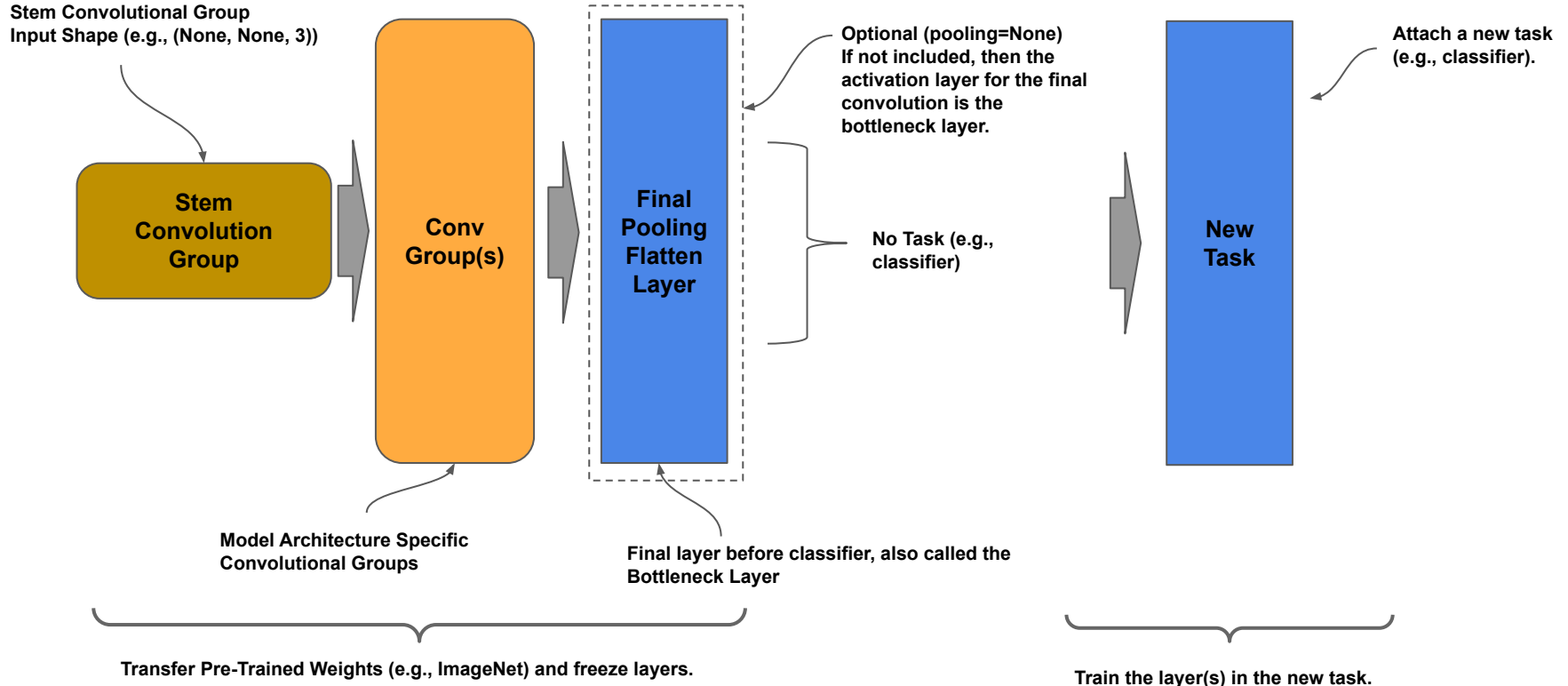




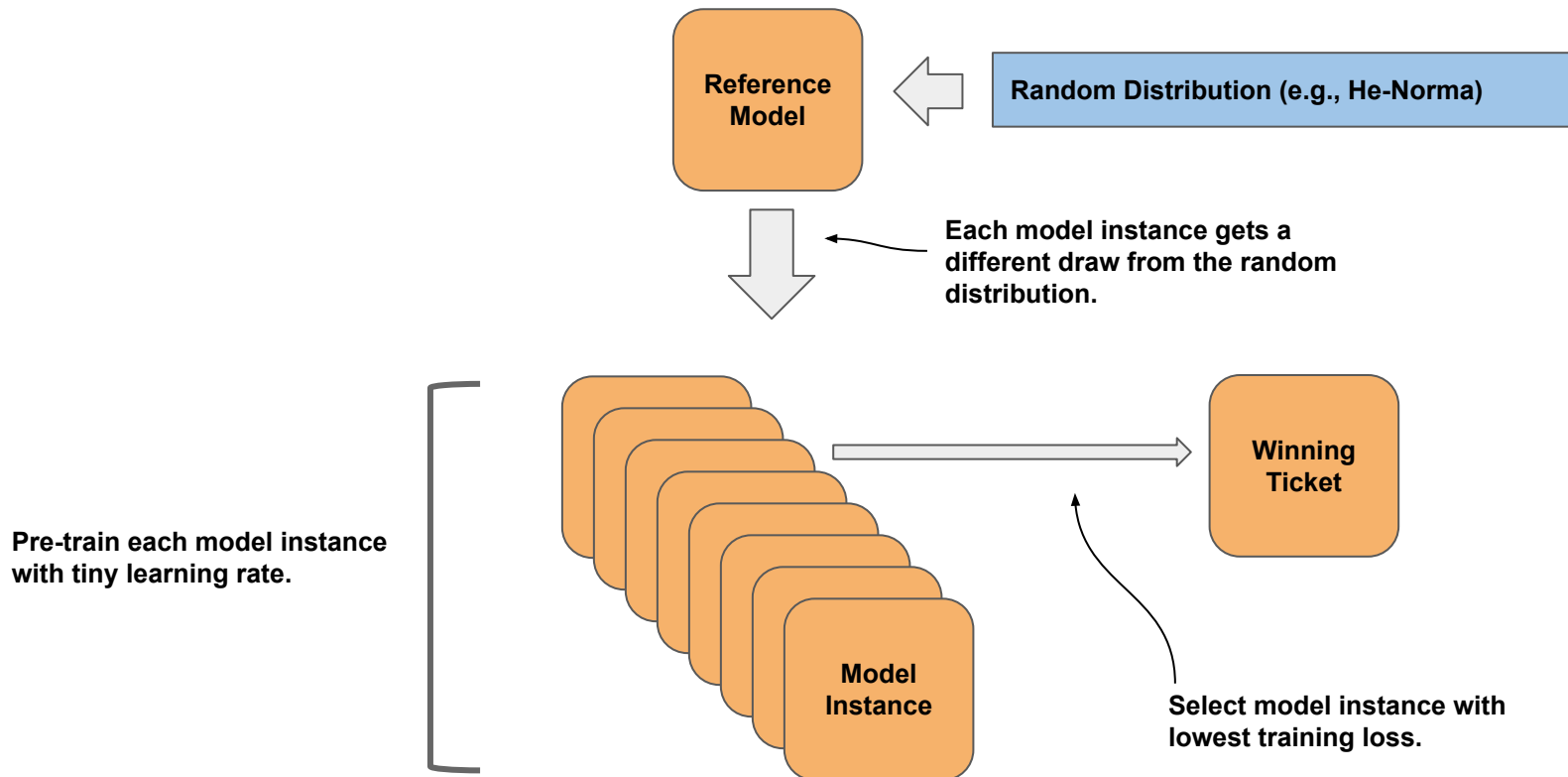
# Google Cloud AI Developer Relations

## Automatic Learning

