# Google Landmark Retrieval 2021
# 5th Place Solution
# ~Metric Learning + Bridged Confidence~

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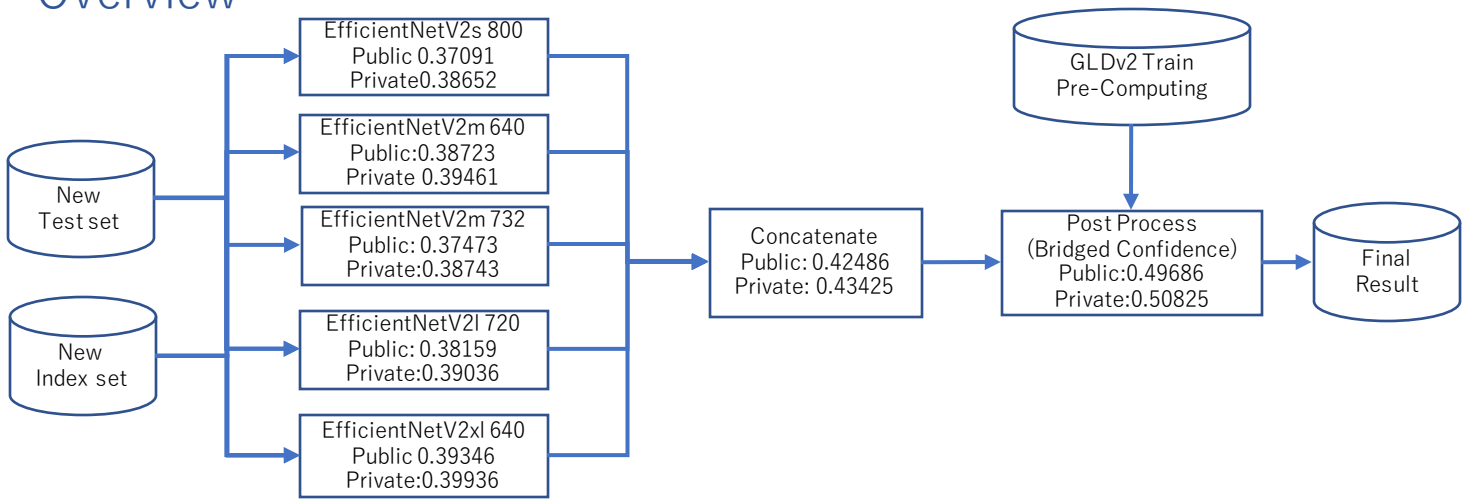
## Overview



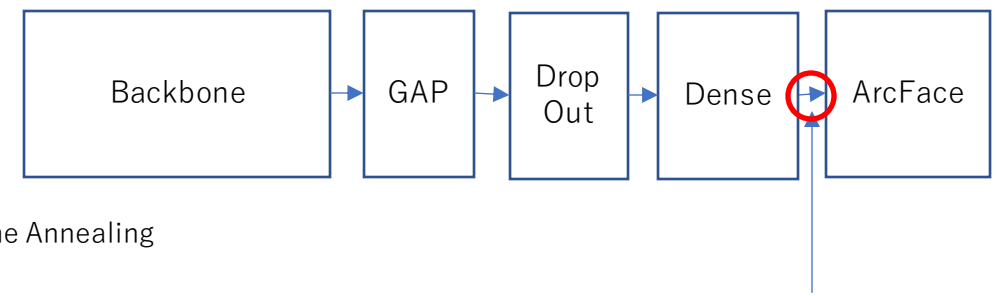

## Training

Model:
- EfficientNetV2s
- EfficientNetV2m x 2
- EfficientNetV2l
- EfficientNetV2xl

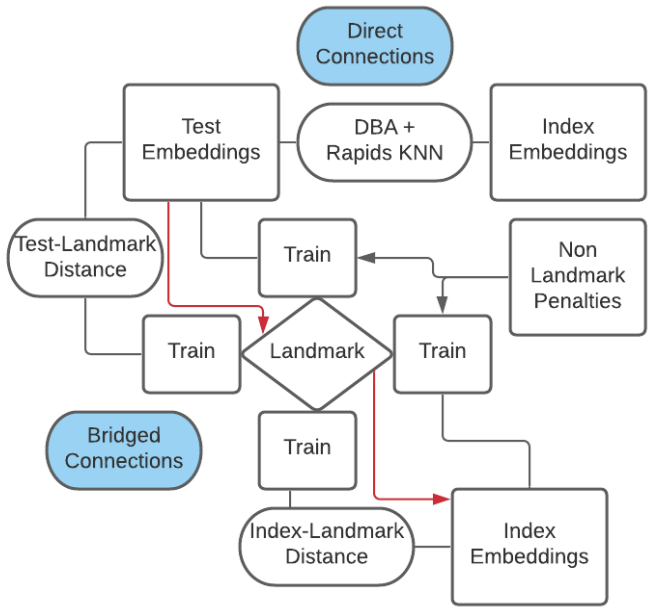
Data: GLDv2 (4.1M)
Optimizer: Adam with Cosine Annealing
Epoch:15
Hardware:
- TPU v3 8 core(Thanks to TRC Program!)

Other Training Tricks:
- Gradient Accumulation
- Mixed Precision

Hflip TTA
Concatenate All embedding vector(2560D)




## Postprocessing




Landmark Distance Computation: Pick k (k=2) nearest train images from reference image (test/index) belonging to landmark and average their distances

Bridged Distance = Min(
Max((test,landmark_id),(index,landmark_id))
for all landmark_id belonging to gldv2 train set)

Confidence = (Direct Confidence)**3 +
(Bridged Confidence)**3