723219394683838 seconds  
Hyperparameteres for model 1 at epoch 1  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465  
  
drop\_path: 0.11694757975345829  
  
warmup\_epochs: 5  
  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.969330072402954 seconds  
Loss: 1.9782

Train Accuracy: 26.45%  
Test Accuracy: 32.03%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.8595483303070068 seconds  
LR changed during epoch: 2.85e-07 -> 5.62e-05  
total runtime to train this model was 28.18943166732788 seconds  
Hyperparameteres for model 2 at epoch 1  
lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995

drop\_path: 0.09657181401157298

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.9589877128601074 seconds  
Loss: 2.0209  
Train Accuracy: 24.84%  
Test Accuracy: 28.85%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6493463516235352 seconds  
LR changed during epoch: 2.84e-07 -> 5.60e-05  
total runtime to train this model was 28.35213875770569 seconds  
Hyperparameteres for model 3 at epoch 1  
lr: 0.00027866855897964196

weight\_decay: 0.12005905479695693

drop\_path: 0.18516687037287166

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.9581713676452637 seconds  
Loss: 2.0303  
Train Accuracy: 24.06%  
Test Accuracy: 31.08%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.8446156978607178 seconds  
LR changed during epoch: 2.95e-07 -> 5.81e-05  
total runtime to train this model was 28.655975818634033 seconds  
Hyperparameteres for model 4 at epoch 1  
lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679

drop\_path: 0.1203142691941336

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.223897933959961 seconds

Loss: 2.0196

Train Accuracy: 24.41%

Test Accuracy: 29.67%

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Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 1 Summary:

=====

Time: 163.09s (Avg member: 32.62s)

Population Mean Accuracy: 30.29%

Best Member Accuracy: 32.03%

Mean Batch Size: 256

Mean Learning Rate: 3.41e-04

Mean Weight Decay: 0.106

=====

Epoch 2/70

=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.6363332271575928 seconds

LR changed during epoch: 3.51e-05 -> 7.01e-05

total runtime to train this model was 26.980736255645752 seconds

Hyperparameteres for model 0 at epoch 2

lr: 0.00017473127310585154

weight\_decay: 0.061266106049719646

drop\_path: 0.003725775441671897

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.461520195007324 seconds

Loss: 1.8248

Train Accuracy: 32.56%

Test Accuracy: 35.01%

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Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.5776302814483643 seconds

LR changed during epoch: 1.37e-04 -> 2.74e-04

total runtime to train this model was 26.875802516937256 seconds

Hyperparameteres for model 1 at epoch 2

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4603679180145264 seconds

Loss: 1.7682

Train Accuracy: 33.77%

Test Accuracy: 33.54%

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Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.6331672668457031 seconds

LR changed during epoch: 5.62e-05 -> 1.12e-04

total runtime to train this model was 26.85246968269348 seconds

Hyperparameteres for model 2 at epoch 2

lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995

drop\_path: 0.09657181401157298

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.6913392543792725 seconds

Loss: 1.8119

Train Accuracy: 32.79%

Test Accuracy: 33.67%

Google Drive already mounted.

Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---

built data in 1.7324142456054688 seconds

LR changed during epoch: 5.60e-05 -> 1.12e-04

total runtime to train this model was 27.16681981086731 seconds

Hyperparameteres for model 3 at epoch 2

lr: 0.00027866855897964196

weight\_decay: 0.12005905479695693

drop\_path: 0.18516687037287166

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.515153408050537 seconds

Loss: 1.8224

Train Accuracy: 32.55%

Test Accuracy: 33.60%

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Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---

built data in 1.6506385803222656 seconds

LR changed during epoch: 5.81e-05 -> 1.16e-04

total runtime to train this model was 27.015218019485474 seconds

Hyperparameteres for model 4 at epoch 2

lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679

drop\_path: 0.1203142691941336

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.394428253173828 seconds

Loss: 1.8156

Train Accuracy: 32.54%

Test Accuracy: 34.73%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 2 Summary:

=====

Time: 157.88s (Avg member: 31.58s)

Population Mean Accuracy: 34.11%

Best Member Accuracy: 35.01%

Mean Batch Size: 256

Mean Learning Rate: 3.41e-04

Mean Weight Decay: 0.106

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Epoch 3/70

=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.6637909412384033 seconds

LR changed during epoch: 7.01e-05 -> 1.05e-04

total runtime to train this model was 26.683252334594727 seconds

Hyperparameteres for model 0 at epoch 3

lr: 0.00017473127310585154

weight\_decay: 0.061266106049719646

drop\_path: 0.003725775441671897

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.487985610961914 seconds

Loss: 1.7282

Train Accuracy: 35.91%

Test Accuracy: 37.03%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.8577027320861816 seconds

LR changed during epoch: 2.74e-04 -> 4.10e-04

total runtime to train this model was 26.340532302856445 seconds

Hyperparameteres for model 1 at epoch 3

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.2083723545074463 seconds  
Loss: 1.6378  
Train Accuracy: 39.44%  
Test Accuracy: 42.49%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.6214208602905273 seconds  
LR changed during epoch: 1.12e-04 -> 1.68e-04  
total runtime to train this model was 27.244285821914673 seconds  
Hyperparameteres for model 2 at epoch 3  
lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995  
drop\_path: 0.09657181401157298  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4979894161224365 seconds  
Loss: 1.7025  
Train Accuracy: 36.76%  
Test Accuracy: 36.76%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6507463455200195 seconds  
LR changed during epoch: 1.12e-04 -> 1.67e-04  
total runtime to train this model was 26.855409860610962 seconds  
Hyperparameteres for model 3 at epoch 3  
lr: 0.00027866855897964196

weight\_decay: 0.12005905479695693  
drop\_path: 0.18516687037287166  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.401470899581909 seconds  
Loss: 1.7045  
Train Accuracy: 36.77%  
Test Accuracy: 38.08%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---

built data in 1.6950328350067139 seconds  
LR changed during epoch: 1.16e-04 -> 1.74e-04  
total runtime to train this model was 26.860795497894287 seconds  
Hyperparameteres for model 4 at epoch 3  
lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679  
drop\_path: 0.1203142691941336  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.819528818130493 seconds  
Loss: 1.6991  
Train Accuracy: 37.06%  
Test Accuracy: 39.97%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====  
Epoch 3 Summary:  
=====

Time: 158.25s (Avg member: 31.65s)  
Population Mean Accuracy: 38.87%  
Best Member Accuracy: 42.49%  
Mean Batch Size: 256  
Mean Learning Rate: 3.41e-04  
Mean Weight Decay: 0.106

=====  
Epoch 4/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.6626036167144775 seconds  
LR changed during epoch: 1.05e-04 -> 1.40e-04  
total runtime to train this model was 26.863465309143066 seconds  
Hyperparameteres for model 0 at epoch 4  
lr: 0.00017473127310585154

weight\_decay: 0.061266106049719646  
drop\_path: 0.003725775441671897  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4560675621032715 seconds  
Loss: 1.6458  
Train Accuracy: 39.24%  
Test Accuracy: 40.72%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.6134488582611084 seconds  
LR changed during epoch: 4.10e-04 -> 5.47e-04

total runtime to train this model was 27.005242586135864 seconds

Hyperparameteres for model 1 at epoch 4

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.450981616973877 seconds

Loss: 1.5378

Train Accuracy: 43.88%

Test Accuracy: 46.36%

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Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.6298682689666748 seconds

LR changed during epoch: 1.68e-04 -> 2.24e-04

total runtime to train this model was 27.08251118659973 seconds

Hyperparameteres for model 2 at epoch 4

lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995

drop\_path: 0.09657181401157298

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.8357479572296143 seconds

Loss: 1.5977

Train Accuracy: 41.24%

Test Accuracy: 45.01%

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Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---

built data in 1.7543816566467285 seconds

LR changed during epoch: 1.67e-04 -> 2.23e-04

total runtime to train this model was 26.205461978912354 seconds

Hyperparameteres for model 3 at epoch 4

lr: 0.00027866855897964196

weight\_decay: 0.12005905479695693

drop\_path: 0.18516687037287166

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 3.1937172412872314 seconds

Loss: 1.5963

Train Accuracy: 41.23%

Test Accuracy: 42.74%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6590571403503418 seconds  
LR changed during epoch: 1.74e-04 -> 2.32e-04  
total runtime to train this model was 27.4972882270813 seconds  
Hyperparameteres for model 4 at epoch 4  
lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679  
drop\_path: 0.1203142691941336  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.3954710960388184 seconds  
Loss: 1.5825  
Train Accuracy: 42.07%  
Test Accuracy: 43.02%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====  
Epoch 4 Summary:  
=====

Time: 157.58s (Avg member: 31.52s)  
Population Mean Accuracy: 43.57%  
Best Member Accuracy: 46.36%  
Mean Batch Size: 256  
Mean Learning Rate: 3.41e-04  
Mean Weight Decay: 0.106

=====  
Epoch 5/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.6172876358032227 seconds  
LR changed during epoch: 1.40e-04 -> 1.75e-04  
total runtime to train this model was 26.80528473854065 seconds  
Hyperparameteres for model 0 at epoch 5  
lr: 0.00017473127310585154

weight\_decay: 0.061266106049719646  
drop\_path: 0.003725775441671897  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5204529762268066 seconds  
Loss: 1.5402  
Train Accuracy: 43.64%  
Test Accuracy: 44.01%  
Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.6812138557434082 seconds

LR changed during epoch: 5.47e-04 -> 6.82e-04

total runtime to train this model was 26.176032543182373 seconds

Hyperparameteres for model 1 at epoch 5

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 3.3922297954559326 seconds

Loss: 1.4771

Train Accuracy: 46.31%

Test Accuracy: 45.60%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.6931321620941162 seconds

LR changed during epoch: 2.24e-04 -> 2.80e-04

total runtime to train this model was 26.8061580657959 seconds

Hyperparameteres for model 2 at epoch 5

lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995

drop\_path: 0.09657181401157298

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.421713352203369 seconds

Loss: 1.5003

Train Accuracy: 45.48%

Test Accuracy: 46.46%

Google Drive already mounted.

Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---

built data in 1.6229896545410156 seconds

LR changed during epoch: 2.23e-04 -> 2.79e-04

total runtime to train this model was 26.890789270401 seconds

Hyperparameteres for model 3 at epoch 5

lr: 0.00027866855897964196

weight\_decay: 0.12005905479695693

drop\_path: 0.18516687037287166

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.520561695098877 seconds  
Loss: 1.4974  
Train Accuracy: 45.37%  
Test Accuracy: 46.42%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6234641075134277 seconds  
LR changed during epoch: 2.32e-04 -> 2.89e-04  
total runtime to train this model was 26.89166283607483 seconds  
Hyperparameteres for model 4 at epoch 5  
lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679

drop\_path: 0.1203142691941336

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.386087417602539 seconds  
Loss: 1.4820  
Train Accuracy: 46.03%  
Test Accuracy: 47.46%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

--- Population Update (Epoch 5) ---

==== PBT Exploit & Explore ====  
Top performers: [47.46]  
Bottom performers: [44.01]  
Member 0: lr changed from 0.00017473127310585154 to 0.00025717285178367924  
Member 0: weight\_decay changed from 0.061266106049719646 to 0.0599227753704586  
Member 0: drop\_path changed from 0.003725775441671897 to 0.0  
Member 0 copied from 4  
LR=2.57e-04, WD=0.060, DropPath=0.000, Warmup=5 epochs, Batch=256

=====  
Epoch 5 Summary:  
=====

Time: 156.43s (Avg member: 31.28s)  
Population Mean Accuracy: 45.99%  
Best Member Accuracy: 47.46%  
Mean Batch Size: 256  
Mean Learning Rate: 3.57e-04  
Mean Weight Decay: 0.106

=====  
Epoch 6/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.7979581356048584 seconds  
LR changed during epoch: 2.62e-07 -> 5.17e-05  
total runtime to train this model was 27.148473262786865 seconds  
Hyperparameteres for model 0 at epoch 6

lr: 0.00025717285178367924

weight\_decay: 0.0599227753704586

drop\_path: 0.0

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.1429567337036133 seconds

Loss: 1.3508

Train Accuracy: 51.37%

Test Accuracy: 51.48%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.6633596420288086 seconds

LR changed during epoch: 6.82e-04 -> 6.82e-04

total runtime to train this model was 27.298930168151855 seconds

Hyperparameteres for model 1 at epoch 6

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5218570232391357 seconds

Loss: 1.4309

Train Accuracy: 48.24%

Test Accuracy: 49.77%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.6555545330047607 seconds

LR changed during epoch: 2.80e-04 -> 2.80e-04

total runtime to train this model was 27.74789047241211 seconds

Hyperparameteres for model 2 at epoch 6

lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995

drop\_path: 0.09657181401157298

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4645767211914062 seconds

Loss: 1.4188

Train Accuracy: 48.52%

Test Accuracy: 49.30%

Google Drive already mounted.

Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---

built data in 1.7754886150360107 seconds

LR changed during epoch: 2.79e-04 -> 2.79e-04

total runtime to train this model was 27.54756760597229 seconds

Hyperparameteres for model 3 at epoch 6

lr: 0.00027866855897964196

weight\_decay: 0.12005905479695693

drop\_path: 0.18516687037287166

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 3.305535316467285 seconds

Loss: 1.4303

Train Accuracy: 47.67%

Test Accuracy: 47.73%

Google Drive already mounted.

Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---

built data in 1.6453447341918945 seconds

LR changed during epoch: 2.89e-04 -> 2.89e-04

total runtime to train this model was 27.098710536956787 seconds

Hyperparameteres for model 4 at epoch 6

lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679

drop\_path: 0.1203142691941336

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.5464184284210205 seconds

Loss: 1.4174

Train Accuracy: 48.59%

Test Accuracy: 49.72%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 6 Summary:

=====

Time: 160.60s (Avg member: 32.12s)

Population Mean Accuracy: 49.60%

Best Member Accuracy: 51.48%

Mean Batch Size: 256

Mean Learning Rate: 3.57e-04

Mean Weight Decay: 0.106

=====

Epoch 7/70

=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.7269444465637207 seconds  
LR changed during epoch: 5.17e-05 -> 1.03e-04  
total runtime to train this model was 27.126232862472534 seconds  
Hyperparameteres for model 0 at epoch 7  
lr: 0.00025717285178367924

weight\_decay: 0.0599227753704586

drop\_path: 0.0

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5239756107330322 seconds  
Loss: 1.3085  
Train Accuracy: 52.70%  
Test Accuracy: 52.33%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.7877585887908936 seconds  
LR changed during epoch: 6.82e-04 -> 6.81e-04  
total runtime to train this model was 27.030916452407837 seconds  
Hyperparameteres for model 1 at epoch 7  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.598594903945923 seconds  
Loss: 1.3651  
Train Accuracy: 50.49%  
Test Accuracy: 51.57%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.5942513942718506 seconds  
LR changed during epoch: 2.80e-04 -> 2.79e-04  
total runtime to train this model was 27.47420597076416 seconds  
Hyperparameteres for model 2 at epoch 7  
lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995

drop\_path: 0.09657181401157298

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.5455198287963867 seconds  
Loss: 1.3532  
Train Accuracy: 50.84%  
Test Accuracy: 52.53%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.63387131690979 seconds  
LR changed during epoch: 2.79e-04 -> 2.78e-04  
total runtime to train this model was 27.486793756484985 seconds  
Hyperparameteres for model 3 at epoch 7  
lr: 0.00027866855897964196

weight\_decay: 0.12005905479695693

drop\_path: 0.18516687037287166

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4292964935302734 seconds  
Loss: 1.3736  
Train Accuracy: 50.23%  
Test Accuracy: 51.52%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6656603813171387 seconds  
LR changed during epoch: 2.89e-04 -> 2.88e-04  
total runtime to train this model was 27.284016370773315 seconds  
Hyperparameteres for model 4 at epoch 7  
lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679

drop\_path: 0.1203142691941336

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.50414776802063 seconds  
Loss: 1.3440  
Train Accuracy: 51.42%  
Test Accuracy: 53.13%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 7 Summary:

=====

Time: 160.73s (Avg member: 32.15s)  
Population Mean Accuracy: 52.22%  
Best Member Accuracy: 53.13%  
Mean Batch Size: 256  
Mean Learning Rate: 3.57e-04  
Mean Weight Decay: 0.106

```
=====
Epoch 8/70
=====
```

--- Training Member 0 (Batch size: 256) ---

built data in 1.6919214725494385 seconds

LR changed during epoch: 1.03e-04 -> 1.55e-04

total runtime to train this model was 27.210604190826416 seconds

Hyperparameteres for model 0 at epoch 8

lr: 0.00025717285178367924

weight\_decay: 0.0599227753704586

drop\_path: 0.0

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.502643585205078 seconds

Loss: 1.2968

Train Accuracy: 53.01%

Test Accuracy: 53.12%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.592846155166626 seconds

LR changed during epoch: 6.81e-04 -> 6.79e-04

total runtime to train this model was 26.922749757766724 seconds

Hyperparameteres for model 1 at epoch 8

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.4592978954315186 seconds

Loss: 1.3215

Train Accuracy: 52.02%

Test Accuracy: 52.60%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.702486276626587 seconds

LR changed during epoch: 2.79e-04 -> 2.78e-04

total runtime to train this model was 26.80988574028015 seconds

Hyperparameteres for model 2 at epoch 8

lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995

drop\_path: 0.09657181401157298

warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.7286741733551025 seconds  
Loss: 1.3087  
Train Accuracy: 52.79%  
Test Accuracy: 53.72%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.8316538333892822 seconds  
LR changed during epoch: 2.78e-04 -> 2.77e-04  
total runtime to train this model was 27.13606071472168 seconds  
Hyperparameteres for model 3 at epoch 8  
lr: 0.00027866855897964196

weight\_decay: 0.12005905479695693  
drop\_path: 0.18516687037287166

warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.8666224479675293 seconds  
Loss: 1.3287  
Train Accuracy: 51.97%  
Test Accuracy: 53.67%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6708908081054688 seconds  
LR changed during epoch: 2.88e-04 -> 2.88e-04  
total runtime to train this model was 26.89622163772583 seconds  
Hyperparameteres for model 4 at epoch 8  
lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679  
drop\_path: 0.1203142691941336

warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.46589732170105 seconds  
Loss: 1.3042  
Train Accuracy: 52.84%  
Test Accuracy: 53.74%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 8 Summary:

=====

Time: 157.73s (Avg member: 31.55s)

Population Mean Accuracy: 53.37%

Best Member Accuracy: 53.74%

Mean Batch Size: 256

Mean Learning Rate: 3.57e-04

Mean Weight Decay: 0.106

=====

Epoch 9/70

=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.6280183792114258 seconds

LR changed during epoch: 1.55e-04 -> 2.06e-04

total runtime to train this model was 27.104288578033447 seconds

Hyperparameteres for model 0 at epoch 9

lr: 0.00025717285178367924

weight\_decay: 0.0599227753704586

drop\_path: 0.0

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.5045859813690186 seconds

Loss: 1.2787

Train Accuracy: 53.68%

Test Accuracy: 53.64%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.7364673614501953 seconds

LR changed during epoch: 6.79e-04 -> 6.76e-04

total runtime to train this model was 26.25957417488098 seconds

Hyperparameteres for model 1 at epoch 9

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 3.722568988800049 seconds

Loss: 1.2681

Train Accuracy: 54.27%

Test Accuracy: 54.99%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.6205170154571533 seconds

LR changed during epoch: 2.78e-04 -> 2.77e-04

total runtime to train this model was 26.899659872055054 seconds

Hyperparameteres for model 2 at epoch 9

lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995

drop\_path: 0.09657181401157298

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4947509765625 seconds

Loss: 1.2587

Train Accuracy: 54.82%

Test Accuracy: 53.69%

Google Drive already mounted.

Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---

built data in 1.7168564796447754 seconds

LR changed during epoch: 2.77e-04 -> 2.76e-04

total runtime to train this model was 26.854040384292603 seconds

Hyperparameteres for model 3 at epoch 9

lr: 0.00027866855897964196

weight\_decay: 0.12005905479695693

drop\_path: 0.18516687037287166

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.432810068130493 seconds

Loss: 1.2987

Train Accuracy: 52.92%

Test Accuracy: 55.85%

Google Drive already mounted.

Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---

built data in 1.637540578842163 seconds

LR changed during epoch: 2.88e-04 -> 2.86e-04

total runtime to train this model was 27.123861074447632 seconds

Hyperparameteres for model 4 at epoch 9

lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679

drop\_path: 0.1203142691941336

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.7329392433166504 seconds

Loss: 1.2601

Train Accuracy: 54.63%

Test Accuracy: 54.17%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

```
=====
Epoch 9 Summary:
=====
```

Time: 157.75s (Avg member: 31.55s)  
Population Mean Accuracy: 54.47%  
Best Member Accuracy: 55.85%  
Mean Batch Size: 256  
Mean Learning Rate: 3.57e-04  
Mean Weight Decay: 0.106

```
=====
Epoch 10/70
=====
```

--- Training Member 0 (Batch size: 256) ---  
built data in 1.820549726486206 seconds  
LR changed during epoch: 2.06e-04 -> 2.57e-04  
total runtime to train this model was 26.56567096710205 seconds  
Hyperparameteres for model 0 at epoch 10  
lr: 0.00025717285178367924

weight\_decay: 0.0599227753704586

drop\_path: 0.0

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.1765031814575195 seconds

Loss: 1.2676  
Train Accuracy: 54.12%  
Test Accuracy: 53.83%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.6307940483093262 seconds  
LR changed during epoch: 6.76e-04 -> 6.72e-04  
total runtime to train this model was 27.563258171081543 seconds  
Hyperparameteres for model 1 at epoch 10  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4800515174865723 seconds

Loss: 1.2245  
Train Accuracy: 55.88%  
Test Accuracy: 56.12%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.6365525722503662 seconds  
LR changed during epoch: 2.77e-04 -> 2.76e-04  
total runtime to train this model was 27.506930112838745 seconds  
Hyperparameteres for model 2 at epoch 10  
lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995  
drop\_path: 0.09657181401157298  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4799134731292725 seconds  
Loss: 1.2225  
Train Accuracy: 56.17%  
Test Accuracy: 56.04%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.8189396858215332 seconds  
LR changed during epoch: 2.76e-04 -> 2.75e-04  
total runtime to train this model was 27.280999183654785 seconds  
Hyperparameteres for model 3 at epoch 10  
lr: 0.00027866855897964196

weight\_decay: 0.12005905479695693  
drop\_path: 0.18516687037287166  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.2704062461853027 seconds  
Loss: 1.2501  
Train Accuracy: 54.80%  
Test Accuracy: 55.71%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6224784851074219 seconds  
LR changed during epoch: 2.86e-04 -> 2.85e-04  
total runtime to train this model was 26.844536066055298 seconds  
Hyperparameteres for model 4 at epoch 10  
lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679  
drop\_path: 0.1203142691941336  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.406771421432495 seconds

Loss: 1.2199  
Train Accuracy: 56.05%  
Test Accuracy: 56.90%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

--- Population Update (Epoch 10) ---

==== PBT Exploit & Explore ====

Top performers: [56.9]

Bottom performers: [53.83]

Member 0: lr changed from 0.00025717285178367924 to 0.00021799997987342534

Member 0: weight\_decay changed from 0.0599227753704586 to 0.04164903759145146

Member 0 copied from 4

LR=2.18e-04, WD=0.042, DropPath=0.000, Warmup=5 epochs, Batch=256

=====

Epoch 10 Summary:

=====

Time: 159.34s (Avg member: 31.86s)

Population Mean Accuracy: 55.72%

Best Member Accuracy: 56.90%

Mean Batch Size: 256

Mean Learning Rate: 3.50e-04

Mean Weight Decay: 0.102

=====

Epoch 11/70

=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.6097147464752197 seconds

LR changed during epoch: 2.22e-07 -> 4.38e-05

total runtime to train this model was 27.15125036239624 seconds

Hyperparameteres for model 0 at epoch 11

lr: 0.00021799997987342534

weight\_decay: 0.04164903759145146

drop\_path: 0.0

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.430319309234619 seconds

Loss: 1.1176

Train Accuracy: 59.90%

Test Accuracy: 59.94%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.6403520107269287 seconds

LR changed during epoch: 6.72e-04 -> 6.68e-04

total runtime to train this model was 26.735692262649536 seconds

Hyperparameteres for model 1 at epoch 11

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.165422201156616 seconds  
Loss: 1.1858  
Train Accuracy: 57.44%  
Test Accuracy: 58.28%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.8171250820159912 seconds  
LR changed during epoch: 2.76e-04 -> 2.74e-04  
total runtime to train this model was 26.902244567871094 seconds  
Hyperparameteres for model 2 at epoch 11  
lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995

drop\_path: 0.09657181401157298

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.421109199523926 seconds  
Loss: 1.1885  
Train Accuracy: 57.18%  
Test Accuracy: 55.20%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6376514434814453 seconds  
LR changed during epoch: 2.75e-04 -> 2.73e-04  
total runtime to train this model was 26.82991862297058 seconds  
Hyperparameteres for model 3 at epoch 11  
lr: 0.00027866855897964196

weight\_decay: 0.12005905479695693

drop\_path: 0.18516687037287166

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5456290245056152 seconds  
Loss: 1.2274  
Train Accuracy: 55.70%  
Test Accuracy: 56.67%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6109414100646973 seconds

LR changed during epoch: 2.85e-04 -> 2.83e-04  
total runtime to train this model was 27.130249738693237 seconds  
Hyperparameteres for model 4 at epoch 11  
lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679  
drop\_path: 0.1203142691941336  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.688091993331909 seconds  
Loss: 1.1892  
Train Accuracy: 57.46%  
Test Accuracy: 56.26%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====  
Epoch 11 Summary:  
=====

Time: 157.65s (Avg member: 31.53s)  
Population Mean Accuracy: 57.27%  
Best Member Accuracy: 59.94%  
Mean Batch Size: 256  
Mean Learning Rate: 3.50e-04  
Mean Weight Decay: 0.102

=====  
Epoch 12/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.728398084640503 seconds  
LR changed during epoch: 4.38e-05 -> 8.74e-05  
total runtime to train this model was 27.14194941520691 seconds  
Hyperparameteres for model 0 at epoch 12  
lr: 0.00021799997987342534

weight\_decay: 0.04164903759145146  
drop\_path: 0.0  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.265606164932251 seconds  
Loss: 1.0727  
Train Accuracy: 61.67%  
Test Accuracy: 61.11%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.6163504123687744 seconds  
LR changed during epoch: 6.68e-04 -> 6.63e-04  
total runtime to train this model was 27.28428030014038 seconds

Hyperparameteres for model 1 at epoch 12

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.483987331390381 seconds

Loss: 1.1412

Train Accuracy: 58.96%

Test Accuracy: 60.22%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.5937421321868896 seconds

LR changed during epoch: 2.74e-04 -> 2.72e-04

total runtime to train this model was 27.16022753715515 seconds

Hyperparameteres for model 2 at epoch 12

lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995

drop\_path: 0.09657181401157298

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.5499279499053955 seconds

Loss: 1.1529

Train Accuracy: 58.62%

Test Accuracy: 59.33%

Google Drive already mounted.

Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---

built data in 1.6762962341308594 seconds

LR changed during epoch: 2.73e-04 -> 2.71e-04

total runtime to train this model was 27.05852246284485 seconds

Hyperparameteres for model 3 at epoch 12

lr: 0.00027866855897964196

weight\_decay: 0.12005905479695693

drop\_path: 0.18516687037287166

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 3.7050161361694336 seconds

Loss: 1.1908

Train Accuracy: 57.22%

Test Accuracy: 57.93%

Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.5950305461883545 seconds  
LR changed during epoch: 2.83e-04 -> 2.81e-04  
total runtime to train this model was 27.03208899497986 seconds  
Hyperparameteres for model 4 at epoch 12  
lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679  
drop\_path: 0.1203142691941336  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.621957540512085 seconds  
Loss: 1.1601  
Train Accuracy: 58.18%  
Test Accuracy: 59.51%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====  
Epoch 12 Summary:  
=====

Time: 159.79s (Avg member: 31.96s)  
Population Mean Accuracy: 59.62%  
Best Member Accuracy: 61.11%  
Mean Batch Size: 256  
Mean Learning Rate: 3.50e-04  
Mean Weight Decay: 0.102

=====  
Epoch 13/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.7034344673156738 seconds  
LR changed during epoch: 8.74e-05 -> 1.31e-04  
total runtime to train this model was 27.37450885772705 seconds  
Hyperparameteres for model 0 at epoch 13  
lr: 0.00021799997987342534

weight\_decay: 0.04164903759145146  
drop\_path: 0.0  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4701192378997803 seconds  
Loss: 1.0798  
Train Accuracy: 61.36%  
Test Accuracy: 60.89%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.5830388069152832 seconds  
LR changed during epoch: 6.63e-04 -> 6.57e-04  
total runtime to train this model was 27.16253113746643 seconds  
Hyperparameteres for model 1 at epoch 13  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465  
drop\_path: 0.11694757975345829  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5967020988464355 seconds  
Loss: 1.0996  
Train Accuracy: 60.56%  
Test Accuracy: 60.12%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.7480907440185547 seconds  
LR changed during epoch: 2.72e-04 -> 2.69e-04  
total runtime to train this model was 26.357741355895996 seconds  
Hyperparameteres for model 2 at epoch 13  
lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995  
drop\_path: 0.09657181401157298  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.1413118839263916 seconds  
Loss: 1.1182  
Train Accuracy: 59.80%  
Test Accuracy: 59.89%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6035783290863037 seconds  
LR changed during epoch: 2.71e-04 -> 2.68e-04  
total runtime to train this model was 26.881608963012695 seconds  
Hyperparameteres for model 3 at epoch 13  
lr: 0.00027866855897964196

weight\_decay: 0.12005905479695693  
drop\_path: 0.18516687037287166  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5314393043518066 seconds  
Loss: 1.1601  
Train Accuracy: 58.01%  
Test Accuracy: 59.71%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6057496070861816 seconds  
LR changed during epoch: 2.81e-04 -> 2.79e-04  
total runtime to train this model was 26.86904811859131 seconds  
Hyperparameteres for model 4 at epoch 13  
lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679

drop\_path: 0.1203142691941336

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4215707778930664 seconds  
Loss: 1.1260  
Train Accuracy: 59.76%  
Test Accuracy: 59.89%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 13 Summary:

=====

Time: 157.29s (Avg member: 31.46s)  
Population Mean Accuracy: 60.10%  
Best Member Accuracy: 60.89%  
Mean Batch Size: 256  
Mean Learning Rate: 3.50e-04  
Mean Weight Decay: 0.102

=====

Epoch 14/70

=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.6944117546081543 seconds  
LR changed during epoch: 1.31e-04 -> 1.75e-04  
total runtime to train this model was 26.839394092559814 seconds  
Hyperparameteres for model 0 at epoch 14  
lr: 0.00021799997987342534

weight\_decay: 0.04164903759145146

drop\_path: 0.0

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.8433306217193604 seconds

Loss: 1.0752  
Train Accuracy: 61.43%  
Test Accuracy: 60.93%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.6388235092163086 seconds  
LR changed during epoch: 6.57e-04 -> 6.51e-04  
total runtime to train this model was 27.940714836120605 seconds  
Hyperparameteres for model 1 at epoch 14  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465  
drop\_path: 0.11694757975345829  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5401315689086914 seconds  
Loss: 1.0723  
Train Accuracy: 61.66%  
Test Accuracy: 62.04%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.6041004657745361 seconds  
LR changed during epoch: 2.69e-04 -> 2.67e-04  
total runtime to train this model was 27.627203702926636 seconds  
Hyperparameteres for model 2 at epoch 14  
lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995  
drop\_path: 0.09657181401157298  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5381686687469482 seconds  
Loss: 1.0923  
Train Accuracy: 60.72%  
Test Accuracy: 61.31%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6405012607574463 seconds  
LR changed during epoch: 2.68e-04 -> 2.66e-04  
total runtime to train this model was 27.250476360321045 seconds  
Hyperparameteres for model 3 at epoch 14  
lr: 0.00027866855897964196

weight\_decay: 0.12005905479695693  
drop\_path: 0.18516687037287166

warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.8680877685546875 seconds  
Loss: 1.1269  
Train Accuracy: 59.71%  
Test Accuracy: 59.89%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.596961498260498 seconds  
LR changed during epoch: 2.79e-04 -> 2.76e-04  
total runtime to train this model was 27.762871265411377 seconds  
Hyperparameteres for model 4 at epoch 14  
lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679  
drop\_path: 0.1203142691941336

warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5279629230499268 seconds  
Loss: 1.1012  
Train Accuracy: 60.58%  
Test Accuracy: 60.82%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====  
Epoch 14 Summary:  
=====

Time: 162.10s (Avg member: 32.42s)  
Population Mean Accuracy: 61.00%  
Best Member Accuracy: 62.04%  
Mean Batch Size: 256  
Mean Learning Rate: 3.50e-04  
Mean Weight Decay: 0.102

=====  
Epoch 15/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.597764253616333 seconds  
LR changed during epoch: 1.75e-04 -> 2.18e-04  
total runtime to train this model was 27.219095945358276 seconds  
Hyperparameteres for model 0 at epoch 15  
lr: 0.00021799997987342534

weight\_decay: 0.04164903759145146  
drop\_path: 0.0

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5547869205474854 seconds  
Loss: 1.0735  
Train Accuracy: 61.40%  
Test Accuracy: 60.46%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.583259105682373 seconds  
LR changed during epoch: 6.51e-04 -> 6.43e-04  
total runtime to train this model was 27.559412240982056 seconds  
Hyperparameteres for model 1 at epoch 15  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.5966708660125732 seconds  
Loss: 1.0405  
Train Accuracy: 62.83%  
Test Accuracy: 62.79%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.599522352218628 seconds  
LR changed during epoch: 2.67e-04 -> 2.64e-04  
total runtime to train this model was 27.553252935409546 seconds  
Hyperparameteres for model 2 at epoch 15  
lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995

drop\_path: 0.09657181401157298

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4701411724090576 seconds  
Loss: 1.0554  
Train Accuracy: 62.27%  
Test Accuracy: 61.63%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6149156093597412 seconds  
LR changed during epoch: 2.66e-04 -> 2.63e-04  
total runtime to train this model was 26.659095525741577 seconds  
Hyperparameteres for model 3 at epoch 15

lr: 0.00027866855897964196

weight\_decay: 0.12005905479695693

drop\_path: 0.18516687037287166

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.3736016750335693 seconds

Loss: 1.1072

Train Accuracy: 60.50%

Test Accuracy: 61.73%

Google Drive already mounted.

Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---

built data in 1.6282672882080078 seconds

LR changed during epoch: 2.76e-04 -> 2.73e-04

total runtime to train this model was 26.621986865997314 seconds

Hyperparameteres for model 4 at epoch 15

lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679

drop\_path: 0.1203142691941336

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.610625982284546 seconds

Loss: 1.0710

Train Accuracy: 61.84%

Test Accuracy: 62.67%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

--- Population Update (Epoch 15) ---

==== PBT Exploit & Explore ====

Top performers: [62.79]

Bottom performers: [60.46]

Member 0: lr changed from 0.00021799997987342534 to 0.0002093346085927156

Member 0: weight\_decay changed from 0.04164903759145146 to 0.020167863673195178

Member 0: drop\_path changed from 0.0 to 0.011199048788492972

Member 0 copied from 1

LR=2.09e-04, WD=0.020, DropPath=0.011, Warmup=5 epochs, Batch=256

=====  
Epoch 15 Summary:  
=====

Time: 158.56s (Avg member: 31.71s)

Population Mean Accuracy: 61.86%

Best Member Accuracy: 62.79%

Mean Batch Size: 256

Mean Learning Rate: 3.48e-04

Mean Weight Decay: 0.098

```
=====
Epoch 16/70
=====
```

--- Training Member 0 (Batch size: 256) ---  
built data in 1.7860033512115479 seconds  
LR changed during epoch: 2.14e-07 -> 4.21e-05  
total runtime to train this model was 26.20291495323181 seconds  
Hyperparameteres for model 0 at epoch 16  
lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.2750473022460938 seconds

Loss: 0.9369  
Train Accuracy: 66.82%  
Test Accuracy: 66.40%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.5939648151397705 seconds  
LR changed during epoch: 6.43e-04 -> 6.35e-04  
total runtime to train this model was 26.905354499816895 seconds  
Hyperparameteres for model 1 at epoch 16  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.542046546936035 seconds

Loss: 1.0037  
Train Accuracy: 64.33%  
Test Accuracy: 64.15%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.5801301002502441 seconds  
LR changed during epoch: 2.64e-04 -> 2.60e-04  
total runtime to train this model was 27.008002758026123 seconds  
Hyperparameteres for model 2 at epoch 16  
lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995

drop\_path: 0.09657181401157298

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5918467044830322 seconds  
Loss: 1.0386  
Train Accuracy: 63.11%  
Test Accuracy: 63.40%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6414973735809326 seconds  
LR changed during epoch: 2.63e-04 -> 2.59e-04  
total runtime to train this model was 26.51709818840027 seconds  
Hyperparameteres for model 3 at epoch 16  
lr: 0.00027866855897964196

weight\_decay: 0.12005905479695693

drop\_path: 0.18516687037287166

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.643507242202759 seconds  
Loss: 1.0758  
Train Accuracy: 61.71%  
Test Accuracy: 62.74%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.594437837600708 seconds  
LR changed during epoch: 2.73e-04 -> 2.69e-04  
total runtime to train this model was 26.868406772613525 seconds  
Hyperparameteres for model 4 at epoch 16  
lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679

drop\_path: 0.1203142691941336

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.511807680130005 seconds  
Loss: 1.0432  
Train Accuracy: 63.09%  
Test Accuracy: 63.21%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 16 Summary:

=====

Time: 157.51s (Avg member: 31.50s)  
Population Mean Accuracy: 63.98%

Best Member Accuracy: 66.40%

Mean Batch Size: 256

Mean Learning Rate: 3.48e-04

Mean Weight Decay: 0.098

=====

Epoch 17/70

=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.6033720970153809 seconds

LR changed during epoch: 4.21e-05 -> 8.39e-05

total runtime to train this model was 26.977100133895874 seconds

Hyperparameteres for model 0 at epoch 17

lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.4765052795410156 seconds

Loss: 0.8831

Train Accuracy: 68.61%

Test Accuracy: 67.24%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.5694222450256348 seconds

LR changed during epoch: 6.35e-04 -> 6.27e-04

total runtime to train this model was 27.133018255233765 seconds

Hyperparameteres for model 1 at epoch 17

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.6081912517547607 seconds

Loss: 0.9850

Train Accuracy: 65.18%

Test Accuracy: 66.37%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.764772653579712 seconds

LR changed during epoch: 2.60e-04 -> 2.57e-04

total runtime to train this model was 27.565267324447632 seconds

Hyperparameteres for model 2 at epoch 17

lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995

drop\_path: 0.09657181401157298

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.948888063430786 seconds

Loss: 1.0080

Train Accuracy: 64.11%

Test Accuracy: 62.48%

Google Drive already mounted.

Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---

built data in 1.5986542701721191 seconds

LR changed during epoch: 2.59e-04 -> 2.56e-04

total runtime to train this model was 27.388858556747437 seconds

Hyperparameteres for model 3 at epoch 17

lr: 0.00027866855897964196

weight\_decay: 0.12005905479695693

drop\_path: 0.18516687037287166

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4114837646484375 seconds

Loss: 1.0538

Train Accuracy: 62.00%

Test Accuracy: 63.26%

Google Drive already mounted.

Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---

built data in 1.6142594814300537 seconds

LR changed during epoch: 2.69e-04 -> 2.66e-04

total runtime to train this model was 26.842056274414062 seconds

Hyperparameteres for model 4 at epoch 17

lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679

drop\_path: 0.1203142691941336

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.367732048034668 seconds

Loss: 1.0281

Train Accuracy: 63.29%

Test Accuracy: 64.28%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 17 Summary:

=====

Time: 158.13s (Avg member: 31.63s)  
Population Mean Accuracy: 64.73%  
Best Member Accuracy: 67.24%  
Mean Batch Size: 256  
Mean Learning Rate: 3.48e-04  
Mean Weight Decay: 0.098

=====

Epoch 18/70

=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.6727709770202637 seconds  
LR changed during epoch: 8.39e-05 -> 1.26e-04  
total runtime to train this model was 26.45826029777527 seconds  
Hyperparameteres for model 0 at epoch 18  
lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.5108320713043213 seconds  
Loss: 0.8596  
Train Accuracy: 69.47%  
Test Accuracy: 67.53%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.6313567161560059 seconds  
LR changed during epoch: 6.27e-04 -> 6.17e-04  
total runtime to train this model was 25.996355533599854 seconds  
Hyperparameteres for model 1 at epoch 18  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4651827812194824 seconds  
Loss: 0.9613  
Train Accuracy: 65.68%  
Test Accuracy: 66.17%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.6079154014587402 seconds

LR changed during epoch: 2.57e-04 -> 2.53e-04  
total runtime to train this model was 26.435431480407715 seconds  
Hyperparameteres for model 2 at epoch 18  
lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995

drop\_path: 0.09657181401157298

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.569821357727051 seconds  
Loss: 0.9876  
Train Accuracy: 64.83%  
Test Accuracy: 64.70%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.5855846405029297 seconds  
LR changed during epoch: 2.56e-04 -> 2.52e-04  
total runtime to train this model was 26.253878355026245 seconds  
Hyperparameteres for model 3 at epoch 18  
lr: 0.00027866855897964196

weight\_decay: 0.12005905479695693

drop\_path: 0.18516687037287166

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.442822217941284 seconds  
Loss: 1.0251  
Train Accuracy: 63.40%  
Test Accuracy: 62.55%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6822805404663086 seconds  
LR changed during epoch: 2.66e-04 -> 2.62e-04  
total runtime to train this model was 25.646905183792114 seconds  
Hyperparameteres for model 4 at epoch 18  
lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679

drop\_path: 0.1203142691941336

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.040464401245117 seconds  
Loss: 1.0038

Train Accuracy: 63.93%  
Test Accuracy: 64.63%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====  
Epoch 18 Summary:  
=====

Time: 154.43s (Avg member: 30.89s)  
Population Mean Accuracy: 65.12%  
Best Member Accuracy: 67.53%  
Mean Batch Size: 256  
Mean Learning Rate: 3.48e-04  
Mean Weight Decay: 0.098

=====  
Epoch 19/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.709925651550293 seconds  
LR changed during epoch: 1.26e-04 -> 1.68e-04  
total runtime to train this model was 26.242258071899414 seconds  
Hyperparameteres for model 0 at epoch 19  
lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.424973249435425 seconds