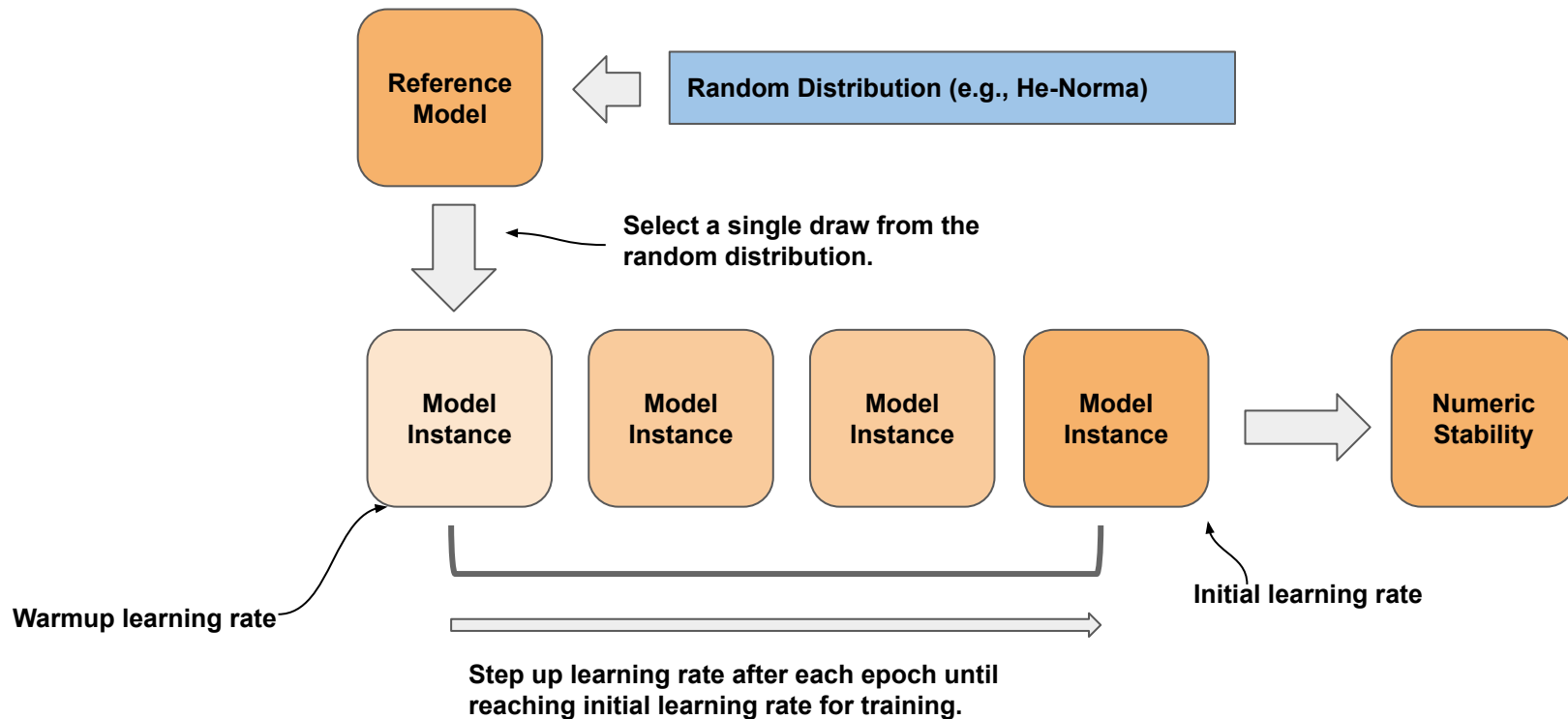
# Transfer Learning



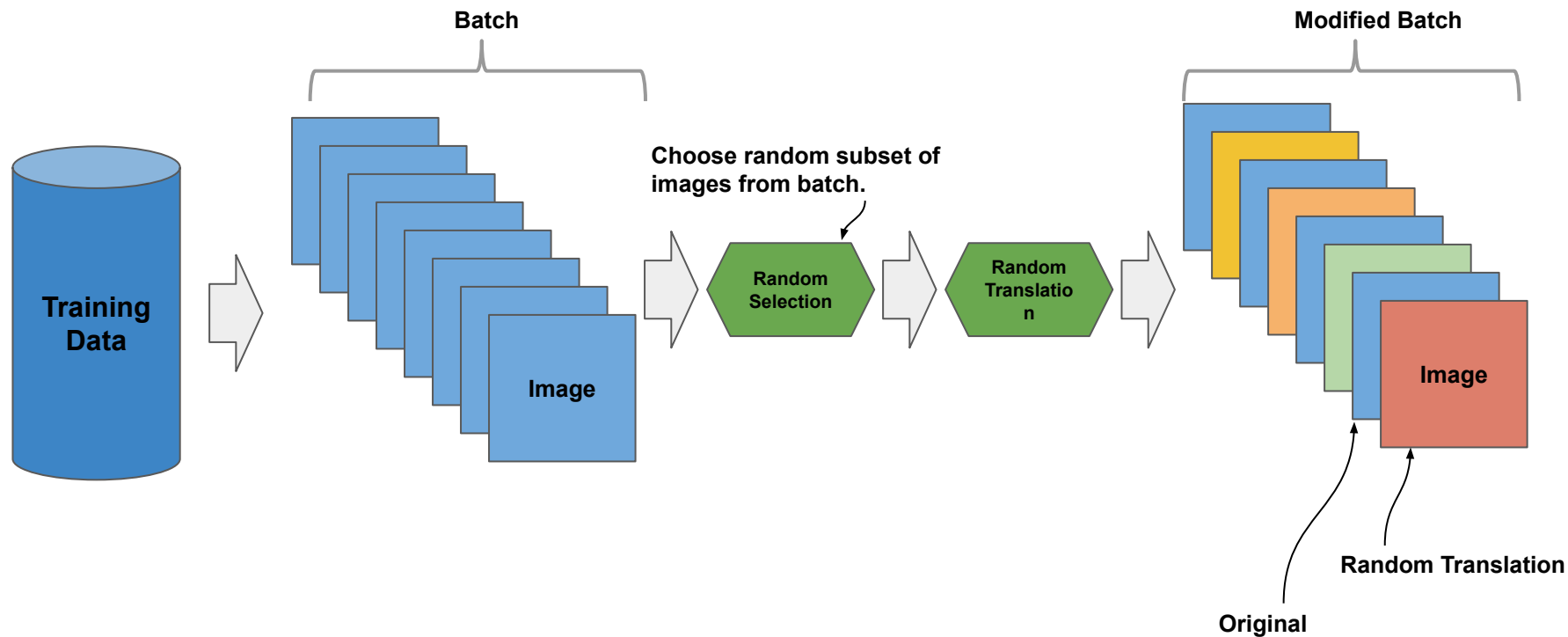
# Weight Initialization (Lottery)