Loss: 0.8522  
Train Accuracy: 69.82%  
Test Accuracy: 68.48%  
Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.579054355621338 seconds  
LR changed during epoch: 6.17e-04 -> 6.07e-04  
total runtime to train this model was 26.145145654678345 seconds  
Hyperparameteres for model 1 at epoch 19  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.3452932834625244 seconds  
Loss: 0.9321  
Train Accuracy: 67.00%  
Test Accuracy: 66.06%

Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.5837767124176025 seconds  
LR changed during epoch: 2.53e-04 -> 2.49e-04  
total runtime to train this model was 26.07092022895813 seconds  
Hyperparameteres for model 2 at epoch 19  
lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995  
drop\_path: 0.09657181401157298  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.328972816467285 seconds  
Loss: 0.9646  
Train Accuracy: 65.61%  
Test Accuracy: 65.67%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.5850396156311035 seconds  
LR changed during epoch: 2.52e-04 -> 2.48e-04  
total runtime to train this model was 26.33632183074951 seconds  
Hyperparameteres for model 3 at epoch 19  
lr: 0.00027866855897964196

weight\_decay: 0.12005905479695693  
drop\_path: 0.18516687037287166  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.937417984008789 seconds  
Loss: 1.0026  
Train Accuracy: 64.22%  
Test Accuracy: 64.78%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.7072224617004395 seconds  
LR changed during epoch: 2.62e-04 -> 2.57e-04  
total runtime to train this model was 26.72535228729248 seconds  
Hyperparameteres for model 4 at epoch 19  
lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679  
drop\_path: 0.1203142691941336  
warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5774827003479004 seconds

Loss: 0.9822  
Train Accuracy: 65.15%  
Test Accuracy: 64.95%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 19 Summary:

=====

Time: 153.54s (Avg member: 30.71s)  
Population Mean Accuracy: 65.99%  
Best Member Accuracy: 68.48%  
Mean Batch Size: 256  
Mean Learning Rate: 3.48e-04  
Mean Weight Decay: 0.098

=====

Epoch 20/70

=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.6182234287261963 seconds  
LR changed during epoch: 1.68e-04 -> 2.09e-04  
total runtime to train this model was 26.425907135009766 seconds  
Hyperparameteres for model 0 at epoch 20  
lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.481337308883667 seconds

Loss: 0.8441  
Train Accuracy: 69.86%  
Test Accuracy: 69.08%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.6176588535308838 seconds  
LR changed during epoch: 6.07e-04 -> 5.97e-04  
total runtime to train this model was 26.802599906921387 seconds  
Hyperparameteres for model 1 at epoch 20  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4606239795684814 seconds  
Loss: 0.9136  
Train Accuracy: 67.39%  
Test Accuracy: 67.67%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.6696844100952148 seconds  
LR changed during epoch: 2.49e-04 -> 2.45e-04  
total runtime to train this model was 25.938305616378784 seconds  
Hyperparameteres for model 2 at epoch 20  
lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995  
drop\_path: 0.09657181401157298  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.3718039989471436 seconds  
Loss: 0.9455  
Train Accuracy: 66.34%  
Test Accuracy: 66.30%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.657743215560913 seconds  
LR changed during epoch: 2.48e-04 -> 2.44e-04  
total runtime to train this model was 26.317156314849854 seconds  
Hyperparameteres for model 3 at epoch 20  
lr: 0.00027866855897964196

weight\_decay: 0.12005905479695693  
drop\_path: 0.18516687037287166  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4023795127868652 seconds  
Loss: 0.9864  
Train Accuracy: 64.99%  
Test Accuracy: 65.44%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.5761194229125977 seconds  
LR changed during epoch: 2.57e-04 -> 2.53e-04  
total runtime to train this model was 25.87319540977478 seconds  
Hyperparameteres for model 4 at epoch 20  
lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679

drop\_path: 0.1203142691941336

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.3543922901153564 seconds

Loss: 0.9518

Train Accuracy: 66.15%

Test Accuracy: 65.86%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

--- Population Update (Epoch 20) ---

==== PBT Exploit & Explore ===

Top performers: [69.08]

Bottom performers: [65.44]

Member 3: lr changed from 0.00027866855897964196 to 0.0002944566017326581

Member 3: weight\_decay changed from 0.12005905479695693 to 0.10105620967938464

Member 3: drop\_path changed from 0.18516687037287166 to 0.2

Member 3 copied from 0

LR=2.94e-04, WD=0.101, DropPath=0.200, Warmup=5 epochs, Batch=256

=====

Epoch 20 Summary:

=====

Time: 153.80s (Avg member: 30.76s)

Population Mean Accuracy: 66.87%

Best Member Accuracy: 69.08%

Mean Batch Size: 256

Mean Learning Rate: 3.51e-04

Mean Weight Decay: 0.094

=====

Epoch 21/70

=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.5947284698486328 seconds

LR changed during epoch: 2.09e-04 -> 2.09e-04

total runtime to train this model was 26.539864540100098 seconds

Hyperparameteres for model 0 at epoch 21

lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.3656013011932373 seconds

Loss: 0.8427

Train Accuracy: 69.97%

Test Accuracy: 68.56%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.631791114807129 seconds  
LR changed during epoch: 5.97e-04 -> 5.85e-04  
total runtime to train this model was 26.109861850738525 seconds  
Hyperparameteres for model 1 at epoch 21  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.1351711750030518 seconds  
Loss: 0.8855  
Train Accuracy: 68.42%  
Test Accuracy: 69.08%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.7545742988586426 seconds  
LR changed during epoch: 2.45e-04 -> 2.40e-04  
total runtime to train this model was 26.969276428222656 seconds  
Hyperparameteres for model 2 at epoch 21  
lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995

drop\_path: 0.09657181401157298

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.509352207183838 seconds  
Loss: 0.9250  
Train Accuracy: 67.06%  
Test Accuracy: 67.29%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.5933558940887451 seconds  
LR changed during epoch: 3.00e-07 -> 5.92e-05  
total runtime to train this model was 27.104875564575195 seconds  
Hyperparameteres for model 3 at epoch 21  
lr: 0.0002944566017326581

weight\_decay: 0.10105620967938464

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.428011178970337 seconds  
Loss: 0.8351  
Train Accuracy: 70.41%  
Test Accuracy: 70.03%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6090328693389893 seconds  
LR changed during epoch: 2.53e-04 -> 2.48e-04  
total runtime to train this model was 27.496769428253174 seconds  
Hyperparameteres for model 4 at epoch 21  
lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679  
drop\_path: 0.1203142691941336  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4297966957092285 seconds  
Loss: 0.9378  
Train Accuracy: 66.84%  
Test Accuracy: 66.63%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====  
Epoch 21 Summary:  
=====

Time: 156.66s (Avg member: 31.33s)  
Population Mean Accuracy: 68.32%  
Best Member Accuracy: 70.03%  
Mean Batch Size: 256  
Mean Learning Rate: 3.51e-04  
Mean Weight Decay: 0.094

=====  
Epoch 22/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.7363288402557373 seconds  
LR changed during epoch: 2.09e-04 -> 2.09e-04  
total runtime to train this model was 26.92445731163025 seconds  
Hyperparameteres for model 0 at epoch 22  
lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178  
drop\_path: 0.011199048788492972  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.222118854522705 seconds

Loss: 0.8187  
Train Accuracy: 70.86%  
Test Accuracy: 68.44%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.571143388748169 seconds  
LR changed during epoch: 5.85e-04 -> 5.74e-04  
total runtime to train this model was 27.167787551879883 seconds  
Hyperparameteres for model 1 at epoch 22  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465  
drop\_path: 0.11694757975345829  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.542440891265869 seconds  
Loss: 0.8687  
Train Accuracy: 69.22%  
Test Accuracy: 67.38%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.5962245464324951 seconds  
LR changed during epoch: 2.40e-04 -> 2.35e-04  
total runtime to train this model was 26.72127389907837 seconds  
Hyperparameteres for model 2 at epoch 22  
lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995  
drop\_path: 0.09657181401157298  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.447814702987671 seconds  
Loss: 0.9096  
Train Accuracy: 67.83%  
Test Accuracy: 67.22%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.575556993484497 seconds  
LR changed during epoch: 5.92e-05 -> 1.18e-04  
total runtime to train this model was 27.024389266967773 seconds  
Hyperparameteres for model 3 at epoch 22  
lr: 0.0002944566017326581

weight\_decay: 0.10105620967938464  
drop\_path: 0.2

warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.3498692512512207 seconds  
Loss: 0.8286  
Train Accuracy: 70.65%  
Test Accuracy: 69.29%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6321027278900146 seconds  
LR changed during epoch: 2.48e-04 -> 2.43e-04  
total runtime to train this model was 27.16400957107544 seconds  
Hyperparameteres for model 4 at epoch 22  
lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679  
drop\_path: 0.1203142691941336

warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.454598903656006 seconds  
Loss: 0.9198  
Train Accuracy: 67.07%  
Test Accuracy: 67.52%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====  
Epoch 22 Summary:  
=====

Time: 158.37s (Avg member: 31.67s)  
Population Mean Accuracy: 67.97%  
Best Member Accuracy: 69.29%  
Mean Batch Size: 256  
Mean Learning Rate: 3.51e-04  
Mean Weight Decay: 0.094

=====  
Epoch 23/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.6196928024291992 seconds  
LR changed during epoch: 2.09e-04 -> 2.08e-04  
total runtime to train this model was 27.20683455467224 seconds  
Hyperparameteres for model 0 at epoch 23  
lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178  
drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4441421031951904 seconds  
Loss: 0.8010  
Train Accuracy: 71.34%  
Test Accuracy: 69.28%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.5927810668945312 seconds  
LR changed during epoch: 5.74e-04 -> 5.61e-04  
total runtime to train this model was 27.100650310516357 seconds  
Hyperparameteres for model 1 at epoch 23  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.497138023376465 seconds  
Loss: 0.8573  
Train Accuracy: 69.60%  
Test Accuracy: 69.70%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.757187843322754 seconds  
LR changed during epoch: 2.35e-04 -> 2.30e-04  
total runtime to train this model was 27.21350884437561 seconds  
Hyperparameteres for model 2 at epoch 23  
lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995

drop\_path: 0.09657181401157298

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.1766421794891357 seconds  
Loss: 0.8847  
Train Accuracy: 68.53%  
Test Accuracy: 66.94%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6171233654022217 seconds  
LR changed during epoch: 1.18e-04 -> 1.77e-04  
total runtime to train this model was 27.37602472305298 seconds  
Hyperparameteres for model 3 at epoch 23

lr: 0.0002944566017326581

weight\_decay: 0.10105620967938464

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4882113933563232 seconds

Loss: 0.8347

Train Accuracy: 70.24%

Test Accuracy: 69.65%

Google Drive already mounted.

Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---

built data in 1.6420536041259766 seconds

LR changed during epoch: 2.43e-04 -> 2.38e-04

total runtime to train this model was 27.100809574127197 seconds

Hyperparameteres for model 4 at epoch 23

lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679

drop\_path: 0.1203142691941336

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.575810194015503 seconds

Loss: 0.9017

Train Accuracy: 67.76%

Test Accuracy: 67.06%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 23 Summary:

=====

Time: 158.70s (Avg member: 31.74s)

Population Mean Accuracy: 68.53%

Best Member Accuracy: 69.70%

Mean Batch Size: 256

Mean Learning Rate: 3.51e-04

Mean Weight Decay: 0.094

=====

Epoch 24/70

=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.677844762802124 seconds

LR changed during epoch: 2.08e-04 -> 2.07e-04

total runtime to train this model was 26.72857666015625 seconds

Hyperparameteres for model 0 at epoch 24

lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.78835129737854 seconds

Loss: 0.7862

Train Accuracy: 71.89%

Test Accuracy: 70.75%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.6308166980743408 seconds

LR changed during epoch: 5.61e-04 -> 5.48e-04

total runtime to train this model was 27.26422095298767 seconds

Hyperparameteres for model 1 at epoch 24

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4610910415649414 seconds

Loss: 0.8249

Train Accuracy: 70.78%

Test Accuracy: 71.13%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.6046953201293945 seconds

LR changed during epoch: 2.30e-04 -> 2.25e-04

total runtime to train this model was 26.992697954177856 seconds

Hyperparameteres for model 2 at epoch 24

lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995

drop\_path: 0.09657181401157298

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5154175758361816 seconds

Loss: 0.8661

Train Accuracy: 69.16%

Test Accuracy: 68.86%

Google Drive already mounted.

Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

```
--- Training Member 3 (Batch size: 256) ---
built data in 1.5995697975158691 seconds
LR changed during epoch: 1.77e-04 -> 2.36e-04
total runtime to train this model was 26.949317932128906 seconds
Hyperparameteres for model 3 at epoch 24
lr: 0.0002944566017326581

weight_decay: 0.10105620967938464

drop_path: 0.2

warmup_epochs: 5

batch_size: 256

_____ end of hyperparam printing _____
evaluation in 3.0098555088043213 seconds
Loss: 0.8449
Train Accuracy: 69.95%
Test Accuracy: 68.92%
Google Drive already mounted.
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab_Checkpoints/pbt_checkpoints/model_3_seed_45921.pt

--- Training Member 4 (Batch size: 256) ---
built data in 1.706864833831787 seconds
LR changed during epoch: 2.38e-04 -> 2.33e-04
total runtime to train this model was 26.57815146446228 seconds
Hyperparameteres for model 4 at epoch 24
lr: 0.00028916943317366104

weight_decay: 0.1350832051875679

drop_path: 0.1203142691941336

warmup_epochs: 5

batch_size: 256

_____ end of hyperparam printing _____
evaluation in 2.8689613342285156 seconds
Loss: 0.8834
Train Accuracy: 68.73%
Test Accuracy: 68.94%
Google Drive already mounted.
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab_Checkpoints/pbt_checkpoints/model_4_seed_45921.pt

=====
Epoch 24 Summary:
=====
Time: 158.64s (Avg member: 31.73s)
Population Mean Accuracy: 69.72%
Best Member Accuracy: 71.13%
Mean Batch Size: 256
Mean Learning Rate: 3.51e-04
Mean Weight Decay: 0.094

=====
Epoch 25/70
=====

--- Training Member 0 (Batch size: 256) ---
built data in 1.5961270332336426 seconds
```

LR changed during epoch: 2.07e-04 -> 2.06e-04  
total runtime to train this model was 27.348798274993896 seconds  
Hyperparameteres for model 0 at epoch 25  
lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.553366184234619 seconds  
Loss: 0.7666  
Train Accuracy: 72.77%  
Test Accuracy: 70.58%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.590963363647461 seconds  
LR changed during epoch: 5.48e-04 -> 5.35e-04  
total runtime to train this model was 26.831134796142578 seconds  
Hyperparameteres for model 1 at epoch 25  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.412787675857544 seconds  
Loss: 0.8109  
Train Accuracy: 71.35%  
Test Accuracy: 71.06%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.6866888999938965 seconds  
LR changed during epoch: 2.25e-04 -> 2.20e-04  
total runtime to train this model was 26.556221961975098 seconds  
Hyperparameteres for model 2 at epoch 25  
lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995

drop\_path: 0.09657181401157298

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.7046732902526855 seconds  
Loss: 0.8507

Train Accuracy: 69.86%  
Test Accuracy: 69.25%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6070339679718018 seconds  
LR changed during epoch: 2.36e-04 -> 2.94e-04  
total runtime to train this model was 27.06269645690918 seconds  
Hyperparameteres for model 3 at epoch 25  
lr: 0.0002944566017326581

weight\_decay: 0.10105620967938464

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4377620220184326 seconds  
Loss: 0.8525  
Train Accuracy: 69.70%  
Test Accuracy: 70.01%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6151878833770752 seconds  
LR changed during epoch: 2.33e-04 -> 2.27e-04  
total runtime to train this model was 26.86550211906433 seconds  
Hyperparameteres for model 4 at epoch 25  
lr: 0.00028916943317366104

weight\_decay: 0.1350832051875679

drop\_path: 0.1203142691941336

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.487694025039673 seconds  
Loss: 0.8702  
Train Accuracy: 69.26%  
Test Accuracy: 68.78%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

--- Population Update (Epoch 25) ---

==== PBT Exploit & Explore ====  
Top performers: [71.06]  
Bottom performers: [68.78]  
Member 4: lr changed from 0.00028916943317366104 to 0.0002045638731974187  
Member 4: weight\_decay changed from 0.1350832051875679 to 0.13877369675569298  
Member 4: drop\_path changed from 0.1203142691941336 to 0.14274668347616418  
Member 4 copied from 1  
LR=2.05e-04, WD=0.139, DropPath=0.143, Warmup=5 epochs, Batch=256

```
=====
Epoch 25 Summary:
```

```
Time: 157.55s (Avg member: 31.51s)
Population Mean Accuracy: 69.94%
Best Member Accuracy: 71.06%
Mean Batch Size: 256
Mean Learning Rate: 3.34e-04
Mean Weight Decay: 0.095
```

```
=====
Epoch 26/70
=====
```

```
--- Training Member 0 (Batch size: 256) ---
```

```
built data in 1.6855273246765137 seconds
```

```
LR changed during epoch: 2.06e-04 -> 2.05e-04
```

```
total runtime to train this model was 27.041181564331055 seconds
```

```
Hyperparameteres for model 0 at epoch 26
```

```
lr: 0.0002093346085927156
```

```
weight_decay: 0.020167863673195178
```

```
drop_path: 0.011199048788492972
```

```
warmup_epochs: 5
```

```
batch_size: 256
```

```
_____ end of hyperparam printing _____
```

```
evaluation in 3.070148229598999 seconds
```

```
Loss: 0.7587
```

```
Train Accuracy: 73.21%
```

```
Test Accuracy: 71.43%
```

```
Google Drive already mounted.
```

```
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab_Checkpoints/pbt_checkpoints/model_0_seed_45921.pt
```

```
--- Training Member 1 (Batch size: 256) ---
```

```
built data in 1.7611479759216309 seconds
```

```
LR changed during epoch: 5.35e-04 -> 5.21e-04
```

```
total runtime to train this model was 27.311240196228027 seconds
```

```
Hyperparameteres for model 1 at epoch 26
```

```
lr: 0.0006822954313705238
```

```
weight_decay: 0.10656306466087465
```

```
drop_path: 0.11694757975345829
```

```
warmup_epochs: 5
```

```
batch_size: 256
```

```
_____ end of hyperparam printing _____
```

```
evaluation in 2.5160317420959473 seconds
```

```
Loss: 0.7914
```

```
Train Accuracy: 71.91%
```

```
Test Accuracy: 70.83%
```

```
Google Drive already mounted.
```

```
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab_Checkpoints/pbt_checkpoints/model_1_seed_45921.pt
```

```
--- Training Member 2 (Batch size: 256) ---
```

```
built data in 1.5707459449768066 seconds
```

LR changed during epoch: 2.20e-04 -> 2.14e-04  
total runtime to train this model was 27.379224061965942 seconds  
Hyperparameteres for model 2 at epoch 26  
lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995

drop\_path: 0.09657181401157298

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4667091369628906 seconds  
Loss: 0.8333  
Train Accuracy: 70.42%  
Test Accuracy: 69.52%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.5972459316253662 seconds  
LR changed during epoch: 2.94e-04 -> 2.94e-04  
total runtime to train this model was 26.948307514190674 seconds  
Hyperparameteres for model 3 at epoch 26  
lr: 0.0002944566017326581

weight\_decay: 0.10105620967938464

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.468500852584839 seconds  
Loss: 0.8473  
Train Accuracy: 69.84%  
Test Accuracy: 68.50%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.7334227561950684 seconds  
LR changed during epoch: 2.09e-07 -> 4.11e-05  
total runtime to train this model was 26.276986598968506 seconds  
Hyperparameteres for model 4 at epoch 26  
lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.3024230003356934 seconds  
Loss: 0.7272

Train Accuracy: 74.13%  
Test Accuracy: 73.46%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====  
Epoch 26 Summary:  
=====

Time: 158.40s (Avg member: 31.68s)  
Population Mean Accuracy: 70.75%  
Best Member Accuracy: 73.46%  
Mean Batch Size: 256  
Mean Learning Rate: 3.34e-04  
Mean Weight Decay: 0.095

=====  
Epoch 27/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.5825395584106445 seconds  
LR changed during epoch: 2.05e-04 -> 2.03e-04  
total runtime to train this model was 27.122008085250854 seconds  
Hyperparameteres for model 0 at epoch 27  
lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.473806858062744 seconds

Loss: 0.7457  
Train Accuracy: 73.64%  
Test Accuracy: 71.47%  
Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.57883882522583 seconds  
LR changed during epoch: 5.21e-04 -> 5.07e-04  
total runtime to train this model was 26.76688289642334 seconds  
Hyperparameteres for model 1 at epoch 27  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.458430767059326 seconds  
Loss: 0.7750  
Train Accuracy: 72.57%  
Test Accuracy: 70.84%

Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.577186107635498 seconds  
LR changed during epoch: 2.14e-04 -> 2.08e-04  
total runtime to train this model was 26.598506689071655 seconds  
Hyperparameteres for model 2 at epoch 27  
lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995  
drop\_path: 0.09657181401157298  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.714186191558838 seconds  
Loss: 0.8205  
Train Accuracy: 70.85%  
Test Accuracy: 70.02%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.8019413948059082 seconds  
LR changed during epoch: 2.94e-04 -> 2.94e-04  
total runtime to train this model was 26.644843339920044 seconds  
Hyperparameteres for model 3 at epoch 27  
lr: 0.0002944566017326581

weight\_decay: 0.10105620967938464  
drop\_path: 0.2  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.145569086074829 seconds  
Loss: 0.8425  
Train Accuracy: 70.03%  
Test Accuracy: 70.24%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.5754244327545166 seconds  
LR changed during epoch: 4.11e-05 -> 8.20e-05  
total runtime to train this model was 27.181118726730347 seconds  
Hyperparameteres for model 4 at epoch 27  
lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298  
drop\_path: 0.14274668347616418  
warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5080676078796387 seconds