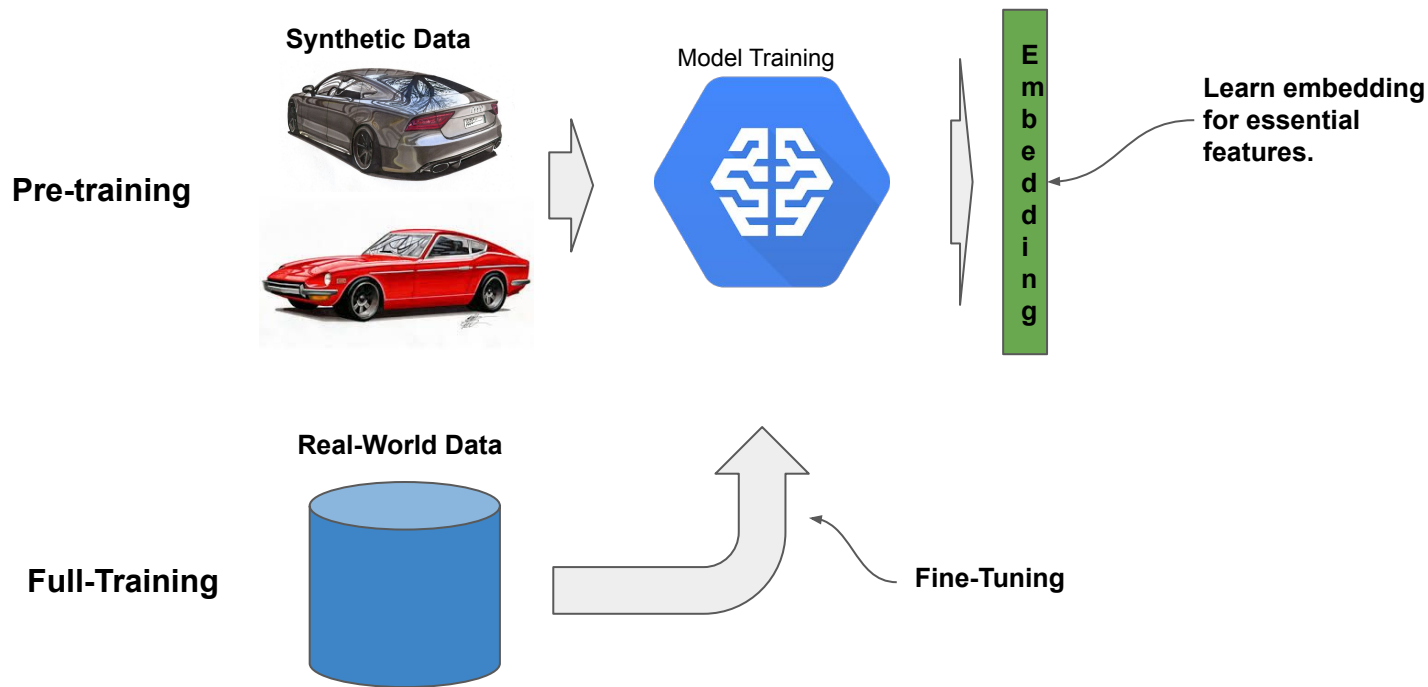
# Weight Initialization (Warmup)



# Translational/Scale Invariance



# Essential Feature Learning (Synthetic)



# Essential Feature Learning (Occlusion)

Overlay natural objects for scene that obscures part of the object being recognized.

Occlusion Objects



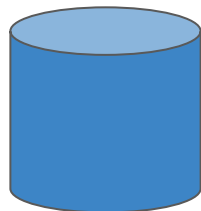
Model Training



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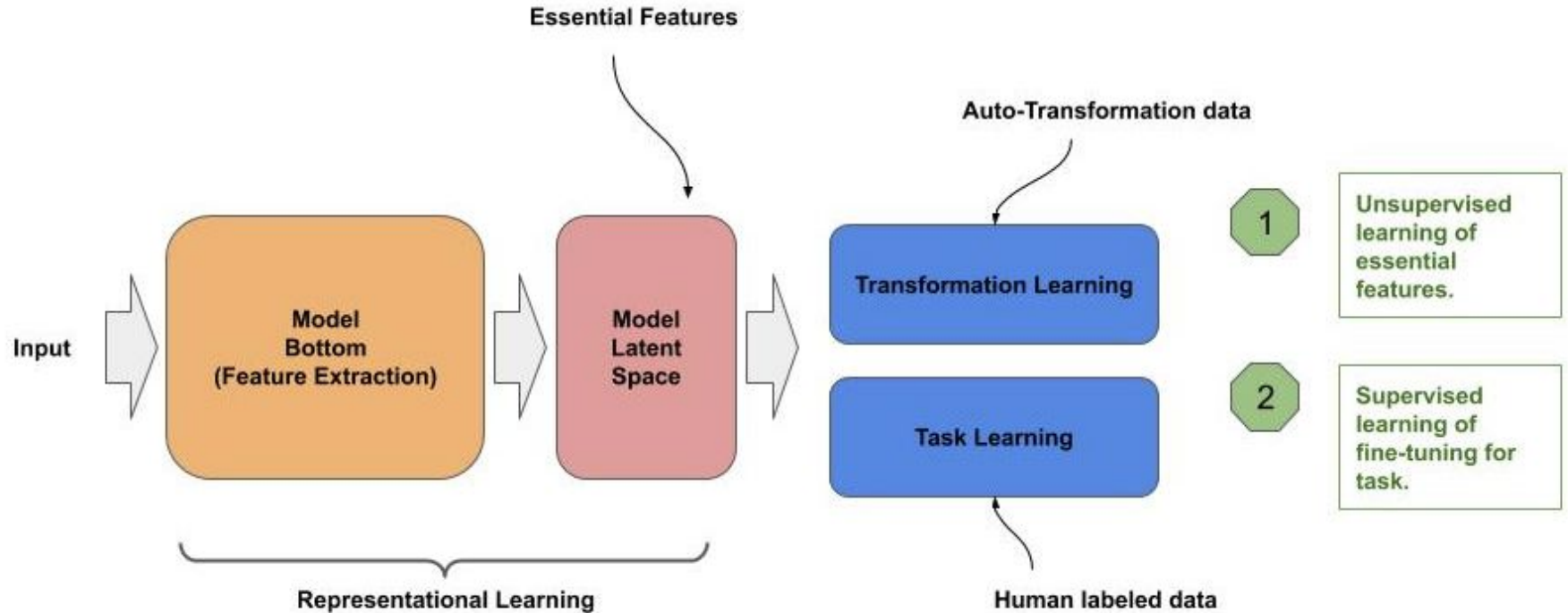
Learn embedding for essential features.

Real-World Data



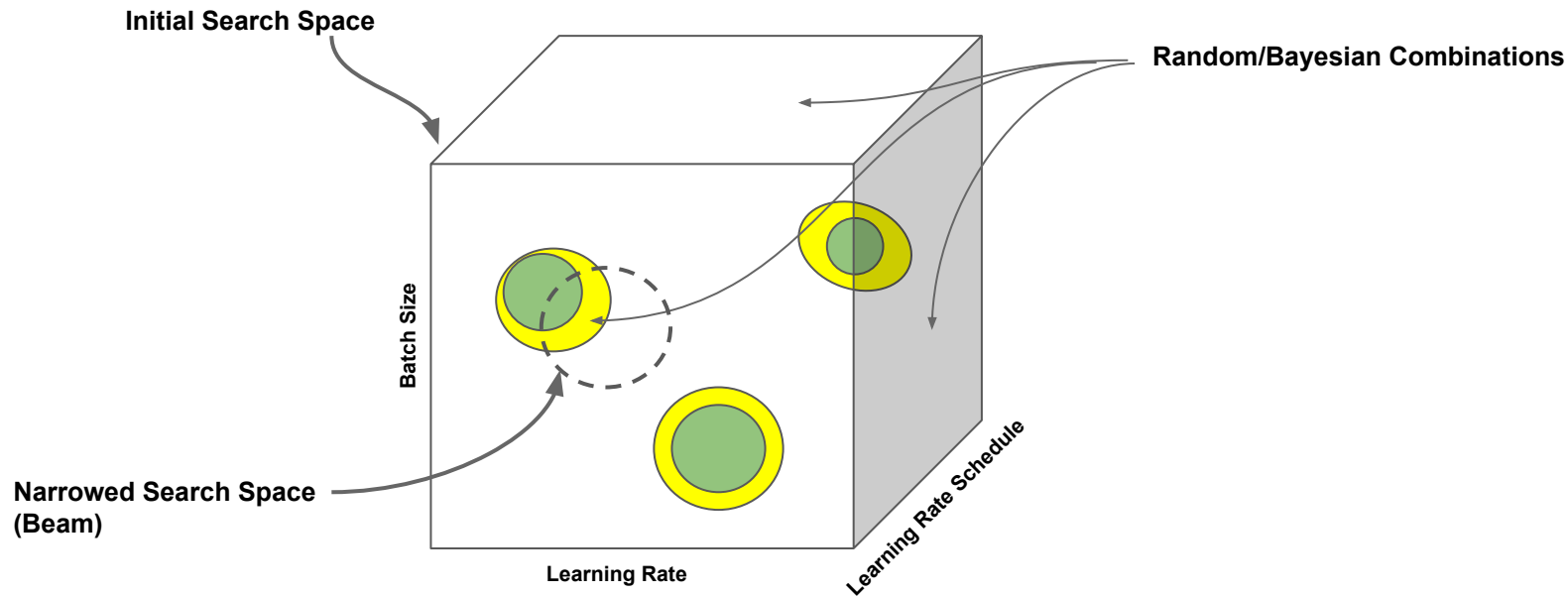
Full-Training

# Unsupervised Pre-Text Tasks

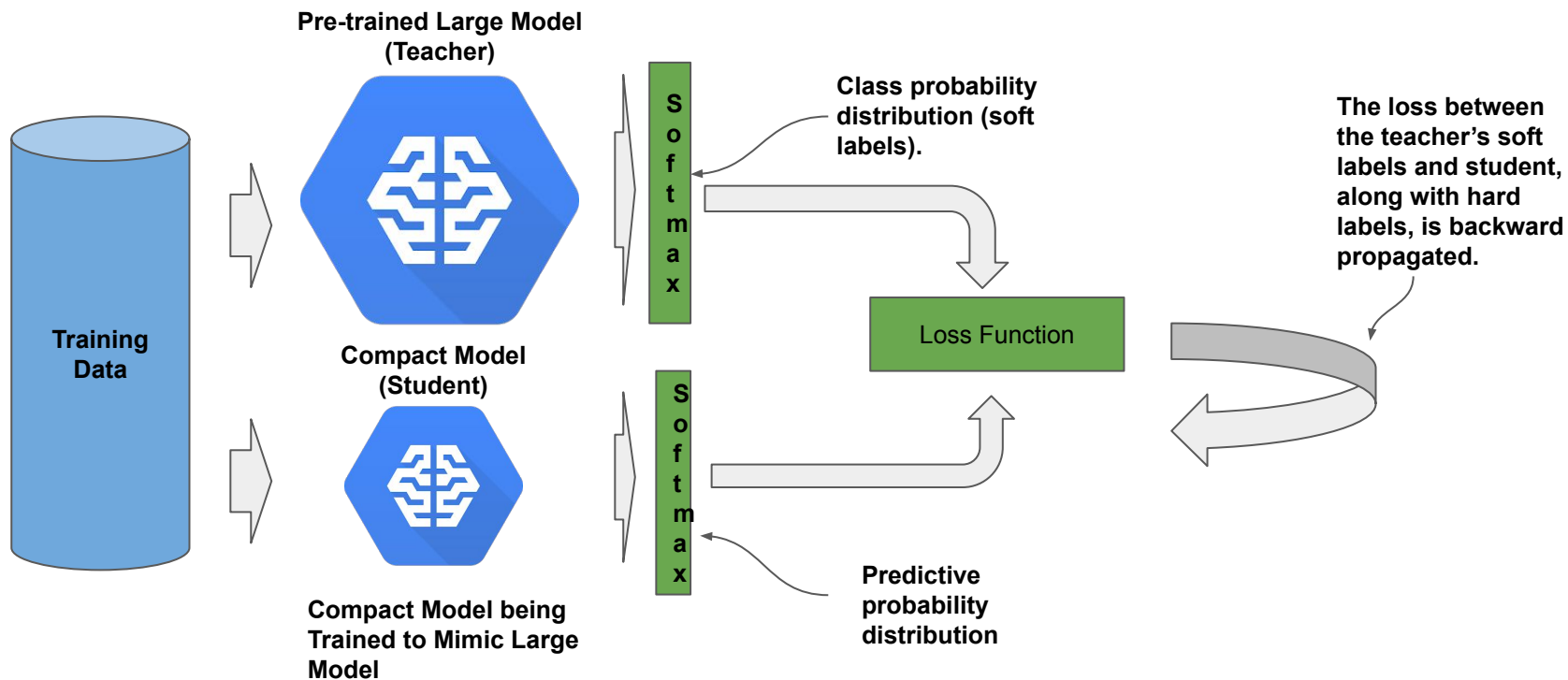




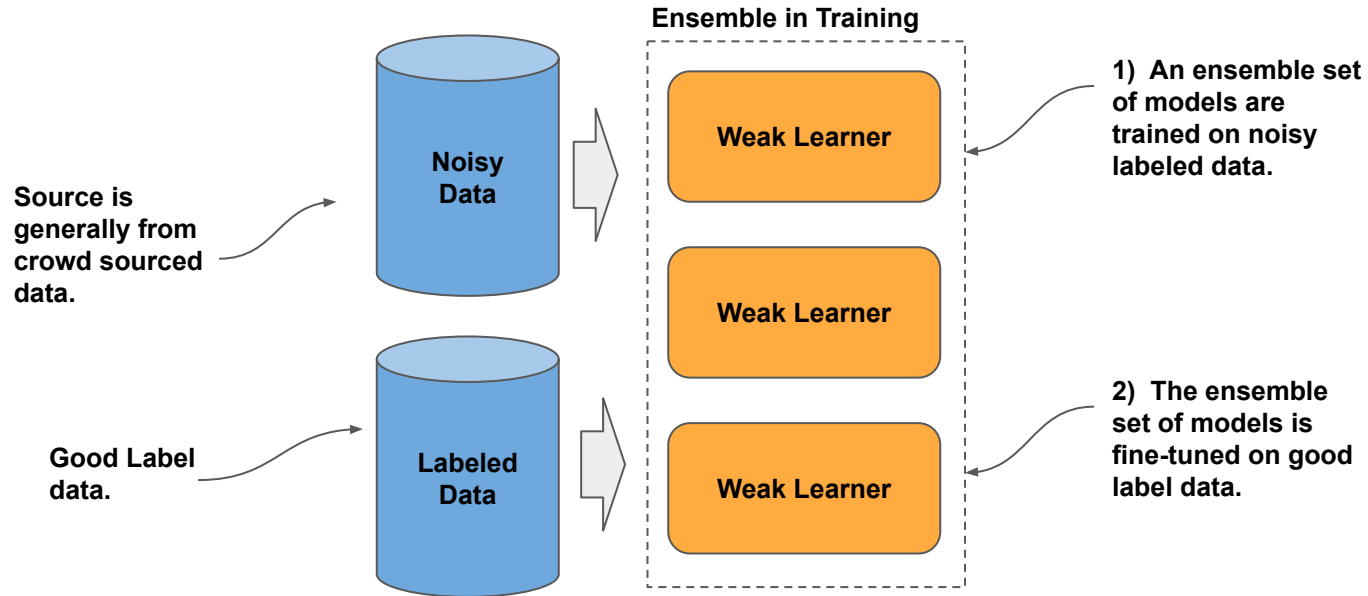
# Automatic (Guided) Hyperparameter Tuning