Loss: 0.6828

Train Accuracy: 75.73%

Test Accuracy: 74.03%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 27 Summary:

=====

Time: 156.98s (Avg member: 31.40s)

Population Mean Accuracy: 71.32%

Best Member Accuracy: 74.03%

Mean Batch Size: 256

Mean Learning Rate: 3.34e-04

Mean Weight Decay: 0.095

=====

Epoch 28/70

=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.61006760597229 seconds

LR changed during epoch: 2.03e-04 -> 2.02e-04

total runtime to train this model was 26.961703062057495 seconds

Hyperparameteres for model 0 at epoch 28

lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4292678833007812 seconds

Loss: 0.7323

Train Accuracy: 74.00%

Test Accuracy: 71.69%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.6026582717895508 seconds

LR changed during epoch: 5.07e-04 -> 4.93e-04

total runtime to train this model was 26.686280488967896 seconds

Hyperparameteres for model 1 at epoch 28

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.174718141555786 seconds  
Loss: 0.7573  
Train Accuracy: 73.17%  
Test Accuracy: 72.24%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.6680560111999512 seconds  
LR changed during epoch: 2.08e-04 -> 2.02e-04  
total runtime to train this model was 26.771482467651367 seconds  
Hyperparameteres for model 2 at epoch 28  
lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995  
drop\_path: 0.09657181401157298  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.373825788497925 seconds  
Loss: 0.7981  
Train Accuracy: 71.96%  
Test Accuracy: 70.49%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.562699794769287 seconds  
LR changed during epoch: 2.94e-04 -> 2.93e-04  
total runtime to train this model was 26.53044819831848 seconds  
Hyperparameteres for model 3 at epoch 28  
lr: 0.0002944566017326581

weight\_decay: 0.10105620967938464  
drop\_path: 0.2  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.457925319671631 seconds  
Loss: 0.8261  
Train Accuracy: 70.78%  
Test Accuracy: 69.60%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.560899019241333 seconds  
LR changed during epoch: 8.20e-05 -> 1.23e-04  
total runtime to train this model was 26.520986318588257 seconds  
Hyperparameteres for model 4 at epoch 28  
lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.427643299102783 seconds

Loss: 0.6759

Train Accuracy: 75.97%

Test Accuracy: 74.28%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 28 Summary:

=====

Time: 155.54s (Avg member: 31.11s)

Population Mean Accuracy: 71.66%

Best Member Accuracy: 74.28%

Mean Batch Size: 256

Mean Learning Rate: 3.34e-04

Mean Weight Decay: 0.095

=====

Epoch 29/70

=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.6774580478668213 seconds

LR changed during epoch: 2.02e-04 -> 2.00e-04

total runtime to train this model was 26.316818952560425 seconds

Hyperparameteres for model 0 at epoch 29

lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 3.3115551471710205 seconds

Loss: 0.7141

Train Accuracy: 74.46%

Test Accuracy: 72.15%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.6620850563049316 seconds

LR changed during epoch: 4.93e-04 -> 4.78e-04

total runtime to train this model was 26.772415161132812 seconds

Hyperparameteres for model 1 at epoch 29

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4899590015411377 seconds  
Loss: 0.7429  
Train Accuracy: 73.64%  
Test Accuracy: 73.11%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.5778770446777344 seconds  
LR changed during epoch: 2.02e-04 -> 1.96e-04  
total runtime to train this model was 26.459099769592285 seconds  
Hyperparameteres for model 2 at epoch 29  
lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995  
drop\_path: 0.09657181401157298

warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4821176528930664 seconds  
Loss: 0.7860  
Train Accuracy: 71.93%  
Test Accuracy: 71.00%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.631007432937622 seconds  
LR changed during epoch: 2.93e-04 -> 2.92e-04  
total runtime to train this model was 26.421821355819702 seconds  
Hyperparameteres for model 3 at epoch 29  
lr: 0.0002944566017326581

weight\_decay: 0.10105620967938464  
drop\_path: 0.2

warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4270694255828857 seconds  
Loss: 0.8112  
Train Accuracy: 71.09%  
Test Accuracy: 71.46%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6456875801086426 seconds  
LR changed during epoch: 1.23e-04 -> 1.64e-04

total runtime to train this model was 25.99617052078247 seconds

Hyperparameteres for model 4 at epoch 29

lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.986375570297241 seconds

Loss: 0.6735

Train Accuracy: 76.12%

Test Accuracy: 74.59%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 29 Summary:

=====

Time: 155.14s (Avg member: 31.03s)

Population Mean Accuracy: 72.46%

Best Member Accuracy: 74.59%

Mean Batch Size: 256

Mean Learning Rate: 3.34e-04

Mean Weight Decay: 0.095

=====

Epoch 30/70

=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.7509393692016602 seconds

LR changed during epoch: 2.00e-04 -> 1.97e-04

total runtime to train this model was 26.116896152496338 seconds

Hyperparameteres for model 0 at epoch 30

lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.8095109462738037 seconds

Loss: 0.6965

Train Accuracy: 75.37%

Test Accuracy: 71.99%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.5973825454711914 seconds

LR changed during epoch: 4.78e-04 -> 4.62e-04

total runtime to train this model was 26.583643436431885 seconds

Hyperparameteres for model 1 at epoch 30

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.3951826095581055 seconds

Loss: 0.7196

Train Accuracy: 74.40%

Test Accuracy: 73.21%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.6053500175476074 seconds

LR changed during epoch: 1.96e-04 -> 1.90e-04

total runtime to train this model was 26.444739818572998 seconds

Hyperparameteres for model 2 at epoch 30

lr: 0.0002797334030073843

weight\_decay: 0.10723796006708995

drop\_path: 0.09657181401157298

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.425240993499756 seconds

Loss: 0.7736

Train Accuracy: 72.48%

Test Accuracy: 70.84%

Google Drive already mounted.

Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---

built data in 1.591332197189331 seconds

LR changed during epoch: 2.92e-04 -> 2.90e-04

total runtime to train this model was 26.440927267074585 seconds

Hyperparameteres for model 3 at epoch 30

lr: 0.0002944566017326581

weight\_decay: 0.10105620967938464

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.9229180812835693 seconds

Loss: 0.7988

Train Accuracy: 71.59%

Test Accuracy: 71.03%

Google Drive already mounted.

Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---

built data in 1.7509946823120117 seconds

LR changed during epoch: 1.64e-04 -> 2.05e-04

total runtime to train this model was 25.685850858688354 seconds

Hyperparameteres for model 4 at epoch 30

lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 3.1035962104797363 seconds

Loss: 0.6743

Train Accuracy: 76.00%

Test Accuracy: 74.24%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

--- Population Update (Epoch 30) ---

==== PBT Exploit & Explore ====

Top performers: [74.24]

Bottom performers: [70.84]

Member 2: lr changed from 0.0002797334030073843 to 0.0002114671451119209

Member 2: weight\_decay changed from 0.10723796006708995 to 0.08864572024680437

Member 2: drop\_path changed from 0.09657181401157298 to 0.1296740747150324

Member 2 copied from 4

LR=2.11e-04, WD=0.089, DropPath=0.130, Warmup=5 epochs, Batch=256

=====

Epoch 30 Summary:

=====

Time: 154.51s (Avg member: 30.90s)

Population Mean Accuracy: 72.26%

Best Member Accuracy: 74.24%

Mean Batch Size: 256

Mean Learning Rate: 3.20e-04

Mean Weight Decay: 0.091

=====

Epoch 31/70

=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.5702731609344482 seconds

LR changed during epoch: 1.97e-04 -> 1.95e-04

total runtime to train this model was 26.378159046173096 seconds

Hyperparameteres for model 0 at epoch 31

lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.415339231491089 seconds  
Loss: 0.6814  
Train Accuracy: 75.80%  
Test Accuracy: 72.91%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.5582444667816162 seconds  
LR changed during epoch: 4.62e-04 -> 4.47e-04  
total runtime to train this model was 26.582783460617065 seconds  
Hyperparameteres for model 1 at epoch 31  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.474752187728882 seconds  
Loss: 0.7070  
Train Accuracy: 74.84%  
Test Accuracy: 74.13%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.58445405960083 seconds  
LR changed during epoch: 2.16e-07 -> 4.25e-05  
total runtime to train this model was 26.584518432617188 seconds  
Hyperparameteres for model 2 at epoch 31  
lr: 0.0002114671451119209

weight\_decay: 0.08864572024680437

drop\_path: 0.1296740747150324

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.0771141052246094 seconds  
Loss: 0.6294  
Train Accuracy: 77.88%  
Test Accuracy: 74.80%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.7503716945648193 seconds  
LR changed during epoch: 2.90e-04 -> 2.88e-04  
total runtime to train this model was 26.335328817367554 seconds  
Hyperparameteres for model 3 at epoch 31

lr: 0.0002944566017326581

weight\_decay: 0.10105620967938464

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.9229180812835693 seconds

Loss: 0.7892

Train Accuracy: 71.86%

Test Accuracy: 71.93%

Google Drive already mounted.

Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---

built data in 1.5950427055358887 seconds

LR changed during epoch: 2.05e-04 -> 2.04e-04

total runtime to train this model was 26.82532024383545 seconds

Hyperparameteres for model 4 at epoch 31

lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.47143816947937 seconds

Loss: 0.6662

Train Accuracy: 76.40%

Test Accuracy: 74.95%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 31 Summary:

=====

Time: 155.35s (Avg member: 31.07s)

Population Mean Accuracy: 73.74%

Best Member Accuracy: 74.95%

Mean Batch Size: 256

Mean Learning Rate: 3.20e-04

Mean Weight Decay: 0.091

=====

Epoch 32/70

=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.5796129703521729 seconds

LR changed during epoch: 1.95e-04 -> 1.92e-04

total runtime to train this model was 26.625059604644775 seconds

Hyperparameteres for model 0 at epoch 32

lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.413928985595703 seconds

Loss: 0.6786

Train Accuracy: 75.77%

Test Accuracy: 72.84%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.5868074893951416 seconds

LR changed during epoch: 4.47e-04 -> 4.31e-04

total runtime to train this model was 26.509989738464355 seconds

Hyperparameteres for model 1 at epoch 32

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.3371450901031494 seconds

Loss: 0.6918

Train Accuracy: 75.43%

Test Accuracy: 73.70%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.696317195892334 seconds

LR changed during epoch: 4.25e-05 -> 8.48e-05

total runtime to train this model was 26.80791687965393 seconds

Hyperparameteres for model 2 at epoch 32

lr: 0.0002114671451119209

weight\_decay: 0.08864572024680437

drop\_path: 0.1296740747150324

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.546419143676758 seconds

Loss: 0.6199

Train Accuracy: 77.95%

Test Accuracy: 75.42%

Google Drive already mounted.

Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

```
--- Training Member 3 (Batch size: 256) ---
built data in 1.5843982696533203 seconds
LR changed during epoch: 2.88e-04 -> 2.86e-04
total runtime to train this model was 27.167259216308594 seconds
Hyperparameteres for model 3 at epoch 32
lr: 0.0002944566017326581

weight_decay: 0.10105620967938464

drop_path: 0.2

warmup_epochs: 5

batch_size: 256

_____ end of hyperparam printing _____
evaluation in 2.429180145263672 seconds
Loss: 0.7809
Train Accuracy: 72.30%
Test Accuracy: 71.75%
Google Drive already mounted.
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab_Checkpoints/pbt_checkpoints/model_3_seed_45921.pt

--- Training Member 4 (Batch size: 256) ---
built data in 1.6048288345336914 seconds
LR changed during epoch: 2.04e-04 -> 2.04e-04
total runtime to train this model was 26.96383309364319 seconds
Hyperparameteres for model 4 at epoch 32
lr: 0.0002045638731974187

weight_decay: 0.13877369675569298

drop_path: 0.14274668347616418

warmup_epochs: 5

batch_size: 256

_____ end of hyperparam printing _____
evaluation in 2.4384331703186035 seconds
Loss: 0.6623
Train Accuracy: 76.41%
Test Accuracy: 74.08%
Google Drive already mounted.
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab_Checkpoints/pbt_checkpoints/model_4_seed_45921.pt

=====
Epoch 32 Summary:
=====
Time: 156.60s (Avg member: 31.32s)
Population Mean Accuracy: 73.56%
Best Member Accuracy: 75.42%
Mean Batch Size: 256
Mean Learning Rate: 3.20e-04
Mean Weight Decay: 0.091

=====
Epoch 33/70
=====

--- Training Member 0 (Batch size: 256) ---
built data in 1.8102953433990479 seconds
```

LR changed during epoch: 1.92e-04 -> 1.89e-04  
total runtime to train this model was 26.546550035476685 seconds  
Hyperparameteres for model 0 at epoch 33  
lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.2208333015441895 seconds  
Loss: 0.6627  
Train Accuracy: 76.35%  
Test Accuracy: 72.84%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.5799639225006104 seconds  
LR changed during epoch: 4.31e-04 -> 4.15e-04  
total runtime to train this model was 26.814217567443848 seconds  
Hyperparameteres for model 1 at epoch 33  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5028908252716064 seconds  
Loss: 0.6732  
Train Accuracy: 76.13%  
Test Accuracy: 74.67%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.5942072868347168 seconds  
LR changed during epoch: 8.48e-05 -> 1.27e-04  
total runtime to train this model was 26.80740976333618 seconds  
Hyperparameteres for model 2 at epoch 33  
lr: 0.0002114671451119209

weight\_decay: 0.08864572024680437

drop\_path: 0.1296740747150324

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.529606580734253 seconds  
Loss: 0.6167

Train Accuracy: 78.16%  
Test Accuracy: 74.90%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6065161228179932 seconds  
LR changed during epoch: 2.86e-04 -> 2.84e-04  
total runtime to train this model was 26.351927757263184 seconds  
Hyperparameteres for model 3 at epoch 33  
lr: 0.0002944566017326581

weight\_decay: 0.10105620967938464

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.3910446166992188 seconds  
Loss: 0.7657  
Train Accuracy: 72.83%  
Test Accuracy: 72.51%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6845471858978271 seconds  
LR changed during epoch: 2.04e-04 -> 2.03e-04  
total runtime to train this model was 26.738951683044434 seconds  
Hyperparameteres for model 4 at epoch 33  
lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4135756492614746 seconds  
Loss: 0.6466  
Train Accuracy: 77.06%  
Test Accuracy: 74.98%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 33 Summary:

=====

Time: 156.88s (Avg member: 31.38s)  
Population Mean Accuracy: 73.98%  
Best Member Accuracy: 74.98%  
Mean Batch Size: 256  
Mean Learning Rate: 3.20e-04  
Mean Weight Decay: 0.091

=====

Epoch 34/70

---

--- Training Member 0 (Batch size: 256) ---

built data in 1.565550088824463 seconds

LR changed during epoch: 1.89e-04 -> 1.86e-04

total runtime to train this model was 26.70449447631836 seconds

Hyperparameteres for model 0 at epoch 34

lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.3818891048431396 seconds

Loss: 0.6477

Train Accuracy: 77.06%

Test Accuracy: 73.50%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.6054985523223877 seconds

LR changed during epoch: 4.15e-04 -> 3.99e-04

total runtime to train this model was 26.806705951690674 seconds

Hyperparameteres for model 1 at epoch 34

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.435457944869995 seconds

Loss: 0.6587

Train Accuracy: 76.84%

Test Accuracy: 74.54%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.6840367317199707 seconds

LR changed during epoch: 1.27e-04 -> 1.69e-04

total runtime to train this model was 26.161132335662842 seconds

Hyperparameteres for model 2 at epoch 34

lr: 0.0002114671451119209

weight\_decay: 0.08864572024680437

drop\_path: 0.1296740747150324

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.5808498859405518 seconds

Loss: 0.6268

Train Accuracy: 77.78%

Test Accuracy: 75.04%

Google Drive already mounted.

Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---

built data in 1.5979156494140625 seconds

LR changed during epoch: 2.84e-04 -> 2.81e-04

total runtime to train this model was 26.786388874053955 seconds

Hyperparameteres for model 3 at epoch 34

lr: 0.0002944566017326581

weight\_decay: 0.10105620967938464

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4553630352020264 seconds

Loss: 0.7484

Train Accuracy: 73.42%

Test Accuracy: 72.05%

Google Drive already mounted.

Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---

built data in 1.5659141540527344 seconds

LR changed during epoch: 2.03e-04 -> 2.03e-04

total runtime to train this model was 26.880686283111572 seconds

Hyperparameteres for model 4 at epoch 34

lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.451125144958496 seconds

Loss: 0.6408

Train Accuracy: 77.15%

Test Accuracy: 74.40%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 34 Summary:

=====

Time: 155.91s (Avg member: 31.18s)

Population Mean Accuracy: 73.91%

Best Member Accuracy: 75.04%

Mean Batch Size: 256  
Mean Learning Rate: 3.20e-04  
Mean Weight Decay: 0.091

=====  
Epoch 35/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.5817162990570068 seconds  
LR changed during epoch: 1.86e-04 -> 1.83e-04  
total runtime to train this model was 26.64997673034668 seconds  
Hyperparameteres for model 0 at epoch 35  
lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.579619884490967 seconds  
Loss: 0.6326  
Train Accuracy: 77.49%  
Test Accuracy: 73.87%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.7273099422454834 seconds  
LR changed during epoch: 3.99e-04 -> 3.83e-04  
total runtime to train this model was 26.07201313972473 seconds  
Hyperparameteres for model 1 at epoch 35  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.2943615913391113 seconds  
Loss: 0.6433  
Train Accuracy: 77.27%  
Test Accuracy: 75.29%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.611149549484253 seconds  
LR changed during epoch: 1.69e-04 -> 2.11e-04  
total runtime to train this model was 26.87507700920105 seconds  
Hyperparameteres for model 2 at epoch 35  
lr: 0.0002114671451119209

weight\_decay: 0.08864572024680437

drop\_path: 0.1296740747150324  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4808340072631836 seconds  
Loss: 0.6326  
Train Accuracy: 77.68%  
Test Accuracy: 74.74%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.5752530097961426 seconds  
LR changed during epoch: 2.81e-04 -> 2.78e-04  
total runtime to train this model was 26.6182062625885 seconds  
Hyperparameteres for model 3 at epoch 35  
lr: 0.0002944566017326581

weight\_decay: 0.10105620967938464

drop\_path: 0.2  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.489319086074829 seconds  
Loss: 0.7409  
Train Accuracy: 73.65%  
Test Accuracy: 73.03%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6243250370025635 seconds  
LR changed during epoch: 2.03e-04 -> 2.02e-04  
total runtime to train this model was 27.361321926116943 seconds  
Hyperparameteres for model 4 at epoch 35  
lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.192129611968994 seconds  
Loss: 0.6307  
Train Accuracy: 77.61%  
Test Accuracy: 74.57%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

--- Population Update (Epoch 35) ---

==== PBT Exploit & Explore ====

Top performers: [75.29]

Bottom performers: [73.03]

Member 3: lr changed from 0.0002944566017326581 to 0.00020752310190649085

Member 3: weight\_decay changed from 0.10105620967938464 to 0.07600507208288526

Member 3 copied from 1

LR=2.08e-04, WD=0.076, DropPath=0.200, Warmup=5 epochs, Batch=256

=====  
Epoch 35 Summary:  
=====

Time: 157.04s (Avg member: 31.40s)

Population Mean Accuracy: 74.30%

Best Member Accuracy: 75.29%

Mean Batch Size: 256

Mean Learning Rate: 3.03e-04

Mean Weight Decay: 0.086

=====  
Epoch 36/70  
=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.7282977104187012 seconds

LR changed during epoch: 1.83e-04 -> 1.80e-04

total runtime to train this model was 27.19623064994812 seconds

Hyperparameteres for model 0 at epoch 36

lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.485199451446533 seconds

Loss: 0.6211

Train Accuracy: 77.94%

Test Accuracy: 73.40%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.6056640148162842 seconds

LR changed during epoch: 3.83e-04 -> 3.66e-04

total runtime to train this model was 27.341641187667847 seconds

Hyperparameteres for model 1 at epoch 36

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.4981470108032227 seconds  
Loss: 0.6245  
Train Accuracy: 77.90%  
Test Accuracy: 74.97%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.5889418125152588 seconds  
LR changed during epoch: 2.11e-04 -> 2.11e-04  
total runtime to train this model was 27.00930428504944 seconds  
Hyperparameteres for model 2 at epoch 36  
lr: 0.0002114671451119209

weight\_decay: 0.08864572024680437

drop\_path: 0.1296740747150324

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4539880752563477 seconds  
Loss: 0.6346  
Train Accuracy: 77.64%  
Test Accuracy: 75.02%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.7118396759033203 seconds  
LR changed during epoch: 2.12e-07 -> 4.17e-05  
total runtime to train this model was 26.260987520217896 seconds  
Hyperparameteres for model 3 at epoch 36  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.745326280593872 seconds  
Loss: 0.5865  
Train Accuracy: 79.13%  
Test Accuracy: 76.49%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.5786356925964355 seconds  
LR changed during epoch: 2.02e-04 -> 2.00e-04  
total runtime to train this model was 27.030537366867065 seconds  
Hyperparameteres for model 4 at epoch 36  
lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.405257225036621 seconds  
Loss: 0.6199  
Train Accuracy: 77.81%  
Test Accuracy: 75.05%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====  
Epoch 36 Summary:  
=====