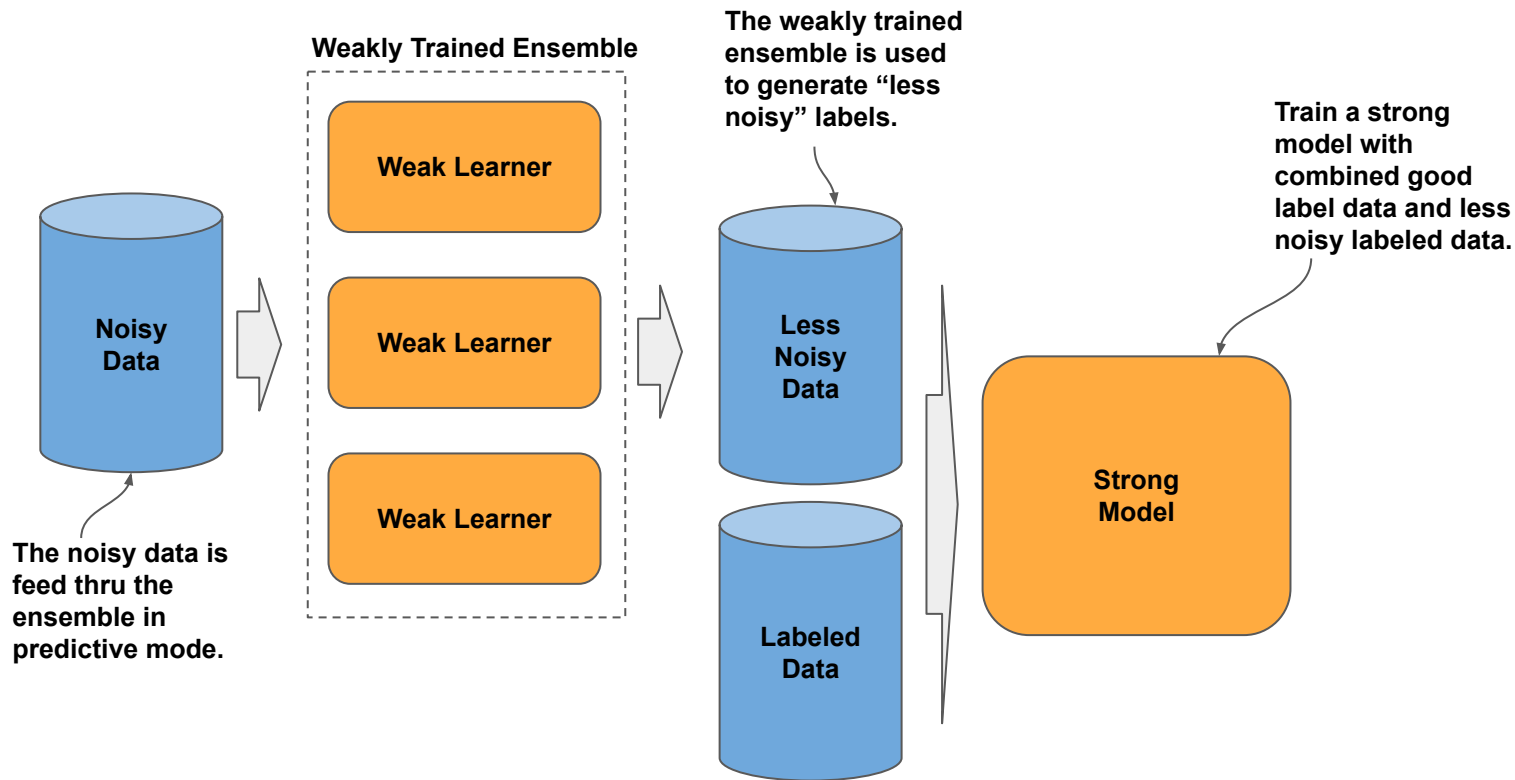
# Knowledge Distillation



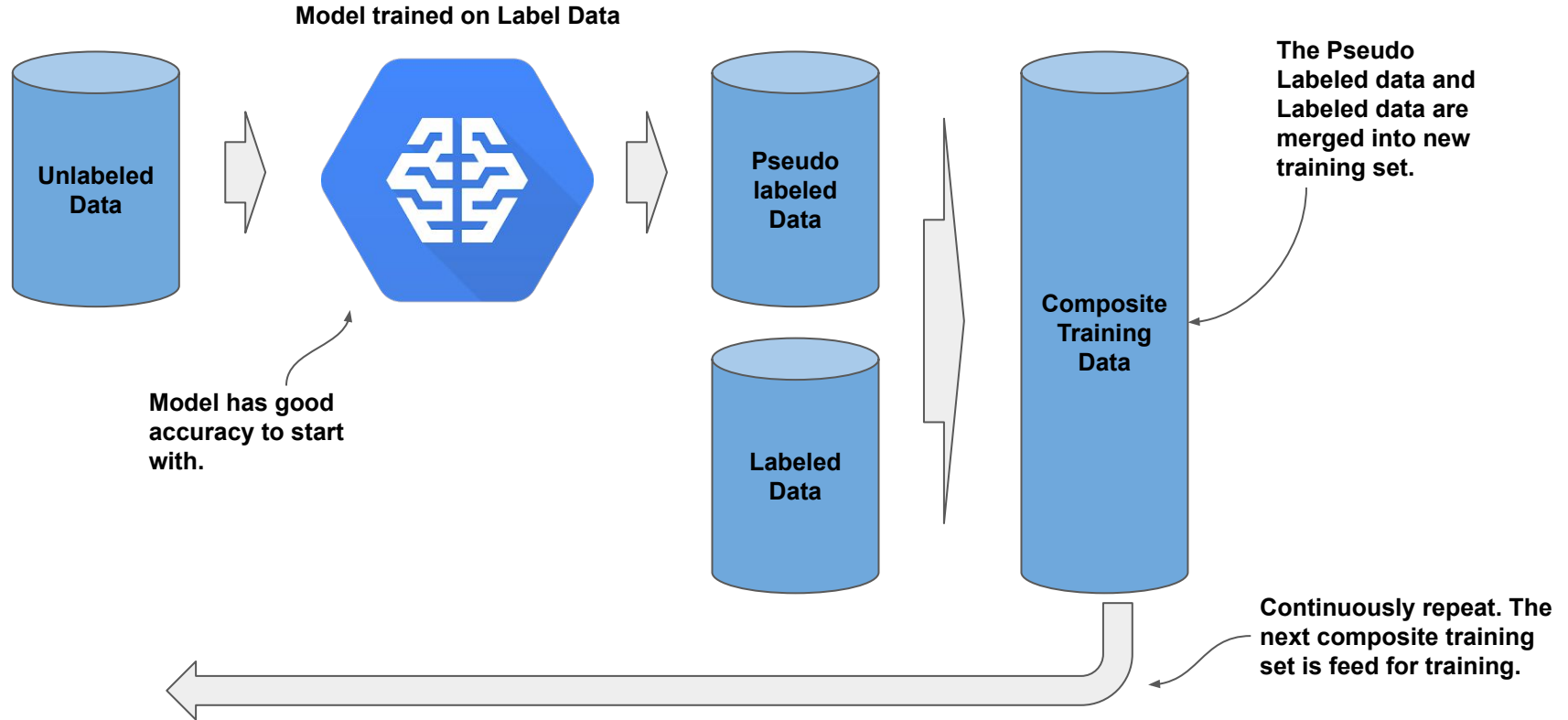
# Data Denoising (Weakly Supervised)