Time: 157.84s (Avg member: 31.57s)  
Population Mean Accuracy: 74.99%  
Best Member Accuracy: 76.49%  
Mean Batch Size: 256  
Mean Learning Rate: 3.03e-04  
Mean Weight Decay: 0.086

=====  
Epoch 37/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.6261520385742188 seconds  
LR changed during epoch: 1.80e-04 -> 1.76e-04  
total runtime to train this model was 27.13309931755066 seconds  
Hyperparameteres for model 0 at epoch 37  
lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.522352695465088 seconds  
Loss: 0.6084  
Train Accuracy: 78.35%  
Test Accuracy: 74.08%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.5871999263763428 seconds  
LR changed during epoch: 3.66e-04 -> 3.50e-04  
total runtime to train this model was 27.57970881462097 seconds  
Hyperparameteres for model 1 at epoch 37  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.0689918994903564 seconds  
Loss: 0.6141  
Train Accuracy: 78.17%  
Test Accuracy: 75.47%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.745995283126831 seconds  
LR changed during epoch: 2.11e-04 -> 2.11e-04  
total runtime to train this model was 26.97340679168701 seconds  
Hyperparameteres for model 2 at epoch 37  
lr: 0.0002114671451119209

weight\_decay: 0.08864572024680437  
drop\_path: 0.1296740747150324

warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.537379264831543 seconds  
Loss: 0.6243  
Train Accuracy: 77.82%  
Test Accuracy: 75.06%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6323857307434082 seconds  
LR changed during epoch: 4.17e-05 -> 8.32e-05  
total runtime to train this model was 26.52490735054016 seconds  
Hyperparameteres for model 3 at epoch 37  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526  
drop\_path: 0.2

warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4309680461883545 seconds  
Loss: 0.5524  
Train Accuracy: 80.56%  
Test Accuracy: 77.15%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6120843887329102 seconds  
LR changed during epoch: 2.00e-04 -> 1.99e-04  
total runtime to train this model was 26.886715412139893 seconds

Hyperparameteres for model 4 at epoch 37

lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.459301471710205 seconds

Loss: 0.6149

Train Accuracy: 78.03%

Test Accuracy: 75.50%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 37 Summary:

=====

Time: 157.54s (Avg member: 31.51s)

Population Mean Accuracy: 75.45%

Best Member Accuracy: 77.15%

Mean Batch Size: 256

Mean Learning Rate: 3.03e-04

Mean Weight Decay: 0.086

=====

Epoch 38/70

=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.9253015518188477 seconds

LR changed during epoch: 1.76e-04 -> 1.72e-04

total runtime to train this model was 25.978849172592163 seconds

Hyperparameteres for model 0 at epoch 38

lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 3.7581164836883545 seconds

Loss: 0.5967

Train Accuracy: 78.71%

Test Accuracy: 73.70%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.6082310676574707 seconds

LR changed during epoch: 3.50e-04 -> 3.33e-04

total runtime to train this model was 26.785261392593384 seconds

Hyperparameteres for model 1 at epoch 38

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.518873691558838 seconds

Loss: 0.5951

Train Accuracy: 78.88%

Test Accuracy: 75.41%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.638139247894287 seconds

LR changed during epoch: 2.11e-04 -> 2.10e-04

total runtime to train this model was 27.06542158126831 seconds

Hyperparameteres for model 2 at epoch 38

lr: 0.0002114671451119209

weight\_decay: 0.08864572024680437

drop\_path: 0.1296740747150324

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.571336030960083 seconds

Loss: 0.6188

Train Accuracy: 77.96%

Test Accuracy: 74.97%

Google Drive already mounted.

Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---

built data in 1.6029860973358154 seconds

LR changed during epoch: 8.32e-05 -> 1.25e-04

total runtime to train this model was 27.078320026397705 seconds

Hyperparameteres for model 3 at epoch 38

lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.9452617168426514 seconds

Loss: 0.5481

Train Accuracy: 80.66%

Test Accuracy: 77.19%

Google Drive already mounted.

Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

```
--- Training Member 4 (Batch size: 256) ---
built data in 1.819030523300171 seconds
LR changed during epoch: 1.99e-04 -> 1.97e-04
total runtime to train this model was 26.607136964797974 seconds
Hyperparameteres for model 4 at epoch 38
lr: 0.0002045638731974187

weight_decay: 0.13877369675569298
drop_path: 0.14274668347616418
warmup_epochs: 5
batch_size: 256

_____ end of hyperparam printing _____
evaluation in 2.774939775466919 seconds
Loss: 0.6090
Train Accuracy: 78.55%
Test Accuracy: 75.38%
Google Drive already mounted.
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab_Checkpoints/pbt_checkpoints/model_4_seed_45921.pt

=====
Epoch 38 Summary:
=====
Time: 157.91s (Avg member: 31.58s)
Population Mean Accuracy: 75.33%
Best Member Accuracy: 77.19%
Mean Batch Size: 256
Mean Learning Rate: 3.03e-04
Mean Weight Decay: 0.086

=====
Epoch 39/70
=====

--- Training Member 0 (Batch size: 256) ---
built data in 1.5854666233062744 seconds
LR changed during epoch: 1.72e-04 -> 1.68e-04
total runtime to train this model was 26.992356777191162 seconds
Hyperparameteres for model 0 at epoch 39
lr: 0.0002093346085927156

weight_decay: 0.020167863673195178
drop_path: 0.011199048788492972
warmup_epochs: 5
batch_size: 256

_____ end of hyperparam printing _____
evaluation in 2.5014657974243164 seconds
Loss: 0.5874
Train Accuracy: 79.13%
Test Accuracy: 74.77%
Google Drive already mounted.
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab_Checkpoints/pbt_checkpoints/model_0_seed_45921.pt

--- Training Member 1 (Batch size: 256) ---
```

built data in 1.6017489433288574 seconds  
LR changed during epoch: 3.33e-04 -> 3.17e-04  
total runtime to train this model was 27.121906280517578 seconds  
Hyperparameteres for model 1 at epoch 39  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465  
drop\_path: 0.11694757975345829  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.462223377227783 seconds  
Loss: 0.5807  
Train Accuracy: 79.32%  
Test Accuracy: 76.41%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.7109124660491943 seconds  
LR changed during epoch: 2.10e-04 -> 2.10e-04  
total runtime to train this model was 26.95278811454773 seconds  
Hyperparameteres for model 2 at epoch 39  
lr: 0.0002114671451119209

weight\_decay: 0.08864572024680437  
drop\_path: 0.1296740747150324  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.6154818534851074 seconds  
Loss: 0.6102  
Train Accuracy: 78.30%  
Test Accuracy: 75.79%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6167817115783691 seconds  
LR changed during epoch: 1.25e-04 -> 1.66e-04  
total runtime to train this model was 26.950778245925903 seconds  
Hyperparameteres for model 3 at epoch 39  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526  
drop\_path: 0.2  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.585071325302124 seconds

Loss: 0.5502  
Train Accuracy: 80.28%  
Test Accuracy: 77.01%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.5994293689727783 seconds  
LR changed during epoch: 1.97e-04 -> 1.95e-04  
total runtime to train this model was 26.950985193252563 seconds  
Hyperparameteres for model 4 at epoch 39  
lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5046980381011963 seconds

Loss: 0.5935  
Train Accuracy: 78.71%  
Test Accuracy: 75.63%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 39 Summary:

=====

Time: 157.95s (Avg member: 31.59s)  
Population Mean Accuracy: 75.92%  
Best Member Accuracy: 77.01%  
Mean Batch Size: 256  
Mean Learning Rate: 3.03e-04  
Mean Weight Decay: 0.086

=====

Epoch 40/70

=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.6032040119171143 seconds  
LR changed during epoch: 1.68e-04 -> 1.64e-04  
total runtime to train this model was 26.983084678649902 seconds  
Hyperparameteres for model 0 at epoch 40  
lr: 0.0002093346085927156

weight\_decay: 0.020167863673195178

drop\_path: 0.011199048788492972

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.717153787612915 seconds  
Loss: 0.5738  
Train Accuracy: 79.74%

Test Accuracy: 74.72%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.6929523944854736 seconds  
LR changed during epoch: 3.17e-04 -> 3.01e-04  
total runtime to train this model was 26.44909691810608 seconds  
Hyperparameteres for model 1 at epoch 40  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465  
drop\_path: 0.11694757975345829  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.1122801303863525 seconds  
Loss: 0.5662  
Train Accuracy: 79.82%  
Test Accuracy: 76.42%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.576552152633667 seconds  
LR changed during epoch: 2.10e-04 -> 2.08e-04  
total runtime to train this model was 26.876869916915894 seconds  
Hyperparameteres for model 2 at epoch 40  
lr: 0.0002114671451119209

weight\_decay: 0.08864572024680437  
drop\_path: 0.1296740747150324  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.431004047393799 seconds  
Loss: 0.5988  
Train Accuracy: 78.81%  
Test Accuracy: 75.59%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6018781661987305 seconds  
LR changed during epoch: 1.66e-04 -> 2.08e-04  
total runtime to train this model was 26.87737536430359 seconds  
Hyperparameteres for model 3 at epoch 40  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526  
drop\_path: 0.2  
warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.351909875869751 seconds  
Loss: 0.5495  
Train Accuracy: 80.40%  
Test Accuracy: 77.06%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.5995056629180908 seconds  
LR changed during epoch: 1.95e-04 -> 1.93e-04  
total runtime to train this model was 26.96898055076599 seconds  
Hyperparameteres for model 4 at epoch 40  
lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.0701005458831787 seconds  
Loss: 0.5821  
Train Accuracy: 79.37%  
Test Accuracy: 75.69%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

--- Population Update (Epoch 40) ---

==== PBT Exploit & Explore ====  
Top performers: [77.06]  
Bottom performers: [74.72]  
Member 0: lr changed from 0.0002093346085927156 to 0.00013871094808629513  
Member 0: weight\_decay changed from 0.020167863673195178 to 0.02  
Member 0: drop\_path changed from 0.011199048788492972 to 0.037085475820983704  
Member 0 copied from 3  
LR=1.39e-04, WD=0.020, DropPath=0.037, Warmup=5 epochs, Batch=256

=====  
Epoch 40 Summary:  
=====

Time: 157.34s (Avg member: 31.46s)  
Population Mean Accuracy: 75.90%  
Best Member Accuracy: 77.06%  
Mean Batch Size: 256  
Mean Learning Rate: 2.89e-04  
Mean Weight Decay: 0.086

=====  
Epoch 41/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.7243387699127197 seconds  
LR changed during epoch: 1.42e-07 -> 2.79e-05

total runtime to train this model was 26.55947208404541 seconds

Hyperparameteres for model 0 at epoch 41

lr: 0.00013871094808629513

weight\_decay: 0.02

drop\_path: 0.037085475820983704

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.6330337524414062 seconds

Loss: 0.4755

Train Accuracy: 83.22%

Test Accuracy: 77.77%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.5996620655059814 seconds

LR changed during epoch: 3.01e-04 -> 2.84e-04

total runtime to train this model was 26.911497831344604 seconds

Hyperparameteres for model 1 at epoch 41

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.504786729812622 seconds

Loss: 0.5466

Train Accuracy: 80.56%

Test Accuracy: 76.52%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.592360496520996 seconds

LR changed during epoch: 2.08e-04 -> 2.07e-04

total runtime to train this model was 26.877978801727295 seconds

Hyperparameteres for model 2 at epoch 41

lr: 0.0002114671451119209

weight\_decay: 0.08864572024680437

drop\_path: 0.1296740747150324

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.5420424938201904 seconds

Loss: 0.5892

Train Accuracy: 79.06%

Test Accuracy: 75.80%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.725907802581787 seconds  
LR changed during epoch: 2.08e-04 -> 2.07e-04  
total runtime to train this model was 26.48357319831848 seconds  
Hyperparameteres for model 3 at epoch 41  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.5824029445648193 seconds  
Loss: 0.5521  
Train Accuracy: 80.29%  
Test Accuracy: 76.90%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.5932514667510986 seconds  
LR changed during epoch: 1.93e-04 -> 1.91e-04  
total runtime to train this model was 26.719367504119873 seconds  
Hyperparameteres for model 4 at epoch 41  
lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.7242536544799805 seconds  
Loss: 0.5747  
Train Accuracy: 79.61%  
Test Accuracy: 76.25%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 41 Summary:

=====

Time: 156.97s (Avg member: 31.39s)  
Population Mean Accuracy: 76.65%  
Best Member Accuracy: 77.77%  
Mean Batch Size: 256  
Mean Learning Rate: 2.89e-04  
Mean Weight Decay: 0.086

=====

Epoch 42/70

```
=====
--- Training Member 0 (Batch size: 256) ---
built data in 1.6548354625701904 seconds
LR changed during epoch: 2.79e-05 -> 5.56e-05
total runtime to train this model was 27.22756862640381 seconds
Hyperparameteres for model 0 at epoch 42
lr: 0.00013871094808629513

weight_decay: 0.02

drop_path: 0.037085475820983704

warmup_epochs: 5

batch_size: 256

_____ end of hyperparam printing _____
evaluation in 2.884263277053833 seconds
Loss: 0.4536
Train Accuracy: 83.92%
Test Accuracy: 77.69%
Google Drive already mounted.
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab_Checkpoints/pbt_checkpoints/model_0_seed_45921.pt

--- Training Member 1 (Batch size: 256) ---
built data in 1.6804029941558838 seconds
LR changed during epoch: 2.84e-04 -> 2.68e-04
total runtime to train this model was 26.775255918502808 seconds
Hyperparameteres for model 1 at epoch 42
lr: 0.0006822954313705238

weight_decay: 0.10656306466087465

drop_path: 0.11694757975345829

warmup_epochs: 5

batch_size: 256

_____ end of hyperparam printing _____
evaluation in 4.25542140007019 seconds
Loss: 0.5286
Train Accuracy: 81.39%
Test Accuracy: 76.39%
Google Drive already mounted.
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab_Checkpoints/pbt_checkpoints/model_1_seed_45921.pt

--- Training Member 2 (Batch size: 256) ---
built data in 1.6175181865692139 seconds
LR changed during epoch: 2.07e-04 -> 2.05e-04
total runtime to train this model was 27.408135652542114 seconds
Hyperparameteres for model 2 at epoch 42
lr: 0.0002114671451119209

weight_decay: 0.08864572024680437

drop_path: 0.1296740747150324

warmup_epochs: 5

batch_size: 256
```

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.825899600982666 seconds  
Loss: 0.5819  
Train Accuracy: 79.20%  
Test Accuracy: 75.62%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6250088214874268 seconds  
LR changed during epoch: 2.07e-04 -> 2.07e-04  
total runtime to train this model was 27.313039302825928 seconds  
Hyperparameteres for model 3 at epoch 42  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.923405885696411 seconds  
Loss: 0.5464  
Train Accuracy: 80.48%  
Test Accuracy: 77.07%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6663410663604736 seconds  
LR changed during epoch: 1.91e-04 -> 1.88e-04  
total runtime to train this model was 26.61689066886902 seconds  
Hyperparameteres for model 4 at epoch 42  
lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.4665720462799072 seconds  
Loss: 0.5686  
Train Accuracy: 79.74%  
Test Accuracy: 75.88%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 42 Summary:

=====

Time: 161.41s (Avg member: 32.28s)  
Population Mean Accuracy: 76.53%  
Best Member Accuracy: 77.69%  
Mean Batch Size: 256

Mean Learning Rate: 2.89e-04  
Mean Weight Decay: 0.086

=====  
Epoch 43/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.6273446083068848 seconds  
LR changed during epoch: 5.56e-05 -> 8.34e-05  
total runtime to train this model was 27.295202493667603 seconds  
Hyperparameteres for model 0 at epoch 43  
lr: 0.00013871094808629513

weight\_decay: 0.02  
drop\_path: 0.037085475820983704  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.386579990386963 seconds  
Loss: 0.4527  
Train Accuracy: 83.99%  
Test Accuracy: 77.66%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.5678813457489014 seconds  
LR changed during epoch: 2.68e-04 -> 2.52e-04  
total runtime to train this model was 26.944839477539062 seconds  
Hyperparameteres for model 1 at epoch 43  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465  
drop\_path: 0.11694757975345829  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.397995710372925 seconds  
Loss: 0.5144  
Train Accuracy: 81.58%  
Test Accuracy: 76.84%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.6081509590148926 seconds  
LR changed during epoch: 2.05e-04 -> 2.04e-04  
total runtime to train this model was 26.654357194900513 seconds  
Hyperparameteres for model 2 at epoch 43  
lr: 0.0002114671451119209

weight\_decay: 0.08864572024680437

drop\_path: 0.1296740747150324  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.51928973197937 seconds  
Loss: 0.5709  
Train Accuracy: 79.62%  
Test Accuracy: 76.22%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.70418381690979 seconds  
LR changed during epoch: 2.07e-04 -> 2.06e-04  
total runtime to train this model was 26.498584747314453 seconds  
Hyperparameteres for model 3 at epoch 43  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.6692090034484863 seconds  
Loss: 0.5370  
Train Accuracy: 80.90%  
Test Accuracy: 77.16%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.5866005420684814 seconds  
LR changed during epoch: 1.88e-04 -> 1.85e-04  
total runtime to train this model was 26.854860067367554 seconds  
Hyperparameteres for model 4 at epoch 43  
lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.524121046066284 seconds  
Loss: 0.5568  
Train Accuracy: 80.25%  
Test Accuracy: 76.34%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 43 Summary:

```
=====
Time: 157.07s (Avg member: 31.41s)
Population Mean Accuracy: 76.84%
Best Member Accuracy: 77.66%
Mean Batch Size: 256
Mean Learning Rate: 2.89e-04
Mean Weight Decay: 0.086
```

```
=====
Epoch 44/70
=====
```

```
--- Training Member 0 (Batch size: 256) ---
built data in 1.6224479675292969 seconds
LR changed during epoch: 8.34e-05 -> 1.11e-04
total runtime to train this model was 26.725364446640015 seconds
Hyperparameteres for model 0 at epoch 44
lr: 0.00013871094808629513
```

```
weight_decay: 0.02
```

```
drop_path: 0.037085475820983704
```

```
warmup_epochs: 5
```

```
batch_size: 256
```

```
_____ end of hyperparam printing _____
evaluation in 2.504188060760498 seconds
Loss: 0.4529
Train Accuracy: 84.03%
Test Accuracy: 77.37%
Google Drive already mounted.
```

```
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab_Checkpoints/pbt_checkpoints/model_0_seed_45921.pt
```

```
--- Training Member 1 (Batch size: 256) ---
built data in 1.5759525299072266 seconds
LR changed during epoch: 2.52e-04 -> 2.36e-04
total runtime to train this model was 26.54894781112671 seconds
Hyperparameteres for model 1 at epoch 44
lr: 0.0006822954313705238
```

```
weight_decay: 0.10656306466087465
```

```
drop_path: 0.11694757975345829
```

```
warmup_epochs: 5
```

```
batch_size: 256
```

```
_____ end of hyperparam printing _____
evaluation in 2.7994699478149414 seconds
Loss: 0.4962
Train Accuracy: 82.18%
Test Accuracy: 77.12%
Google Drive already mounted.
```

```
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab_Checkpoints/pbt_checkpoints/model_1_seed_45921.pt
```

```
--- Training Member 2 (Batch size: 256) ---
built data in 1.7531931400299072 seconds
LR changed during epoch: 2.04e-04 -> 2.02e-04
total runtime to train this model was 26.245533227920532 seconds
```

Hyperparameteres for model 2 at epoch 44

lr: 0.0002114671451119209

weight\_decay: 0.08864572024680437

drop\_path: 0.1296740747150324

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 3.1226704120635986 seconds

Loss: 0.5578

Train Accuracy: 80.24%

Test Accuracy: 76.24%

Google Drive already mounted.

Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---

built data in 1.5931177139282227 seconds

LR changed during epoch: 2.06e-04 -> 2.06e-04

total runtime to train this model was 27.074979543685913 seconds

Hyperparameteres for model 3 at epoch 44

lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.4281747341156006 seconds

Loss: 0.5307

Train Accuracy: 81.13%

Test Accuracy: 77.00%

Google Drive already mounted.

Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---

built data in 1.6004395484924316 seconds

LR changed during epoch: 1.85e-04 -> 1.82e-04

total runtime to train this model was 26.472384452819824 seconds

Hyperparameteres for model 4 at epoch 44

lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.3822031021118164 seconds

Loss: 0.5531

Train Accuracy: 80.17%

Test Accuracy: 76.00%

Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====  
Epoch 44 Summary:  
=====

Time: 155.69s (Avg member: 31.14s)  
Population Mean Accuracy: 76.75%  
Best Member Accuracy: 77.37%  
Mean Batch Size: 256  
Mean Learning Rate: 2.89e-04  
Mean Weight Decay: 0.086

=====  
Epoch 45/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.5974996089935303 seconds  
LR changed during epoch: 1.11e-04 -> 1.39e-04  
total runtime to train this model was 26.69863247871399 seconds  
Hyperparameteres for model 0 at epoch 45  
lr: 0.00013871094808629513

weight\_decay: 0.02

drop\_path: 0.037085475820983704

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.2232041358947754 seconds

Loss: 0.4469  
Train Accuracy: 84.17%  
Test Accuracy: 77.18%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.6430816650390625 seconds  
LR changed during epoch: 2.36e-04 -> 2.21e-04  
total runtime to train this model was 26.78753638267517 seconds  
Hyperparameteres for model 1 at epoch 45  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4817986488342285 seconds

Loss: 0.4813  
Train Accuracy: 82.78%  
Test Accuracy: 77.49%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.5958006381988525 seconds  
LR changed during epoch: 2.02e-04 -> 1.99e-04  
total runtime to train this model was 26.795661687850952 seconds  
Hyperparameteres for model 2 at epoch 45  
lr: 0.0002114671451119209

weight\_decay: 0.08864572024680437

drop\_path: 0.1296740747150324

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.385338544845581 seconds  
Loss: 0.5538  
Train Accuracy: 80.29%  
Test Accuracy: 75.79%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.568636417388916 seconds  
LR changed during epoch: 2.06e-04 -> 2.05e-04  
total runtime to train this model was 26.406054973602295 seconds  
Hyperparameteres for model 3 at epoch 45  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.3994526863098145 seconds  
Loss: 0.5165  
Train Accuracy: 81.75%  
Test Accuracy: 76.94%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6790642738342285 seconds  
LR changed during epoch: 1.82e-04 -> 1.79e-04  
total runtime to train this model was 26.53633403778076 seconds  
Hyperparameteres for model 4 at epoch 45  
lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.625908136367798 seconds  
Loss: 0.5389  
Train Accuracy: 80.80%  
Test Accuracy: 76.54%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

--- Population Update (Epoch 45) ---

==== PBT Exploit & Explore ====

Top performers: [77.49]

Bottom performers: [75.79]

Member 2: lr changed from 0.0002114671451119209 to 0.00030445076700232564  
Member 2: weight\_decay changed from 0.08864572024680437 to 0.08856475376797104  
Member 2: drop\_path changed from 0.1296740747150324 to 0.10660216439958413  
Member 2 copied from 1  
LR=3.04e-04, WD=0.089, DropPath=0.107, Warmup=5 epochs, Batch=256

=====  
Epoch 45 Summary:  
=====

Time: 156.72s (Avg member: 31.34s)  
Population Mean Accuracy: 76.79%  
Best Member Accuracy: 77.49%  
Mean Batch Size: 256  
Mean Learning Rate: 3.08e-04  
Mean Weight Decay: 0.086

=====  
Epoch 46/70  
=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.564884901046753 seconds  
LR changed during epoch: 1.39e-04 -> 1.39e-04  
total runtime to train this model was 26.499239921569824 seconds  
Hyperparameteres for model 0 at epoch 46  
lr: 0.00013871094808629513

weight\_decay: 0.02

drop\_path: 0.037085475820983704

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.506812334060669 seconds

Loss: 0.4525  
Train Accuracy: 83.91%  
Test Accuracy: 77.38%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.5829391479492188 seconds  
LR changed during epoch: 2.21e-04 -> 2.06e-04  
total runtime to train this model was 26.574424982070923 seconds  
Hyperparameteres for model 1 at epoch 46  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.373887777328491 seconds

Loss: 0.4610

Train Accuracy: 83.62%

Test Accuracy: 77.80%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.5759735107421875 seconds

LR changed during epoch: 3.11e-07 -> 6.12e-05

total runtime to train this model was 26.327807426452637 seconds

Hyperparameteres for model 2 at epoch 46

lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104

drop\_path: 0.10660216439958413

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.390871286392212 seconds

Loss: 0.4214

Train Accuracy: 85.03%

Test Accuracy: 78.14%

Google Drive already mounted.

Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---

built data in 1.839688777923584 seconds

LR changed during epoch: 2.05e-04 -> 2.03e-04

total runtime to train this model was 26.144217252731323 seconds

Hyperparameteres for model 3 at epoch 46

lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.6335208415985107 seconds

Loss: 0.5132

Train Accuracy: 81.61%

Test Accuracy: 77.27%

Google Drive already mounted.

Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

```
--- Training Member 4 (Batch size: 256) ---
built data in 1.6192851066589355 seconds
LR changed during epoch: 1.79e-04 -> 1.76e-04
total runtime to train this model was 26.896434783935547 seconds
Hyperparameteres for model 4 at epoch 46
lr: 0.0002045638731974187

weight_decay: 0.13877369675569298
drop_path: 0.14274668347616418
warmup_epochs: 5
batch_size: 256

_____ end of hyperparam printing _____
evaluation in 2.3924314975738525 seconds
Loss: 0.5363
Train Accuracy: 81.09%
Test Accuracy: 76.31%
Google Drive already mounted.
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab_Checkpoints/pbt_checkpoints/model_4_seed_45921.pt

=====
Epoch 46 Summary:
=====
Time: 155.10s (Avg member: 31.02s)
Population Mean Accuracy: 77.38%
Best Member Accuracy: 78.14%
Mean Batch Size: 256
Mean Learning Rate: 3.08e-04
Mean Weight Decay: 0.086

=====
Epoch 47/70
=====

--- Training Member 0 (Batch size: 256) ---
built data in 1.582784652709961 seconds
LR changed during epoch: 1.39e-04 -> 1.38e-04
total runtime to train this model was 26.999993801116943 seconds
Hyperparameteres for model 0 at epoch 47
lr: 0.00013871094808629513

weight_decay: 0.02
drop_path: 0.037085475820983704
warmup_epochs: 5
batch_size: 256

_____ end of hyperparam printing _____
evaluation in 2.4314448833465576 seconds
Loss: 0.4363
Train Accuracy: 84.47%
Test Accuracy: 77.35%
Google Drive already mounted.
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab_Checkpoints/pbt_checkpoints/model_0_seed_45921.pt

--- Training Member 1 (Batch size: 256) ---
```

built data in 1.596010446548462 seconds  
LR changed during epoch: 2.06e-04 -> 1.91e-04  
total runtime to train this model was 26.637444019317627 seconds  
Hyperparameteres for model 1 at epoch 47  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465  
drop\_path: 0.11694757975345829  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.775702714920044 seconds  
Loss: 0.4513  
Train Accuracy: 83.85%  
Test Accuracy: 77.25%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.7351782321929932 seconds  
LR changed during epoch: 6.12e-05 -> 1.22e-04  
total runtime to train this model was 26.504058599472046 seconds  
Hyperparameteres for model 2 at epoch 47  
lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104  
drop\_path: 0.10660216439958413  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.8645379543304443 seconds  
Loss: 0.4099  
Train Accuracy: 85.43%  
Test Accuracy: 78.37%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.5676958560943604 seconds  
LR changed during epoch: 2.03e-04 -> 2.02e-04  
total runtime to train this model was 26.838240146636963 seconds  
Hyperparameteres for model 3 at epoch 47  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526  
drop\_path: 0.2  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4368679523468018 seconds

Loss: 0.5063  
Train Accuracy: 81.99%  
Test Accuracy: 77.20%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6027064323425293 seconds  
LR changed during epoch: 1.76e-04 -> 1.72e-04  
total runtime to train this model was 26.963201999664307 seconds  
Hyperparameteres for model 4 at epoch 47  
lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4171082973480225 seconds

Loss: 0.5236  
Train Accuracy: 81.37%  
Test Accuracy: 77.00%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====  
Epoch 47 Summary:  
=====

Time: 156.25s (Avg member: 31.25s)  
Population Mean Accuracy: 77.43%  
Best Member Accuracy: 78.37%  
Mean Batch Size: 256  
Mean Learning Rate: 3.08e-04  
Mean Weight Decay: 0.086

=====  
Epoch 48/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.6569805145263672 seconds  
LR changed during epoch: 1.38e-04 -> 1.38e-04  
total runtime to train this model was 26.373913049697876 seconds  
Hyperparameteres for model 0 at epoch 48  
lr: 0.00013871094808629513

weight\_decay: 0.02

drop\_path: 0.037085475820983704

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.790085792541504 seconds  
Loss: 0.4286  
Train Accuracy: 84.62%

Test Accuracy: 77.70%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.6093769073486328 seconds  
LR changed during epoch: 1.91e-04 -> 1.76e-04  
total runtime to train this model was 27.03654646873474 seconds  
Hyperparameteres for model 1 at epoch 48  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465  
drop\_path: 0.11694757975345829  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.463667154312134 seconds  
Loss: 0.4371  
Train Accuracy: 84.44%  
Test Accuracy: 78.17%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.6137535572052002 seconds  
LR changed during epoch: 1.22e-04 -> 1.83e-04  
total runtime to train this model was 26.72380828857422 seconds  
Hyperparameteres for model 2 at epoch 48  
lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104  
drop\_path: 0.10660216439958413  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.3912506103515625 seconds  
Loss: 0.4153  
Train Accuracy: 85.28%  
Test Accuracy: 77.81%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.5916292667388916 seconds  
LR changed during epoch: 2.02e-04 -> 2.00e-04  
total runtime to train this model was 26.889350414276123 seconds  
Hyperparameteres for model 3 at epoch 48  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526  
drop\_path: 0.2  
warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.59684157371521 seconds

Loss: 0.4989

Train Accuracy: 82.17%

Test Accuracy: 77.63%

Google Drive already mounted.

Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---

built data in 1.7715091705322266 seconds

LR changed during epoch: 1.72e-04 -> 1.68e-04

total runtime to train this model was 25.915553331375122 seconds

Hyperparameteres for model 4 at epoch 48

lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.2109150886535645 seconds

Loss: 0.5104

Train Accuracy: 81.70%

Test Accuracy: 77.18%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 48 Summary:

=====

Time: 156.86s (Avg member: 31.37s)

Population Mean Accuracy: 77.70%

Best Member Accuracy: 78.17%

Mean Batch Size: 256

Mean Learning Rate: 3.08e-04

Mean Weight Decay: 0.086

=====

Epoch 49/70

=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.6015465259552002 seconds

LR changed during epoch: 1.38e-04 -> 1.37e-04

total runtime to train this model was 26.776535272598267 seconds

Hyperparameteres for model 0 at epoch 49

lr: 0.00013871094808629513

weight\_decay: 0.02

drop\_path: 0.037085475820983704

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4456634521484375 seconds  
Loss: 0.4205  
Train Accuracy: 84.80%  
Test Accuracy: 77.40%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.5825374126434326 seconds  
LR changed during epoch: 1.76e-04 -> 1.62e-04  
total runtime to train this model was 26.598999738693237 seconds  
Hyperparameteres for model 1 at epoch 49  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5375750064849854 seconds  
Loss: 0.4212  
Train Accuracy: 84.93%  
Test Accuracy: 78.24%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.6087992191314697 seconds  
LR changed during epoch: 1.83e-04 -> 2.44e-04  
total runtime to train this model was 26.740750789642334 seconds  
Hyperparameteres for model 2 at epoch 49  
lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104

drop\_path: 0.10660216439958413

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5694656372070312 seconds  
Loss: 0.4352  
Train Accuracy: 84.52%  
Test Accuracy: 77.81%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.7853245735168457 seconds  
LR changed during epoch: 2.00e-04 -> 1.98e-04  
total runtime to train this model was 26.831556797027588 seconds  
Hyperparameteres for model 3 at epoch 49  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.9219329357147217 seconds

Loss: 0.4921

Train Accuracy: 82.45%

Test Accuracy: 77.39%

Google Drive already mounted.

Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---

built data in 1.5710411071777344 seconds

LR changed during epoch: 1.68e-04 -> 1.65e-04

total runtime to train this model was 26.979227542877197 seconds

Hyperparameteres for model 4 at epoch 49

lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.443570613861084 seconds

Loss: 0.5045

Train Accuracy: 81.85%

Test Accuracy: 76.95%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 49 Summary:

=====

Time: 156.24s (Avg member: 31.25s)

Population Mean Accuracy: 77.56%

Best Member Accuracy: 78.24%

Mean Batch Size: 256

Mean Learning Rate: 3.08e-04

Mean Weight Decay: 0.086

=====

Epoch 50/70

=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.5741569995880127 seconds

LR changed during epoch: 1.37e-04 -> 1.37e-04

total runtime to train this model was 26.696251153945923 seconds

Hyperparameteres for model 0 at epoch 50

lr: 0.00013871094808629513

weight\_decay: 0.02

drop\_path: 0.037085475820983704  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4304187297821045 seconds  
Loss: 0.4114  
Train Accuracy: 85.39%  
Test Accuracy: 77.35%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.6210570335388184 seconds  
LR changed during epoch: 1.62e-04 -> 1.48e-04  
total runtime to train this model was 26.65567183494568 seconds  
Hyperparameteres for model 1 at epoch 50  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.2873826026916504 seconds  
Loss: 0.4055  
Train Accuracy: 85.34%  
Test Accuracy: 78.72%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.6870522499084473 seconds  
LR changed during epoch: 2.44e-04 -> 3.04e-04  
total runtime to train this model was 26.948480129241943 seconds  
Hyperparameteres for model 2 at epoch 50  
lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104

drop\_path: 0.10660216439958413

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5750105381011963 seconds  
Loss: 0.4561  
Train Accuracy: 83.69%  
Test Accuracy: 77.63%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6045444011688232 seconds

LR changed during epoch: 1.98e-04 -> 1.96e-04  
total runtime to train this model was 27.006203651428223 seconds  
Hyperparameteres for model 3 at epoch 50  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4003281593322754 seconds

Loss: 0.4798  
Train Accuracy: 82.90%  
Test Accuracy: 78.28%

Google Drive already mounted.

Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---

built data in 1.5783889293670654 seconds  
LR changed during epoch: 1.65e-04 -> 1.61e-04  
total runtime to train this model was 26.818220853805542 seconds  
Hyperparameteres for model 4 at epoch 50  
lr: 0.0002045638731974187

weight\_decay: 0.13877369675569298

drop\_path: 0.14274668347616418

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4184114933013916 seconds

Loss: 0.4989  
Train Accuracy: 82.18%  
Test Accuracy: 76.80%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

--- Population Update (Epoch 50) ---

==== PBT Exploit & Explore ====

Top performers: [78.72]

Bottom performers: [76.8]

Member 4: lr changed from 0.0002045638731974187 to 0.0001339074428659792

Member 4: weight\_decay changed from 0.13877369675569298 to 0.15

Member 4: drop\_path changed from 0.14274668347616418 to 0.12446611801404833

Member 4 copied from 1

LR=1.34e-04, WD=0.150, DropPath=0.124, Warmup=5 epochs, Batch=256

=====

Epoch 50 Summary:

=====

Time: 156.62s (Avg member: 31.32s)

Population Mean Accuracy: 77.76%

Best Member Accuracy: 78.72%

Mean Batch Size: 256

Mean Learning Rate: 2.93e-04  
Mean Weight Decay: 0.088

=====  
Epoch 51/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.7503628730773926 seconds  
LR changed during epoch: 1.37e-04 -> 1.36e-04  
total runtime to train this model was 26.353888750076294 seconds  
Hyperparameteres for model 0 at epoch 51  
lr: 0.00013871094808629513

weight\_decay: 0.02  
drop\_path: 0.037085475820983704  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.4644598960876465 seconds  
Loss: 0.4013  
Train Accuracy: 85.70%  
Test Accuracy: 77.64%  
Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.5994679927825928 seconds  
LR changed during epoch: 1.48e-04 -> 1.35e-04  
total runtime to train this model was 26.77182912826538 seconds  
Hyperparameteres for model 1 at epoch 51  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465  
drop\_path: 0.11694757975345829  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.525515556335449 seconds  
Loss: 0.3895  
Train Accuracy: 86.21%  
Test Accuracy: 78.71%  
Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.591256856918335 seconds  
LR changed during epoch: 3.04e-04 -> 3.04e-04  
total runtime to train this model was 26.112662315368652 seconds  
Hyperparameteres for model 2 at epoch 51  
lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104

drop\_path: 0.10660216439958413  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.3974833488464355 seconds  
Loss: 0.4630  
Train Accuracy: 83.44%  
Test Accuracy: 77.74%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6083500385284424 seconds  
LR changed during epoch: 1.96e-04 -> 1.93e-04  
total runtime to train this model was 26.977760553359985 seconds  
Hyperparameteres for model 3 at epoch 51  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.834637403488159 seconds  
Loss: 0.4750  
Train Accuracy: 82.99%  
Test Accuracy: 77.88%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.7154932022094727 seconds  
LR changed during epoch: 1.37e-07 -> 2.69e-05  
total runtime to train this model was 26.398604154586792 seconds  
Hyperparameteres for model 4 at epoch 51  
lr: 0.0001339074428659792

weight\_decay: 0.15

drop\_path: 0.12446611801404833

warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.212693929672241 seconds  
Loss: 0.3648  
Train Accuracy: 87.00%  
Test Accuracy: 79.23%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 51 Summary:

=====  
Time: 156.58s (Avg member: 31.32s)

Population Mean Accuracy: 78.24%

Best Member Accuracy: 79.23%

Mean Batch Size: 256

Mean Learning Rate: 2.93e-04

Mean Weight Decay: 0.088

=====  
Epoch 52/70  
=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.5785722732543945 seconds

LR changed during epoch: 1.36e-04 -> 1.35e-04

total runtime to train this model was 26.544761896133423 seconds

Hyperparameteres for model 0 at epoch 52

lr: 0.00013871094808629513

weight\_decay: 0.02

drop\_path: 0.037085475820983704

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.480987071990967 seconds

Loss: 0.3903

Train Accuracy: 86.17%

Test Accuracy: 76.86%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.5864064693450928 seconds

LR changed during epoch: 1.35e-04 -> 1.22e-04

total runtime to train this model was 26.35334086418152 seconds

Hyperparameteres for model 1 at epoch 52

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.4970922470092773 seconds

Loss: 0.3859

Train Accuracy: 86.16%

Test Accuracy: 78.28%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.6079399585723877 seconds

LR changed during epoch: 3.04e-04 -> 3.04e-04

total runtime to train this model was 26.330974102020264 seconds

Hyperparameteres for model 2 at epoch 52

lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104

drop\_path: 0.10660216439958413

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.819147825241089 seconds

Loss: 0.4574

Train Accuracy: 83.62%

Test Accuracy: 77.69%

Google Drive already mounted.

Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---

built data in 1.7368998527526855 seconds

LR changed during epoch: 1.93e-04 -> 1.91e-04

total runtime to train this model was 26.36918830871582 seconds

Hyperparameteres for model 3 at epoch 52

lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.9365463256835938 seconds

Loss: 0.4686

Train Accuracy: 83.20%

Test Accuracy: 77.74%

Google Drive already mounted.

Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---

built data in 1.6075096130371094 seconds

LR changed during epoch: 2.69e-05 -> 5.37e-05

total runtime to train this model was 26.290987968444824 seconds

Hyperparameteres for model 4 at epoch 52

lr: 0.0001339074428659792

weight\_decay: 0.15

drop\_path: 0.12446611801404833

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.3369140625 seconds

Loss: 0.3553

Train Accuracy: 87.44%

Test Accuracy: 79.05%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 52 Summary:

=====

Time: 154.34s (Avg member: 30.87s)

Population Mean Accuracy: 77.92%

Best Member Accuracy: 79.05%

Mean Batch Size: 256

Mean Learning Rate: 2.93e-04

Mean Weight Decay: 0.088

=====

Epoch 53/70

=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.5861599445343018 seconds

LR changed during epoch: 1.35e-04 -> 1.34e-04

total runtime to train this model was 25.984801530838013 seconds

Hyperparameteres for model 0 at epoch 53

lr: 0.00013871094808629513

weight\_decay: 0.02

drop\_path: 0.037085475820983704

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.3457188606262207 seconds

Loss: 0.3798

Train Accuracy: 86.53%

Test Accuracy: 77.47%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.5552325248718262 seconds

LR changed during epoch: 1.22e-04 -> 1.10e-04

total runtime to train this model was 26.681594133377075 seconds

Hyperparameteres for model 1 at epoch 53

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.8444571495056152 seconds

Loss: 0.3658

Train Accuracy: 87.04%

Test Accuracy: 78.80%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.7613911628723145 seconds  
LR changed during epoch: 3.04e-04 -> 3.03e-04  
total runtime to train this model was 25.940722942352295 seconds  
Hyperparameteres for model 2 at epoch 53  
lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104

drop\_path: 0.10660216439958413

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.0817675590515137 seconds  
Loss: 0.4475  
Train Accuracy: 84.03%  
Test Accuracy: 77.68%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.5611741542816162 seconds  
LR changed during epoch: 1.91e-04 -> 1.88e-04  
total runtime to train this model was 26.122523307800293 seconds  
Hyperparameteres for model 3 at epoch 53  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.456092119216919 seconds  
Loss: 0.4598  
Train Accuracy: 83.68%  
Test Accuracy: 77.79%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.5942051410675049 seconds  
LR changed during epoch: 5.37e-05 -> 8.05e-05  
total runtime to train this model was 26.265732049942017 seconds  
Hyperparameteres for model 4 at epoch 53  
lr: 0.0001339074428659792

weight\_decay: 0.15

drop\_path: 0.12446611801404833

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.3512351512908936 seconds  
Loss: 0.3560  
Train Accuracy: 87.34%  
Test Accuracy: 79.10%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 53 Summary:

=====

Time: 153.36s (Avg member: 30.67s)  
Population Mean Accuracy: 78.17%  
Best Member Accuracy: 79.10%  
Mean Batch Size: 256  
Mean Learning Rate: 2.93e-04  
Mean Weight Decay: 0.088

=====

Epoch 54/70

--- Training Member 0 (Batch size: 256) ---  
built data in 1.6091930866241455 seconds  
LR changed during epoch: 1.34e-04 -> 1.32e-04  
total runtime to train this model was 26.23694944381714 seconds  
Hyperparameteres for model 0 at epoch 54  
lr: 0.00013871094808629513

weight\_decay: 0.02

drop\_path: 0.037085475820983704

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.457446813583374 seconds

Loss: 0.3732  
Train Accuracy: 86.70%  
Test Accuracy: 77.51%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.7283120155334473 seconds  
LR changed during epoch: 1.10e-04 -> 9.78e-05  
total runtime to train this model was 26.193068265914917 seconds  
Hyperparameteres for model 1 at epoch 54  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.57009220123291 seconds

Loss: 0.3491  
Train Accuracy: 87.51%  
Test Accuracy: 79.05%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.6127586364746094 seconds  
LR changed during epoch: 3.03e-04 -> 3.02e-04  
total runtime to train this model was 26.750574827194214 seconds  
Hyperparameteres for model 2 at epoch 54  
lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104  
drop\_path: 0.10660216439958413  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4192607402801514 seconds  
Loss: 0.4456  
Train Accuracy: 84.14%  
Test Accuracy: 77.12%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.579251766204834 seconds  
LR changed during epoch: 1.88e-04 -> 1.85e-04  
total runtime to train this model was 26.67427659034729 seconds  
Hyperparameteres for model 3 at epoch 54  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526  
drop\_path: 0.2  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4349052906036377 seconds  
Loss: 0.4504  
Train Accuracy: 83.89%  
Test Accuracy: 78.12%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.597480058670044 seconds  
LR changed during epoch: 8.05e-05 -> 1.07e-04  
total runtime to train this model was 27.472803354263306 seconds  
Hyperparameteres for model 4 at epoch 54  
lr: 0.0001339074428659792

weight\_decay: 0.15  
drop\_path: 0.12446611801404833

warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.7304646968841553 seconds  
Loss: 0.3517  
Train Accuracy: 87.57%  
Test Accuracy: 78.99%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====  
Epoch 54 Summary:  
=====

Time: 156.37s (Avg member: 31.27s)  
Population Mean Accuracy: 78.16%  
Best Member Accuracy: 79.05%  
Mean Batch Size: 256  
Mean Learning Rate: 2.93e-04  
Mean Weight Decay: 0.088

=====  
Epoch 55/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.8339338302612305 seconds  
LR changed during epoch: 1.32e-04 -> 1.31e-04  
total runtime to train this model was 27.467008590698242 seconds  
Hyperparameteres for model 0 at epoch 55  
lr: 0.00013871094808629513

weight\_decay: 0.02  
drop\_path: 0.037085475820983704  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5203959941864014 seconds  
Loss: 0.3604  
Train Accuracy: 87.16%  
Test Accuracy: 77.30%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.5976059436798096 seconds  
LR changed during epoch: 9.78e-05 -> 8.66e-05  
total runtime to train this model was 27.37765884399414 seconds  
Hyperparameteres for model 1 at epoch 55  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465  
drop\_path: 0.11694757975345829  
warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5317859649658203 seconds  
Loss: 0.3443  
Train Accuracy: 87.72%  
Test Accuracy: 78.85%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.620788812637329 seconds  
LR changed during epoch: 3.02e-04 -> 3.00e-04  
total runtime to train this model was 27.27778935432434 seconds  
Hyperparameteres for model 2 at epoch 55  
lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104

drop\_path: 0.10660216439958413

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.457634687423706 seconds  
Loss: 0.4332  
Train Accuracy: 84.38%  
Test Accuracy: 77.63%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.745558261871338 seconds  
LR changed during epoch: 1.85e-04 -> 1.82e-04  
total runtime to train this model was 26.604949235916138 seconds  
Hyperparameteres for model 3 at epoch 55  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.411865711212158 seconds  
Loss: 0.4420  
Train Accuracy: 84.17%  
Test Accuracy: 78.23%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.622985601425171 seconds  
LR changed during epoch: 1.07e-04 -> 1.34e-04  
total runtime to train this model was 27.312058210372925 seconds  
Hyperparameteres for model 4 at epoch 55

lr: 0.0001339074428659792

weight\_decay: 0.15

drop\_path: 0.12446611801404833

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5426690578460693 seconds

Loss: 0.3685

Train Accuracy: 86.71%

Test Accuracy: 78.52%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

--- Population Update (Epoch 55) ---

==== PBT Exploit & Explore ====

Top performers: [78.85]

Bottom performers: [77.3]

Member 0: lr changed from 0.00013871094808629513 to 0.00019809738852320964

Member 0: drop\_path changed from 0.037085475820983704 to 0.027917752762556362

Member 0 copied from 1

LR=1.98e-04, WD=0.020, DropPath=0.028, Warmup=5 epochs, Batch=256

=====

Epoch 55 Summary:

=====

Time: 159.19s (Avg member: 31.84s)

Population Mean Accuracy: 78.11%

Best Member Accuracy: 78.85%

Mean Batch Size: 256

Mean Learning Rate: 3.05e-04

Mean Weight Decay: 0.088

=====

Epoch 56/70

=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.6067397594451904 seconds

LR changed during epoch: 2.02e-07 -> 3.98e-05

total runtime to train this model was 27.202916860580444 seconds

Hyperparameteres for model 0 at epoch 56

lr: 0.00019809738852320964

weight\_decay: 0.02

drop\_path: 0.027917752762556362

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.502918004989624 seconds

Loss: 0.2786

Train Accuracy: 90.19%

Test Accuracy: 78.88%

Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.648461103439331 seconds  
LR changed during epoch: 8.66e-05 -> 7.60e-05  
total runtime to train this model was 26.958256006240845 seconds  
Hyperparameteres for model 1 at epoch 56  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465  
drop\_path: 0.11694757975345829  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.7180447578430176 seconds  
Loss: 0.3302  
Train Accuracy: 88.30%  
Test Accuracy: 78.90%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.600010633468628 seconds  
LR changed during epoch: 3.00e-04 -> 2.98e-04  
total runtime to train this model was 27.264247179031372 seconds  
Hyperparameteres for model 2 at epoch 56  
lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104  
drop\_path: 0.10660216439958413  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5703914165496826 seconds  
Loss: 0.4235  
Train Accuracy: 84.90%  
Test Accuracy: 77.91%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.5810575485229492 seconds  
LR changed during epoch: 1.82e-04 -> 1.78e-04  
total runtime to train this model was 27.28956151008606 seconds  
Hyperparameteres for model 3 at epoch 56  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526  
drop\_path: 0.2  
warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4588778018951416 seconds  
Loss: 0.4353  
Train Accuracy: 84.48%  
Test Accuracy: 78.40%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.5857462882995605 seconds  
LR changed during epoch: 1.34e-04 -> 1.34e-04  
total runtime to train this model was 26.909805059432983 seconds  
Hyperparameteres for model 4 at epoch 56  
lr: 0.0001339074428659792

weight\_decay: 0.15

drop\_path: 0.12446611801404833

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.8559346199035645 seconds  
Loss: 0.3649  
Train Accuracy: 86.99%  
Test Accuracy: 78.11%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 56 Summary:

=====

Time: 159.02s (Avg member: 31.80s)  
Population Mean Accuracy: 78.44%  
Best Member Accuracy: 78.90%  
Mean Batch Size: 256  
Mean Learning Rate: 3.05e-04  
Mean Weight Decay: 0.088

=====

Epoch 57/70

=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.707397699356079 seconds  
LR changed during epoch: 3.98e-05 -> 7.94e-05  
total runtime to train this model was 27.217667818069458 seconds  
Hyperparameteres for model 0 at epoch 57  
lr: 0.00019809738852320964

weight\_decay: 0.02

drop\_path: 0.027917752762556362

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4430484771728516 seconds  
Loss: 0.2754  
Train Accuracy: 90.36%  
Test Accuracy: 78.69%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.6222026348114014 seconds  
LR changed during epoch: 7.60e-05 -> 6.60e-05  
total runtime to train this model was 27.006406784057617 seconds  
Hyperparameteres for model 1 at epoch 57  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5795156955718994 seconds  
Loss: 0.3260  
Train Accuracy: 88.52%  
Test Accuracy: 78.94%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.605482816696167 seconds  
LR changed during epoch: 2.98e-04 -> 2.96e-04  
total runtime to train this model was 27.527294158935547 seconds  
Hyperparameteres for model 2 at epoch 57  
lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104

drop\_path: 0.10660216439958413

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.639362335205078 seconds  
Loss: 0.4233  
Train Accuracy: 84.77%  
Test Accuracy: 77.46%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.7424898147583008 seconds  
LR changed during epoch: 1.78e-04 -> 1.75e-04  
total runtime to train this model was 27.327421188354492 seconds  
Hyperparameteres for model 3 at epoch 57  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.0417418479919434 seconds  
Loss: 0.4278  
Train Accuracy: 84.65%  
Test Accuracy: 77.74%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6488964557647705 seconds  
LR changed during epoch: 1.34e-04 -> 1.34e-04  
total runtime to train this model was 27.671263933181763 seconds  
Hyperparameteres for model 4 at epoch 57  
lr: 0.0001339074428659792

weight\_decay: 0.15  
drop\_path: 0.12446611801404833  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5401089191436768 seconds  
Loss: 0.3613  
Train Accuracy: 87.13%  
Test Accuracy: 78.26%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====  
Epoch 57 Summary:  
=====

Time: 159.58s (Avg member: 31.92s)  
Population Mean Accuracy: 78.22%  
Best Member Accuracy: 78.94%  
Mean Batch Size: 256  
Mean Learning Rate: 3.05e-04  
Mean Weight Decay: 0.088

=====  
Epoch 58/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.6135599613189697 seconds  
LR changed during epoch: 7.94e-05 -> 1.19e-04  
total runtime to train this model was 26.893712997436523 seconds  
Hyperparameteres for model 0 at epoch 58  
lr: 0.00019809738852320964

weight\_decay: 0.02  
drop\_path: 0.027917752762556362

warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.467393636703491 seconds  
Loss: 0.2850  
Train Accuracy: 90.02%  
Test Accuracy: 78.01%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.773099660873413 seconds  
LR changed during epoch: 6.60e-05 -> 5.67e-05  
total runtime to train this model was 26.09144115447998 seconds  
Hyperparameteres for model 1 at epoch 58  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465  
drop\_path: 0.11694757975345829

warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.5437254905700684 seconds  
Loss: 0.3094  
Train Accuracy: 88.95%  
Test Accuracy: 79.10%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.6080784797668457 seconds  
LR changed during epoch: 2.96e-04 -> 2.93e-04  
total runtime to train this model was 26.960350513458252 seconds  
Hyperparameteres for model 2 at epoch 58  
lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104  
drop\_path: 0.10660216439958413

warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4899518489837646 seconds  
Loss: 0.4172  
Train Accuracy: 85.01%  
Test Accuracy: 77.29%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6012518405914307 seconds  
LR changed during epoch: 1.75e-04 -> 1.71e-04

total runtime to train this model was 26.98263168334961 seconds

Hyperparameteres for model 3 at epoch 58

lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.601707935333252 seconds

Loss: 0.4143

Train Accuracy: 85.16%

Test Accuracy: 78.42%

Google Drive already mounted.

Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---

built data in 1.6000990867614746 seconds

LR changed during epoch: 1.34e-04 -> 1.33e-04

total runtime to train this model was 27.124138593673706 seconds

Hyperparameteres for model 4 at epoch 58

lr: 0.0001339074428659792

weight\_decay: 0.15

drop\_path: 0.12446611801404833

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.9661190509796143 seconds

Loss: 0.3581

Train Accuracy: 87.17%

Test Accuracy: 78.39%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 58 Summary:

=====

Time: 157.62s (Avg member: 31.52s)

Population Mean Accuracy: 78.24%

Best Member Accuracy: 79.10%

Mean Batch Size: 256

Mean Learning Rate: 3.05e-04

Mean Weight Decay: 0.088

=====

Epoch 59/70

=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.798006296157837 seconds

LR changed during epoch: 1.19e-04 -> 1.59e-04

total runtime to train this model was 27.038989782333374 seconds

Hyperparameteres for model 0 at epoch 59

lr: 0.00019809738852320964

weight\_decay: 0.02

drop\_path: 0.027917752762556362

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.7911183834075928 seconds

Loss: 0.2972

Train Accuracy: 89.46%

Test Accuracy: 78.21%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.615013599395752 seconds

LR changed during epoch: 5.67e-05 -> 4.80e-05

total runtime to train this model was 26.756128072738647 seconds

Hyperparameteres for model 1 at epoch 59

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.40629506111145 seconds

Loss: 0.2995

Train Accuracy: 89.48%

Test Accuracy: 78.98%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.566124677658081 seconds

LR changed during epoch: 2.93e-04 -> 2.90e-04

total runtime to train this model was 26.55119490623474 seconds

Hyperparameteres for model 2 at epoch 59

lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104

drop\_path: 0.10660216439958413

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.441241502761841 seconds

Loss: 0.3998

Train Accuracy: 85.90%

Test Accuracy: 77.53%

Google Drive already mounted.

Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---

built data in 1.6723425388336182 seconds

LR changed during epoch: 1.71e-04 -> 1.67e-04

total runtime to train this model was 26.161942720413208 seconds

Hyperparameteres for model 3 at epoch 59

lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 3.1676063537597656 seconds

Loss: 0.4097

Train Accuracy: 85.34%

Test Accuracy: 78.12%

Google Drive already mounted.

Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---

built data in 1.7188870906829834 seconds

LR changed during epoch: 1.33e-04 -> 1.33e-04

total runtime to train this model was 26.60124111175537 seconds

Hyperparameteres for model 4 at epoch 59

lr: 0.0001339074428659792

weight\_decay: 0.15

drop\_path: 0.12446611801404833

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.4426040649414062 seconds

Loss: 0.3512

Train Accuracy: 87.48%

Test Accuracy: 78.15%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 59 Summary:

=====

Time: 155.94s (Avg member: 31.19s)

Population Mean Accuracy: 78.20%

Best Member Accuracy: 78.98%

Mean Batch Size: 256

Mean Learning Rate: 3.05e-04

Mean Weight Decay: 0.088

=====

Epoch 60/70

=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.6519889831542969 seconds  
LR changed during epoch: 1.59e-04 -> 1.98e-04  
total runtime to train this model was 26.364924430847168 seconds  
Hyperparameteres for model 0 at epoch 60  
lr: 0.00019809738852320964

weight\_decay: 0.02

drop\_path: 0.027917752762556362

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4210002422332764 seconds  
Loss: 0.3129  
Train Accuracy: 88.70%  
Test Accuracy: 77.66%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.5975463390350342 seconds  
LR changed during epoch: 4.80e-05 -> 4.00e-05  
total runtime to train this model was 26.484450340270996 seconds  
Hyperparameteres for model 1 at epoch 60  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.53482985496521 seconds  
Loss: 0.2982  
Train Accuracy: 89.29%  
Test Accuracy: 79.07%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.5923163890838623 seconds  
LR changed during epoch: 2.90e-04 -> 2.87e-04  
total runtime to train this model was 26.09687352180481 seconds  
Hyperparameteres for model 2 at epoch 60  
lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104

drop\_path: 0.10660216439958413

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 3.23709774017334 seconds  
Loss: 0.3907  
Train Accuracy: 85.93%  
Test Accuracy: 77.71%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6483159065246582 seconds  
LR changed during epoch: 1.67e-04 -> 1.63e-04  
total runtime to train this model was 26.45509362220764 seconds  
Hyperparameteres for model 3 at epoch 60  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.3694777488708496 seconds  
Loss: 0.3993  
Train Accuracy: 85.73%  
Test Accuracy: 78.19%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.5586919784545898 seconds  
LR changed during epoch: 1.33e-04 -> 1.32e-04  
total runtime to train this model was 26.20005774497986 seconds  
Hyperparameteres for model 4 at epoch 60  
lr: 0.0001339074428659792

weight\_decay: 0.15

drop\_path: 0.12446611801404833

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.352235794067383 seconds  
Loss: 0.3453  
Train Accuracy: 87.68%  
Test Accuracy: 78.21%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

--- Population Update (Epoch 60) ---

==== PBT Exploit & Explore ====  
Top performers: [79.07]  
Bottom performers: [77.66]  
Member 0: lr changed from 0.00019809738852320964 to 0.0002122202200012727  
Member 0: drop\_path changed from 0.027917752762556362 to 0.00642664822633773  
Member 0 copied from 1  
LR=2.12e-04, WD=0.020, DropPath=0.006, Warmup=5 epochs, Batch=256

```
=====
Epoch 60 Summary:
=====
```

Time: 153.80s (Avg member: 30.76s)  
Population Mean Accuracy: 78.17%  
Best Member Accuracy: 79.07%  
Mean Batch Size: 256  
Mean Learning Rate: 3.08e-04  
Mean Weight Decay: 0.088

```
=====
Epoch 61/70
=====
```

--- Training Member 0 (Batch size: 256) ---  
built data in 1.573146104812622 seconds  
LR changed during epoch: 2.17e-07 -> 4.27e-05  
total runtime to train this model was 26.40622115135193 seconds  
Hyperparameteres for model 0 at epoch 61  
lr: 0.0002122202200012727

weight\_decay: 0.02

drop\_path: 0.00642664822633773

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4973745346069336 seconds

Loss: 0.2385  
Train Accuracy: 91.59%  
Test Accuracy: 78.76%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.601088523864746 seconds  
LR changed during epoch: 4.00e-05 -> 3.27e-05  
total runtime to train this model was 26.27706217765808 seconds  
Hyperparameteres for model 1 at epoch 61  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.8402059078216553 seconds

Loss: 0.2891  
Train Accuracy: 89.77%  
Test Accuracy: 79.00%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.7361347675323486 seconds  
LR changed during epoch: 2.87e-04 -> 2.83e-04  
total runtime to train this model was 26.18960189819336 seconds  
Hyperparameteres for model 2 at epoch 61  
lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104

drop\_path: 0.10660216439958413

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.053323268890381 seconds  
Loss: 0.3813  
Train Accuracy: 86.42%  
Test Accuracy: 77.24%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.5763859748840332 seconds  
LR changed during epoch: 1.63e-04 -> 1.59e-04  
total runtime to train this model was 26.80492115020752 seconds  
Hyperparameteres for model 3 at epoch 61  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4497735500335693 seconds  
Loss: 0.3952  
Train Accuracy: 85.71%  
Test Accuracy: 78.36%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.586068868637085 seconds  
LR changed during epoch: 1.32e-04 -> 1.31e-04  
total runtime to train this model was 26.83101797103882 seconds  
Hyperparameteres for model 4 at epoch 61  
lr: 0.0001339074428659792

weight\_decay: 0.15

drop\_path: 0.12446611801404833

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.3384623527526855 seconds

Loss: 0.3409  
Train Accuracy: 87.73%  
Test Accuracy: 78.09%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 61 Summary:

=====

Time: 155.01s (Avg member: 31.00s)  
Population Mean Accuracy: 78.29%  
Best Member Accuracy: 79.00%  
Mean Batch Size: 256  
Mean Learning Rate: 3.08e-04  
Mean Weight Decay: 0.088

=====

Epoch 62/70

=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.5999181270599365 seconds  
LR changed during epoch: 4.27e-05 -> 8.51e-05  
total runtime to train this model was 26.71685552597046 seconds  
Hyperparameteres for model 0 at epoch 62  
lr: 0.0002122202200012727

weight\_decay: 0.02

drop\_path: 0.00642664822633773

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.2558515071868896 seconds

Loss: 0.2514  
Train Accuracy: 91.12%  
Test Accuracy: 78.60%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.6693270206451416 seconds  
LR changed during epoch: 3.27e-05 -> 2.61e-05  
total runtime to train this model was 26.8009096658172607 seconds  
Hyperparameteres for model 1 at epoch 62  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4196298122406006 seconds  
Loss: 0.2830  
Train Accuracy: 89.88%

Test Accuracy: 78.83%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.5794479846954346 seconds  
LR changed during epoch: 2.83e-04 -> 2.80e-04  
total runtime to train this model was 26.40927219390869 seconds  
Hyperparameteres for model 2 at epoch 62  
lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104  
drop\_path: 0.10660216439958413  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.442662239074707 seconds  
Loss: 0.3764  
Train Accuracy: 86.47%  
Test Accuracy: 77.79%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6063809394836426 seconds  
LR changed during epoch: 1.59e-04 -> 1.54e-04  
total runtime to train this model was 26.834352254867554 seconds  
Hyperparameteres for model 3 at epoch 62  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526  
drop\_path: 0.2  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.441932201385498 seconds  
Loss: 0.3870  
Train Accuracy: 86.24%  
Test Accuracy: 78.58%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.7015604972839355 seconds  
LR changed during epoch: 1.31e-04 -> 1.30e-04  
total runtime to train this model was 25.910083055496216 seconds  
Hyperparameteres for model 4 at epoch 62  
lr: 0.0001339074428659792

weight\_decay: 0.15  
drop\_path: 0.12446611801404833  
warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.2900283336639404 seconds  
Loss: 0.3318  
Train Accuracy: 88.23%  
Test Accuracy: 78.55%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====  
Epoch 62 Summary:  
=====

Time: 155.97s (Avg member: 31.19s)  
Population Mean Accuracy: 78.47%  
Best Member Accuracy: 78.83%  
Mean Batch Size: 256  
Mean Learning Rate: 3.08e-04  
Mean Weight Decay: 0.088