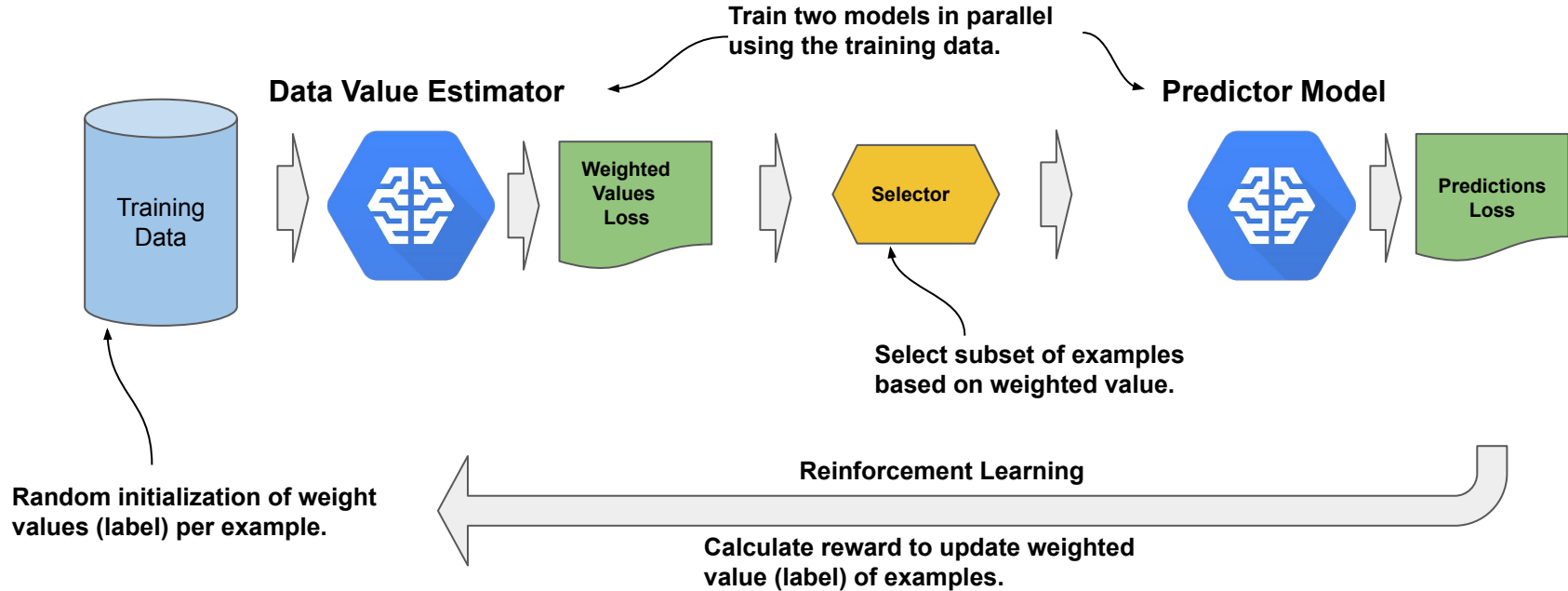
# Data Denoising (Weakly Supervised)



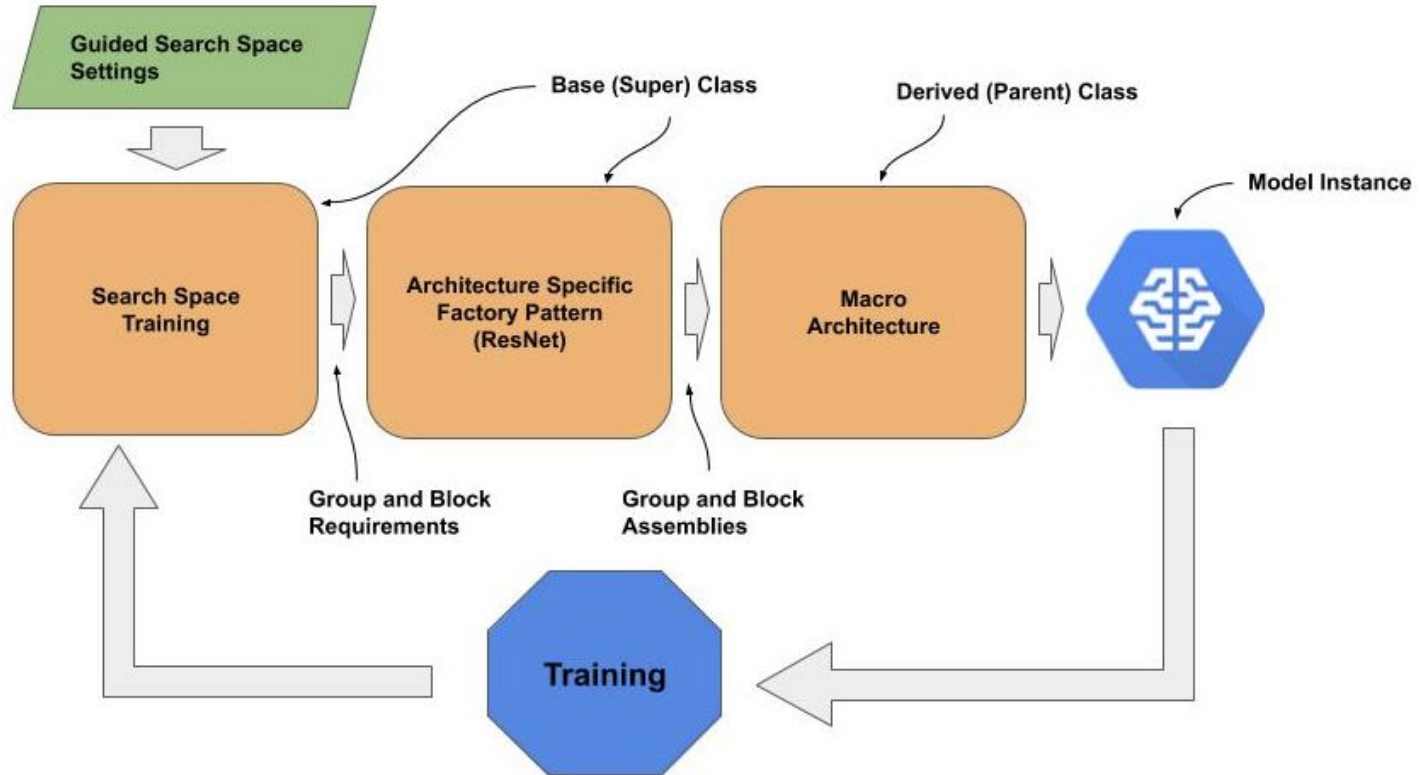
# Data Labeling (Self-Supervised)