=====  
Epoch 63/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.7173397541046143 seconds  
LR changed during epoch: 8.51e-05 -> 1.28e-04  
total runtime to train this model was 26.821258783340454 seconds  
Hyperparameteres for model 0 at epoch 63  
lr: 0.0002122202200012727

weight\_decay: 0.02

drop\_path: 0.00642664822633773

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.423851251602173 seconds  
Loss: 0.2682  
Train Accuracy: 90.39%  
Test Accuracy: 78.18%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.5776574611663818 seconds  
LR changed during epoch: 2.61e-05 -> 2.03e-05  
total runtime to train this model was 26.957322120666504 seconds  
Hyperparameteres for model 1 at epoch 63  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.484365224838257 seconds  
Loss: 0.2790  
Train Accuracy: 90.19%  
Test Accuracy: 79.05%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.5949366092681885 seconds  
LR changed during epoch: 2.80e-04 -> 2.75e-04  
total runtime to train this model was 26.667274475097656 seconds  
Hyperparameteres for model 2 at epoch 63  
lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104

drop\_path: 0.10660216439958413

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.3714439868927 seconds  
Loss: 0.3655  
Train Accuracy: 86.87%  
Test Accuracy: 77.91%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.679558277130127 seconds  
LR changed during epoch: 1.54e-04 -> 1.50e-04  
total runtime to train this model was 26.501839876174927 seconds  
Hyperparameteres for model 3 at epoch 63  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.606759548187256 seconds  
Loss: 0.3793  
Train Accuracy: 86.37%  
Test Accuracy: 78.39%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6015880107879639 seconds  
LR changed during epoch: 1.30e-04 -> 1.29e-04  
total runtime to train this model was 27.04836106300354 seconds  
Hyperparameteres for model 4 at epoch 63  
lr: 0.0001339074428659792

weight\_decay: 0.15  
drop\_path: 0.12446611801404833  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4547934532165527 seconds  
Loss: 0.3392  
Train Accuracy: 87.96%  
Test Accuracy: 78.44%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====  
Epoch 63 Summary:  
=====

Time: 156.71s (Avg member: 31.34s)  
Population Mean Accuracy: 78.39%  
Best Member Accuracy: 79.05%  
Mean Batch Size: 256  
Mean Learning Rate: 3.08e-04  
Mean Weight Decay: 0.088

=====  
Epoch 64/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.5925333499908447 seconds  
LR changed during epoch: 1.28e-04 -> 1.70e-04  
total runtime to train this model was 26.948090076446533 seconds  
Hyperparameteres for model 0 at epoch 64  
lr: 0.0002122202200012727

weight\_decay: 0.02  
drop\_path: 0.00642664822633773  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5045087337493896 seconds  
Loss: 0.2857  
Train Accuracy: 89.66%  
Test Accuracy: 77.74%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.5871610641479492 seconds  
LR changed during epoch: 2.03e-05 -> 1.52e-05  
total runtime to train this model was 26.441390991210938 seconds  
Hyperparameteres for model 1 at epoch 64  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.660191059112549 seconds  
Loss: 0.2671  
Train Accuracy: 90.58%  
Test Accuracy: 79.02%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.69423508644104 seconds  
LR changed during epoch: 2.75e-04 -> 2.71e-04  
total runtime to train this model was 25.8570773601532 seconds  
Hyperparameteres for model 2 at epoch 64  
lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104

drop\_path: 0.10660216439958413  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.289116144180298 seconds  
Loss: 0.3614  
Train Accuracy: 87.07%  
Test Accuracy: 77.23%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.5718085765838623 seconds  
LR changed during epoch: 1.50e-04 -> 1.45e-04  
total runtime to train this model was 26.730449438095093 seconds  
Hyperparameteres for model 3 at epoch 64  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.382965326309204 seconds  
Loss: 0.3709  
Train Accuracy: 86.73%  
Test Accuracy: 78.63%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.5553090572357178 seconds

LR changed during epoch: 1.29e-04 -> 1.28e-04  
total runtime to train this model was 26.30106258392334 seconds  
Hyperparameteres for model 4 at epoch 64  
lr: 0.0001339074428659792

weight\_decay: 0.15

drop\_path: 0.12446611801404833

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.3658571243286133 seconds  
Loss: 0.3247  
Train Accuracy: 88.50%  
Test Accuracy: 78.31%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====  
Epoch 64 Summary:  
=====

Time: 154.74s (Avg member: 30.95s)  
Population Mean Accuracy: 78.19%  
Best Member Accuracy: 79.02%  
Mean Batch Size: 256  
Mean Learning Rate: 3.08e-04  
Mean Weight Decay: 0.088

=====  
Epoch 65/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.5911431312561035 seconds  
LR changed during epoch: 1.70e-04 -> 2.12e-04  
total runtime to train this model was 26.426007509231567 seconds  
Hyperparameteres for model 0 at epoch 65  
lr: 0.0002122202200012727

weight\_decay: 0.02

drop\_path: 0.00642664822633773

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.435944080352783 seconds  
Loss: 0.3036  
Train Accuracy: 88.95%  
Test Accuracy: 77.23%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.7156426906585693 seconds  
LR changed during epoch: 1.52e-05 -> 1.09e-05  
total runtime to train this model was 26.08159065246582 seconds

Hyperparameteres for model 1 at epoch 65

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 3.483247756958008 seconds

Loss: 0.2679

Train Accuracy: 90.55%

Test Accuracy: 78.87%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.6024127006530762 seconds

LR changed during epoch: 2.71e-04 -> 2.66e-04

total runtime to train this model was 26.819222927093506 seconds

Hyperparameteres for model 2 at epoch 65

lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104

drop\_path: 0.10660216439958413

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.488945245742798 seconds

Loss: 0.3497

Train Accuracy: 87.56%

Test Accuracy: 78.29%

Google Drive already mounted.

Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---

built data in 1.5805108547210693 seconds

LR changed during epoch: 1.45e-04 -> 1.41e-04

total runtime to train this model was 26.575664281845093 seconds

Hyperparameteres for model 3 at epoch 65

lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.4556424617767334 seconds

Loss: 0.3634

Train Accuracy: 87.00%

Test Accuracy: 78.27%

Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.582918643951416 seconds  
LR changed during epoch: 1.28e-04 -> 1.26e-04  
total runtime to train this model was 26.745264291763306 seconds  
Hyperparameteres for model 4 at epoch 65  
lr: 0.0001339074428659792

weight\_decay: 0.15  
drop\_path: 0.12446611801404833  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.479675769805908 seconds  
Loss: 0.3218  
Train Accuracy: 88.63%  
Test Accuracy: 78.32%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

--- Population Update (Epoch 65) ---

==== PBT Exploit & Explore ====  
Top performers: [78.87]  
Bottom performers: [77.23]  
Member 0: lr changed from 0.0002122202200012727 to 0.00023040806442191445  
Member 0: drop\_path changed from 0.00642664822633773 to 0.04382642392685  
Member 0 copied from 1  
LR=2.30e-04, WD=0.020, DropPath=0.044, Warmup=5 epochs, Batch=256

=====  
Epoch 65 Summary:  
=====

Time: 155.39s (Avg member: 31.07s)  
Population Mean Accuracy: 78.20%  
Best Member Accuracy: 78.87%  
Mean Batch Size: 256  
Mean Learning Rate: 3.12e-04  
Mean Weight Decay: 0.088

=====  
Epoch 66/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.7549188137054443 seconds  
LR changed during epoch: 2.35e-07 -> 4.63e-05  
total runtime to train this model was 26.0722439289093 seconds  
Hyperparameteres for model 0 at epoch 66  
lr: 0.00023040806442191445

weight\_decay: 0.02  
drop\_path: 0.04382642392685  
warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.571378707885742 seconds  
Loss: 0.2214  
Train Accuracy: 92.13%  
Test Accuracy: 78.53%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.5866711139678955 seconds  
LR changed during epoch: 1.09e-05 -> 7.33e-06  
total runtime to train this model was 26.883965730667114 seconds  
Hyperparameteres for model 1 at epoch 66  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.422438859939575 seconds  
Loss: 0.2625  
Train Accuracy: 90.65%  
Test Accuracy: 79.27%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.569465160369873 seconds  
LR changed during epoch: 2.66e-04 -> 2.61e-04  
total runtime to train this model was 26.861698150634766 seconds  
Hyperparameteres for model 2 at epoch 66  
lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104

drop\_path: 0.10660216439958413

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.382507085800171 seconds  
Loss: 0.3382  
Train Accuracy: 87.92%  
Test Accuracy: 77.79%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6105327606201172 seconds  
LR changed during epoch: 1.41e-04 -> 1.36e-04  
total runtime to train this model was 26.560240030288696 seconds  
Hyperparameteres for model 3 at epoch 66

lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.394365072250366 seconds

Loss: 0.3522

Train Accuracy: 87.33%

Test Accuracy: 78.29%

Google Drive already mounted.

Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---

built data in 1.6766083240509033 seconds

LR changed during epoch: 1.26e-04 -> 1.25e-04

total runtime to train this model was 25.830384969711304 seconds

Hyperparameteres for model 4 at epoch 66

lr: 0.0001339074428659792

weight\_decay: 0.15

drop\_path: 0.12446611801404833

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.623417377471924 seconds

Loss: 0.3159

Train Accuracy: 88.72%

Test Accuracy: 78.19%

Google Drive already mounted.

Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 66 Summary:

=====

Time: 156.02s (Avg member: 31.20s)

Population Mean Accuracy: 78.41%

Best Member Accuracy: 79.27%

Mean Batch Size: 256

Mean Learning Rate: 3.12e-04

Mean Weight Decay: 0.088

=====

Epoch 67/70

=====

--- Training Member 0 (Batch size: 256) ---

built data in 1.5967648029327393 seconds

LR changed during epoch: 4.63e-05 -> 9.24e-05

total runtime to train this model was 26.786238431930542 seconds

Hyperparameteres for model 0 at epoch 67

lr: 0.00023040806442191445

weight\_decay: 0.02  
drop\_path: 0.04382642392685  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.3986973762512207 seconds  
Loss: 0.2443  
Train Accuracy: 91.40%  
Test Accuracy: 78.34%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.6028928756713867 seconds  
LR changed during epoch: 7.33e-06 -> 4.56e-06  
total runtime to train this model was 27.537956953048706 seconds  
Hyperparameteres for model 1 at epoch 67  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465  
drop\_path: 0.11694757975345829  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.6631219387054443 seconds  
Loss: 0.2578  
Train Accuracy: 90.97%  
Test Accuracy: 79.14%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.7434580326080322 seconds  
LR changed during epoch: 2.61e-04 -> 2.56e-04  
total runtime to train this model was 27.70120096206665 seconds  
Hyperparameteres for model 2 at epoch 67  
lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104  
drop\_path: 0.10660216439958413  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.1073384284973145 seconds  
Loss: 0.3337  
Train Accuracy: 88.05%  
Test Accuracy: 78.52%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.7974867820739746 seconds  
LR changed during epoch: 1.36e-04 -> 1.31e-04  
total runtime to train this model was 27.355793237686157 seconds  
Hyperparameteres for model 3 at epoch 67  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.48345685005188 seconds  
Loss: 0.3466  
Train Accuracy: 87.57%  
Test Accuracy: 78.75%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.585254430770874 seconds  
LR changed during epoch: 1.25e-04 -> 1.23e-04  
total runtime to train this model was 27.11019206047058 seconds  
Hyperparameteres for model 4 at epoch 67  
lr: 0.0001339074428659792

weight\_decay: 0.15

drop\_path: 0.12446611801404833

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.486912250518799 seconds  
Loss: 0.3108  
Train Accuracy: 88.97%  
Test Accuracy: 78.55%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 67 Summary:

=====

Time: 159.22s (Avg member: 31.84s)  
Population Mean Accuracy: 78.66%  
Best Member Accuracy: 79.14%  
Mean Batch Size: 256  
Mean Learning Rate: 3.12e-04  
Mean Weight Decay: 0.088

=====

Epoch 68/70

=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.580665111541748 seconds

LR changed during epoch: 9.24e-05 -> 1.38e-04  
total runtime to train this model was 27.480758905410767 seconds  
Hyperparameteres for model 0 at epoch 68  
lr: 0.00023040806442191445

weight\_decay: 0.02

drop\_path: 0.04382642392685

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5663506984710693 seconds  
Loss: 0.2646  
Train Accuracy: 90.51%  
Test Accuracy: 78.14%  
Google Drive already mounted.  
Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.753068447113037 seconds  
LR changed during epoch: 4.56e-06 -> 2.58e-06  
total runtime to train this model was 27.189306259155273 seconds  
Hyperparameteres for model 1 at epoch 68  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.514822006225586 seconds  
Loss: 0.2605  
Train Accuracy: 90.77%  
Test Accuracy: 79.10%  
Google Drive already mounted.  
Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.6077396869659424 seconds  
LR changed during epoch: 2.56e-04 -> 2.51e-04  
total runtime to train this model was 27.722606897354126 seconds  
Hyperparameteres for model 2 at epoch 68  
lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104

drop\_path: 0.10660216439958413

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4699597358703613 seconds  
Loss: 0.3223

Train Accuracy: 88.40%  
Test Accuracy: 78.25%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.6308212280273438 seconds  
LR changed during epoch: 1.31e-04 -> 1.27e-04  
total runtime to train this model was 27.27440595626831 seconds  
Hyperparameteres for model 3 at epoch 68  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.539510488510132 seconds  
Loss: 0.3364  
Train Accuracy: 87.94%  
Test Accuracy: 79.06%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6289267539978027 seconds  
LR changed during epoch: 1.23e-04 -> 1.21e-04  
total runtime to train this model was 26.934467315673828 seconds  
Hyperparameteres for model 4 at epoch 68  
lr: 0.0001339074428659792

weight\_decay: 0.15

drop\_path: 0.12446611801404833

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.6508891582489014 seconds  
Loss: 0.3062  
Train Accuracy: 89.10%  
Test Accuracy: 78.63%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 68 Summary:

=====

Time: 160.81s (Avg member: 32.16s)  
Population Mean Accuracy: 78.64%  
Best Member Accuracy: 79.10%  
Mean Batch Size: 256  
Mean Learning Rate: 3.12e-04  
Mean Weight Decay: 0.088

=====

Epoch 69/70

---

--- Training Member 0 (Batch size: 256) ---

built data in 1.689856767654419 seconds

LR changed during epoch: 1.38e-04 -> 1.85e-04

total runtime to train this model was 27.241193771362305 seconds

Hyperparameteres for model 0 at epoch 69

lr: 0.00023040806442191445

weight\_decay: 0.02

drop\_path: 0.04382642392685

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.504063844680786 seconds

Loss: 0.2793

Train Accuracy: 89.86%

Test Accuracy: 77.50%

Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---

built data in 1.6219584941864014 seconds

LR changed during epoch: 2.58e-06 -> 1.39e-06

total runtime to train this model was 27.19583487510681 seconds

Hyperparameteres for model 1 at epoch 69

lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_

evaluation in 2.474104642868042 seconds

Loss: 0.2595

Train Accuracy: 90.86%

Test Accuracy: 79.27%

Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---

built data in 1.5942835807800293 seconds

LR changed during epoch: 2.51e-04 -> 2.45e-04

total runtime to train this model was 26.945290565490723 seconds

Hyperparameteres for model 2 at epoch 69

lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104

drop\_path: 0.10660216439958413

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.51672625541687 seconds  
Loss: 0.3123  
Train Accuracy: 88.72%  
Test Accuracy: 77.93%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.7348458766937256 seconds  
LR changed during epoch: 1.27e-04 -> 1.22e-04  
total runtime to train this model was 26.357579469680786 seconds  
Hyperparameteres for model 3 at epoch 69  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.742898941040039 seconds  
Loss: 0.3324  
Train Accuracy: 88.19%  
Test Accuracy: 78.94%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.6166934967041016 seconds  
LR changed during epoch: 1.21e-04 -> 1.19e-04  
total runtime to train this model was 27.18250870704651 seconds  
Hyperparameteres for model 4 at epoch 69  
lr: 0.0001339074428659792

weight\_decay: 0.15

drop\_path: 0.12446611801404833

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.5045857429504395 seconds  
Loss: 0.2999  
Train Accuracy: 89.32%  
Test Accuracy: 78.25%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

=====

Epoch 69 Summary:

=====

Time: 158.13s (Avg member: 31.63s)  
Population Mean Accuracy: 78.38%  
Best Member Accuracy: 79.27%

Mean Batch Size: 256  
Mean Learning Rate: 3.12e-04  
Mean Weight Decay: 0.088

=====  
Epoch 70/70  
=====

--- Training Member 0 (Batch size: 256) ---  
built data in 1.5926826000213623 seconds  
LR changed during epoch: 1.85e-04 -> 2.30e-04  
total runtime to train this model was 26.559308767318726 seconds  
Hyperparameteres for model 0 at epoch 70  
lr: 0.00023040806442191445

weight\_decay: 0.02

drop\_path: 0.04382642392685

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.457104206085205 seconds  
Loss: 0.3049  
Train Accuracy: 89.00%  
Test Accuracy: 77.44%  
Google Drive already mounted.

Member 0: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_0\_seed\_45921.pt

--- Training Member 1 (Batch size: 256) ---  
built data in 1.5989575386047363 seconds  
LR changed during epoch: 1.39e-06 -> 1.00e-06  
total runtime to train this model was 26.92129921913147 seconds  
Hyperparameteres for model 1 at epoch 70  
lr: 0.0006822954313705238

weight\_decay: 0.10656306466087465

drop\_path: 0.11694757975345829

warmup\_epochs: 5

batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.769176721572876 seconds  
Loss: 0.2564  
Train Accuracy: 91.00%  
Test Accuracy: 79.19%  
Google Drive already mounted.

Member 1: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_1\_seed\_45921.pt

--- Training Member 2 (Batch size: 256) ---  
built data in 1.7713418006896973 seconds  
LR changed during epoch: 2.45e-04 -> 2.39e-04  
total runtime to train this model was 26.41531729698181 seconds  
Hyperparameteres for model 2 at epoch 70  
lr: 0.00030445076700232564

weight\_decay: 0.08856475376797104

drop\_path: 0.10660216439958413  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 3.238286018371582 seconds  
Loss: 0.3094  
Train Accuracy: 88.74%  
Test Accuracy: 77.97%  
Google Drive already mounted.  
Member 2: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_2\_seed\_45921.pt

--- Training Member 3 (Batch size: 256) ---  
built data in 1.5744271278381348 seconds  
LR changed during epoch: 1.22e-04 -> 1.17e-04  
total runtime to train this model was 26.866809844970703 seconds  
Hyperparameteres for model 3 at epoch 70  
lr: 0.00020752310190649085

weight\_decay: 0.07600507208288526

drop\_path: 0.2  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.4618096351623535 seconds  
Loss: 0.3223  
Train Accuracy: 88.50%  
Test Accuracy: 78.74%  
Google Drive already mounted.  
Member 3: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_3\_seed\_45921.pt

--- Training Member 4 (Batch size: 256) ---  
built data in 1.5859203338623047 seconds  
LR changed during epoch: 1.19e-04 -> 1.17e-04  
total runtime to train this model was 27.126616716384888 seconds  
Hyperparameteres for model 4 at epoch 70  
lr: 0.0001339074428659792

weight\_decay: 0.15

drop\_path: 0.12446611801404833  
warmup\_epochs: 5  
batch\_size: 256

\_\_\_\_\_ end of hyperparam printing \_\_\_\_\_  
evaluation in 2.430272102355957 seconds  
Loss: 0.2964  
Train Accuracy: 89.34%  
Test Accuracy: 78.47%  
Google Drive already mounted.  
Member 4: Checkpoint saved to /content/drive/MyDrive/Colab\_Checkpoints/pbt\_checkpoints/model\_4\_seed\_45921.pt

--- Population Update (Epoch 70) ---

==== PBT Exploit & Explore ====

Top performers: [79.19]

Bottom performers: [77.44]

Member 0: lr changed from 0.00023040806442191445 to 0.0003133789292799797

Member 0: drop\_path changed from 0.04382642392685 to 0.08301472137355428

Member 0 copied from 1

LR=3.13e-04, WD=0.020, DropPath=0.083, Warmup=5 epochs, Batch=256

=====  
Epoch 70 Summary:  
=====

Time: 156.63s (Avg member: 31.32s)

Population Mean Accuracy: 78.36%

Best Member Accuracy: 79.19%

Mean Batch Size: 256

Mean Learning Rate: 3.28e-04

Mean Weight Decay: 0.088

=====  
PBT TRAINING COMPLETE  
=====

Best member: 1

Best accuracy: 79.19%

Best hyperparameters:

Learning Rate: 6.82e-04

Weight Decay: 0.107

Drop Path Rate: 0.117

Warmup Epochs: 5

Batch Size: 256

=====  
PBT TIMING REPORT  
=====

Overall Statistics Value

Total runtime 11006.86s (183.45 min)

Number of epochs 70

Number of population updates 14

Epoch Timing Value

Average epoch time 157.23s

Std epoch time 1.98s

Min epoch time 153.36s (epoch 53)

Max epoch time 163.09s (epoch 1)

Member Training Timing Value

Average member time per epoch 31.45s

Total training time 11006.14s

Training efficiency 100.0%

Population Update Timing Value

Average update time 0.01s

Total update time 0.20s

Update efficiency 0.0%

Batch Size Analysis Avg Time Samples

```
=====
```

Batch size 256 31.45s 350

Per-Member Statistics	Avg Time	Total Time
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```
=====
```

Member 0	31.41s	2198.80s
Member 1	31.47s	2203.10s
Member 2	31.43s	2200.34s
Member 3	31.51s	2205.41s
Member 4	31.41s	2198.49s

```
=====
```

Experiment completed successfully!

Results saved to: pbt\_vit\_timing\_results.png

Detailed timing saved to: pbt\_detailed\_timing.png