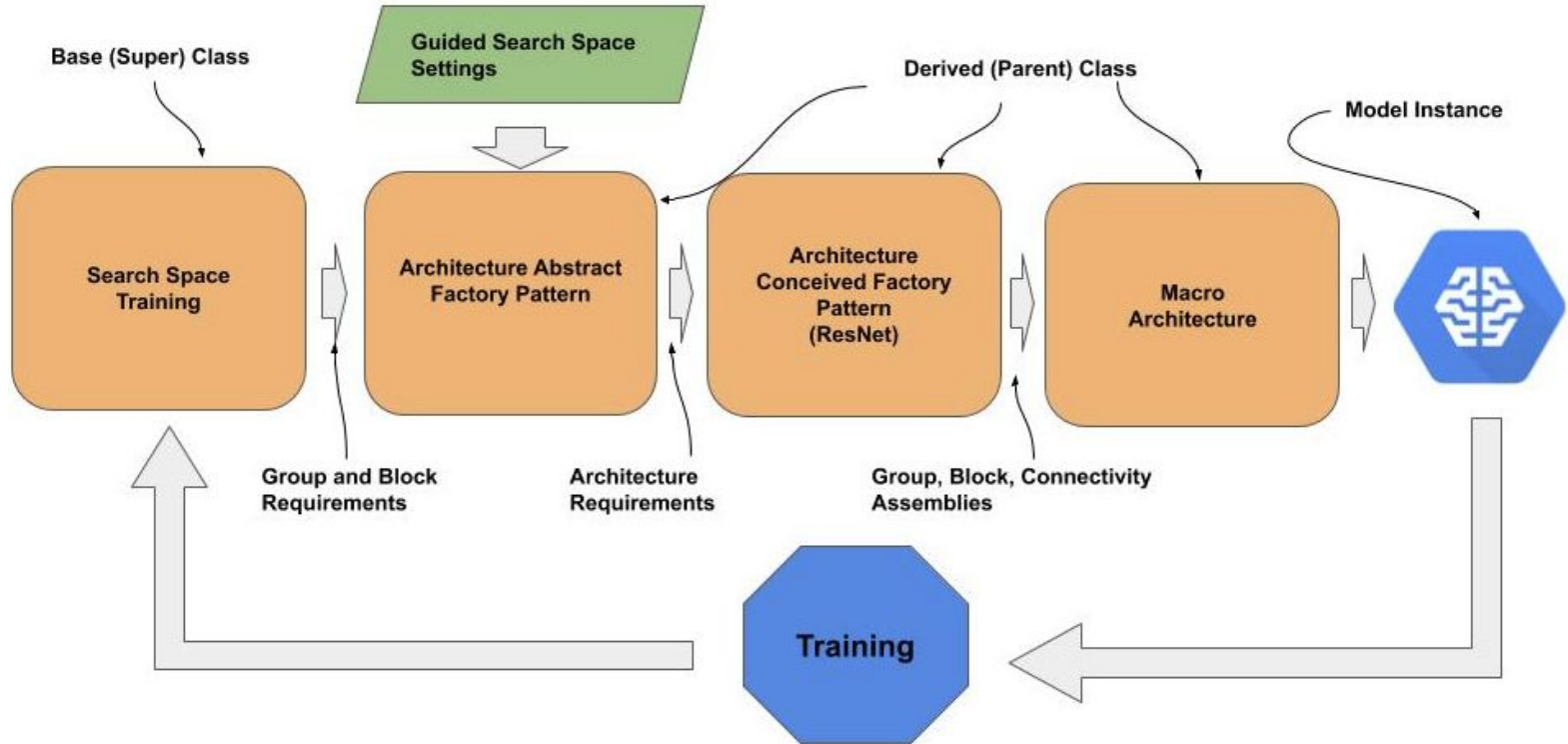
# Data Validation (RL)



# Macro Architecture Search

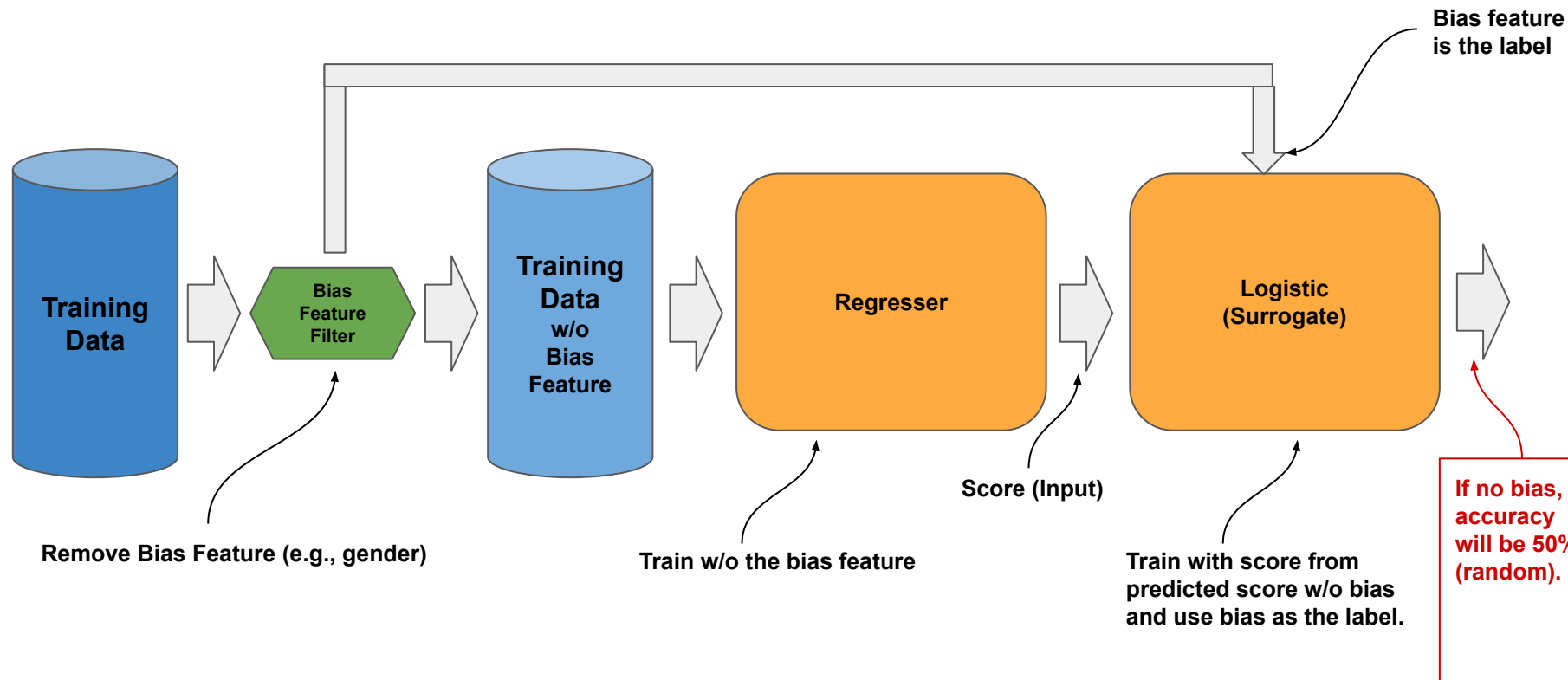


# Micro Architecture Search (NAS)

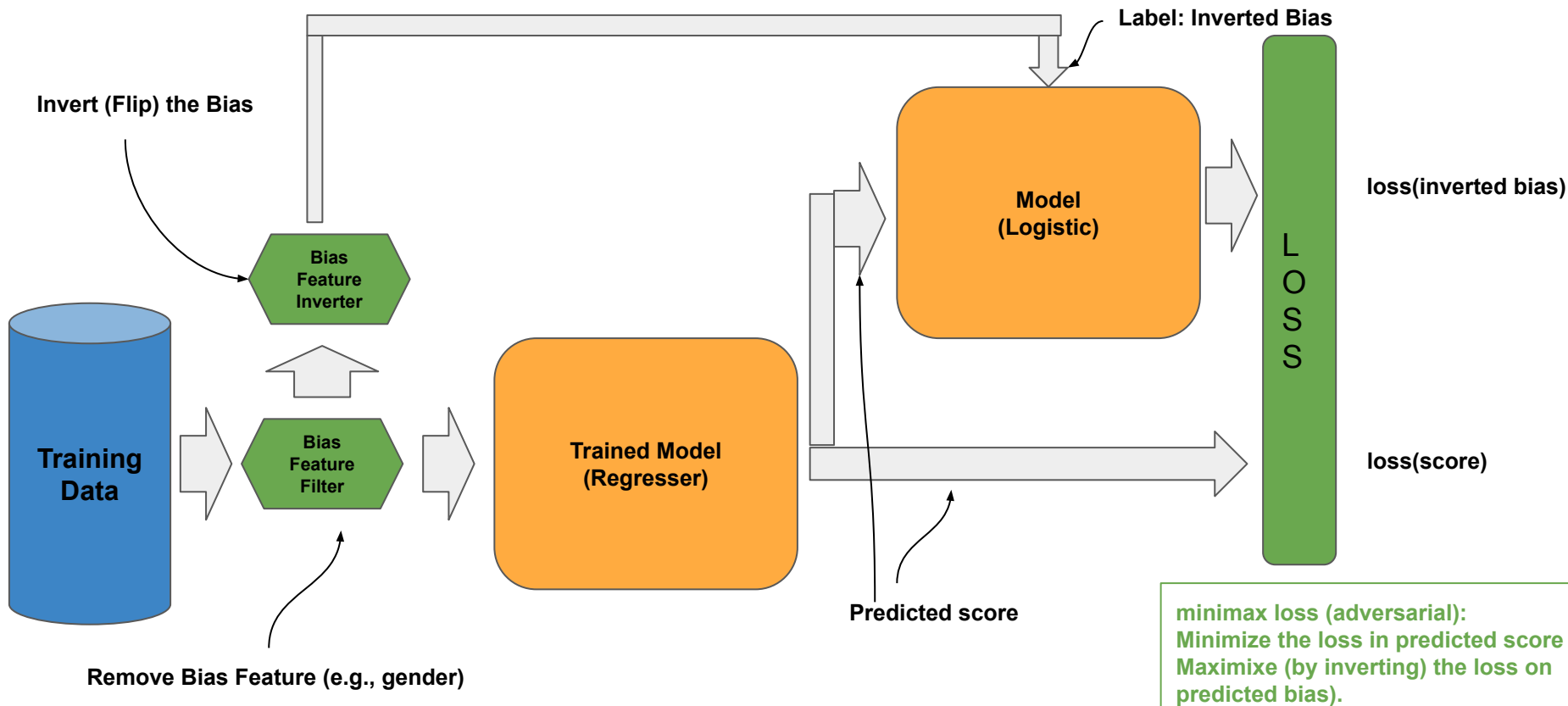




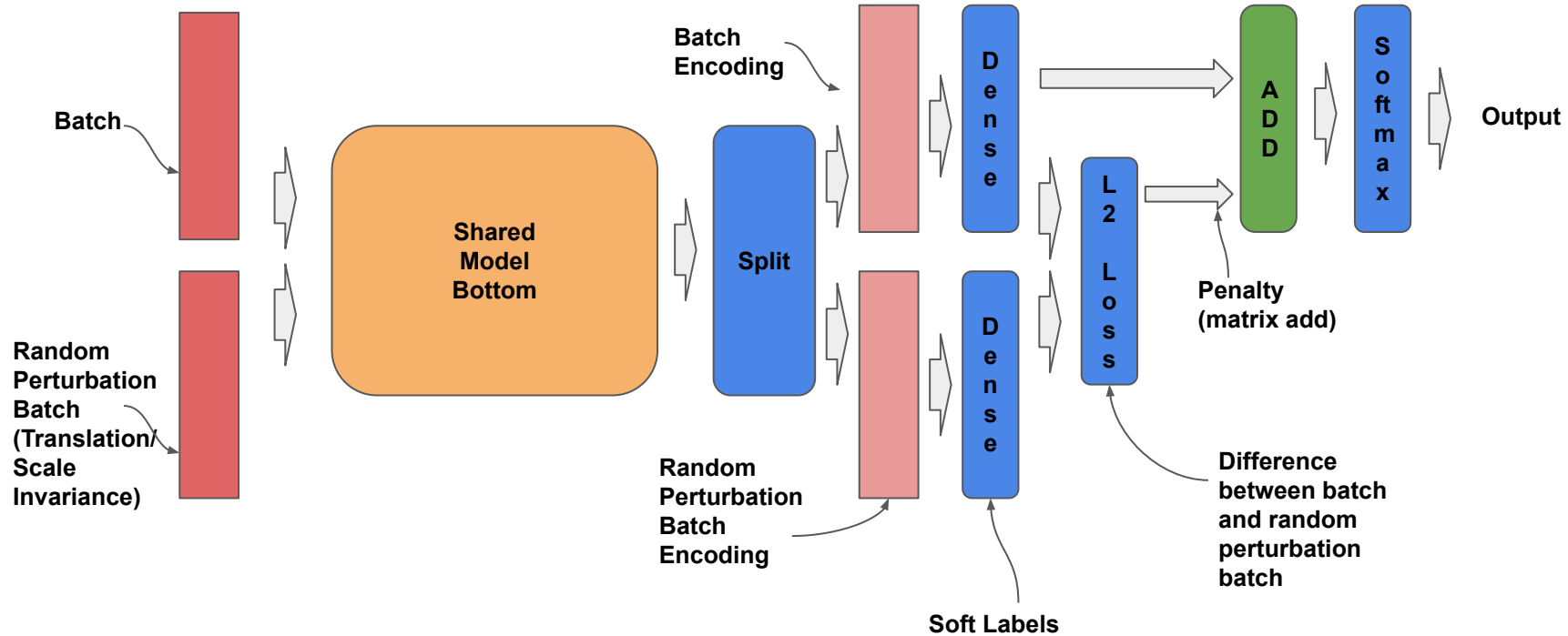
# Unseen Covariant (Surrogate)



# Unseen Covariant (Adversarial)



# Neural Structured Learning



You take a batch. Then take a second batch which is a near mirror of the batch (same labels). If you have true representational learning in the model bottom then the soft label outputs from both should be identical (0 penalty). Otherwise, the difference is the penalty added to the loss (matrix add + softmax) that is backward propagated.

# Machine Design Amalgamations (Frontier)

